



AGENDA
Water and Wastewater Financing Board

November 14, 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

July 11, 2013

Cases:

Town of Kimball
Town of Obion
Town of Hornsby
City of Ramer

Marion County
Obion County
Hardeman County
McNairy County

Status

Town of Henning
Town of Hornbeak
Town of Englewood
Town of Huntsville
Scott County Sewer System
Town of Monterey
Town of Mosheim
City of Sunbright

Lauderdale County
Obion County
Monroe County
Scott County
Scott County
Putnam County
Greene County
Morgan County

Cases – Water loss:

City of Ashland City
Town of Benton
City of Dunlap
Town of Hollow Rock
City of New Johnsonville

Cheatham County
Polk County
Sequatchie County
Carroll County
Humphreys County

Status – water loss:

Town of Halls

Lauderdale County

Compliance:

City of Cowan

Franklin County

Miscellaneous:

Cases currently under WWFB jurisdiction
Water loss status
Next meeting

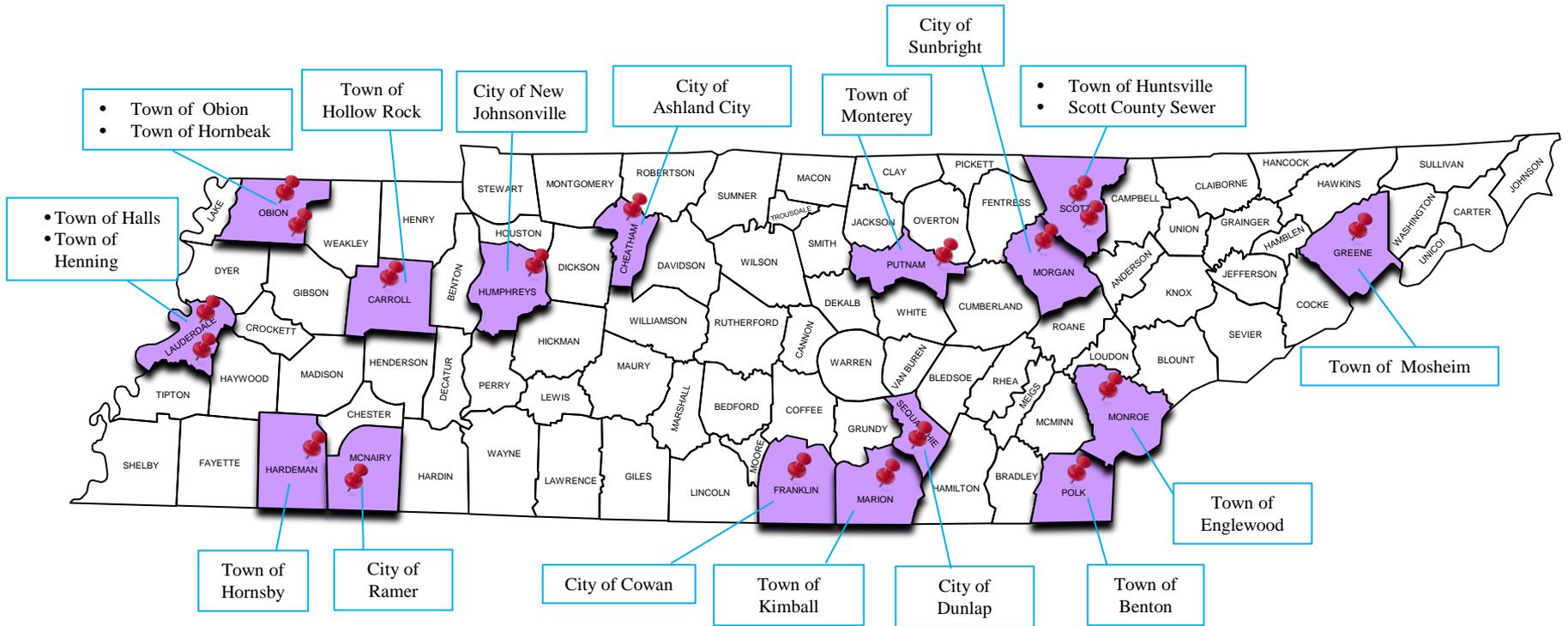
Open Discussion

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 Office of State and Local Finance 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 Office of State and Local Finance (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

WWFB

November 14, 2013



MINUTES
of the
WATER AND WASTEWATER FINANCING BOARD MEETING
July 11, 2013
10:05 a.m.

Chair 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, Chair, Comptroller Designee

Tom Moss, Department of Environment and Conservation (TDEC) Commissioner Designee

Randy Wilkins, Representing Utility Districts

Drexel Heidel, Active Employee of a Water Utility District

Ben Bolton, Representing Manufacturing Interests

Tamika Parker, Representing Environmental Interests

Kenny Wiggins, Active Employee of a Municipal Water System

Members absent:

Betsy Crossley, Representing Municipalities

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

Joyce Welborn

Rachel Newton

Approval of Minutes

Mr. Bolton moved approval of the minutes of March 14, 2013. Ms. Parker seconded the motion. Motion to approve the minutes was approved unanimously.

Cases – Financial distress

Scott County Sewer System

The Scott County Sewer System had been reported to the Board as having a negative change in net assets in its sewer system for two consecutive fiscal years. Mayor Jeff Tibbals was present to address the Board. Staff had projected that a 99% rate increase would be needed. Knowing that doubling the rates was not feasible, she suggested that the County implement three increases of 30% each over the next three years. Mayor Tibbals stated that the City of Huntsville would take the Scott County system, but not the related debt. The County is planning on giving the system to the City, keeping the debt. The merger should be complete within the year. Mr. Wiggins moved to encourage the consolidation of the two systems and requested a six month update be presented to the Board. Mr. Bolton seconded the motion which was carried unanimously.

Town of Huntsville

The Town of Huntsville had been reported to the Board as having a negative change in net assets in its sewer system for two consecutive fiscal years. Grant funds received during the fiscal year ending June 30, 2013, should be sufficient to put the Town in compliance. Staff had initially recommended a 99% revenue increase for the Town. Rates were increased in April 2013 by 28%. Mr. Moss moved to require the Mayor to attend the next meeting unless an audit is received which reflects compliance. At that meeting, the Mayor should be prepared to explain how the absorption of the Scott County Sewer System into the Town system will be handled, as well as presentation of a plan to reach and maintain financial compliance for three years. Ms. Parker seconded the motion and it was unanimously approved.

City of Cowan

The City of Cowan had been reported to the Board as having a negative change in net assets for two consecutive years as well as excessive water loss of 37.75%. The rates were increased in 2012 by 10% and again in July 2013 (3%). An additional rate increase of 3% is set for July 2014. Mr. Wilkins voted to accept the actions of the City. Mr. Heidel seconded the motion which carried unanimously.

Town of Englewood

The Town of Englewood had been reported to the Board as having a negative change in net assets in its water and sewer system for three consecutive fiscal years. Water loss information not included in the audit was submitted to the Board. The outside customers of the Town are charged rates 100% higher than those inside the Town. Those outside residents account for approximately 70% of the water sold and one-third of the customer base. Rates were increased by 20% effective May 1, 2013. Mr. Wiggins made a motion to endorse the actions of the Town regarding the rate increase and recommended that Town officials contact MTAS for advice on a more equalized rate structure for the customers outside the Town limits. Justification for the outside rates should be submitted for review at the next Board meeting. Ms. Parker seconded the motion, which carried unanimously.

Town of Jasper

The Town of Jasper had been reported to the Board as having a negative change in net assets in its sewer system for two consecutive fiscal years. The first reading of an increase occurred on July 8, 2013. The second and final reading is scheduled for August 12, 2013. The 16% increase along with the addition of a new truck stop and possibly the rest area/welcome centers should be sufficient to resolve the financial distress. Mr. Heidel moved to endorse the actions of the Town regarding the rate increase and the new customers. Mr. Bolton seconded the motion which was unanimously approved.

Town of Kimball

The Town of Kimball had been reported to the Board as having a negative change in net assets in its sewer system for two consecutive fiscal years. In July 2012, in an effort to protect and maintain customers, the Town passed an ordinance requiring its six municipal buildings to pay an additional \$800 monthly in sewer fees. Mr. Bolton moved to defer any action until counsel for the Board could clarify if the additional rate paid by the municipal buildings (a general fund subsidy) was legal. Mr. Heidel seconded the motion which carried unanimously.

Town of Monterey

The Town of Monterey had been reported to the as Board having a negative change in net assets in its water and sewer system for two consecutive fiscal years. The Town increased its rates 4% effective July 1, 2013. Staff had suggested that an increase of 17% was needed. Mr. Wiggins moved require the Town to submit a plan which will reflect compliance within three years for presentation at the next meeting of the Board. Mr. Moss seconded the motion which carried unanimously.

Town of Mosheim

The Town of Mosheim had been reported to the Board as having a negative change in net assets in its sewer system. The system has been reporting negative changes for the last six years. Excessive water loss has also been reported. Mr. Bolton recused himself due to a professional conflict. The Town has a very large company negotiating to attach to the sewer system. The attachment will require upgrades to be made to the sewer plant. There is considerable discussion between the Town and the company regarding the amount of "untreatable" water that will be generated and the related fees. During FY 13, the Town received over \$450,000 in grant money which should be sufficient to get the Town in compliance, but only as a "band-aid" fix. Mr. Wiggins moved to accept the actions of the Town regarding the grant receipts and comments of the Vice-Mayor in the packet. He also requested that the Town explain the "no" answers contained within the initial checklist questions, submit an updated water loss control program and the required AWWA reporting worksheet. Mr. Wilkins seconded the motion which carried unanimously.

Town of Oliver Springs

The Town of Oliver Springs had been reported to the Board as having a negative change in net assets in its water and sewer system for two consecutive fiscal years. The many years of presumed neglect have resulted in the system requiring major infrastructure work. The Division of Water Pollution Control was writing an order requiring a great deal of work in the sewer system regarding overflows, treatment bypassing and effluent violations. The Town voted on July 2, 2013 to implement a 20% rate increase, allow the engineers to begin design work and costing of capital improvements. The Town realizes that a second rate increase is probable when funding is needed for the projects. Mr. Moss moved to endorse the actions of the Town. Mr. Bolton seconded the motion which carried unanimously.

City of Ramer

The City of Ramer had been reported to the Board as having a negative change in net assets in its water and sewer system for two consecutive fiscal years. On Tuesday, staff received a request for a postponement to allow time to work with MTAS and the new data processing company. Staff granted the postponement.

City of Red Boiling Springs

The City of Red Boiling Springs had been reported to the Board as having a negative change in net assets in its water and sewer system for two consecutive fiscal years. The State Revolving Fund will be completely repaid in August 2013 and the City is exploring the possibility of refinancing the remainder of its debt. Rates were increased six percent on August 1, 2013, with additional six percent increases scheduled in 2014 and 2015. Ms. Parker moved to accept the actions of the City. Mr. Wilkins seconded the motion. Motion carried unanimously.

Town of Sharon

The Town of Sharon had been reported to the Board as having a negative change in net assets in its water and sewer system for two consecutive fiscal years. The Town was debt free. Effective July 1, 2013, the minimum sewer bill was increased \$3.60. Mr. Moss moved to endorse the actions of the Town regarding the rate increase, strongly suggested that policies be adopted by the Town council and requested the leak detection program be submitted to the Board within six months. Ms. Parker seconded the motion. Motion carried unanimously.

City of Sunbright

The City of Sunbright had been reported to the Board as having a negative change in net assets in its sewer system for two consecutive fiscal years. The 22 year old system has 72 customers and is being held together by band-aids and duct tape. The customer base appears to be getting smaller and no grants have been received recently. Although staff's original recommendation was a 59% revenue increase, the City countered with some expense reductions and a 6% rate increase effective July 1, 2013. Mr. Wilkins moved to endorse the actions of the City regarding the rate increase, suggest the City find ways to generate revenue without a general fund transfer and request verification be provided to the Board that they have talked to Plateau Utility District about a takeover of the small struggling system. Mr. Moss seconded the motion which passed unanimously.

Town of Wartrace

The Town of Wartrace had been reported to the Board as having a negative change in net assets in its water and sewer system for two consecutive fiscal years. The water system was installed in 1934 and the sewer system in 1960. Previous administrations had focused on expansion of the systems instead of maintenance. Much infrastructure work needs to be done – which is very expensive. The Town is currently reviewing its options for refinancing existing debt and financing construction needs. A rate study prepared by MTAS in late 2012 resulted in a major restructuring of the rates. Ms. Parker moved to endorse the actions of the Town and request a six month status update. Mr. Heidel seconded the motion which carried unanimously.

Status Report – financial distress

Status reports were presented for the Towns of Alexandria, Henning, Oneida and Vonore; and the Cities of Friendship and Grand Junction. The Board took no action.

Cases – water loss

Cases of water loss are presented to the Board but no action is taken unless specifically requested by members. The cases will continue to be reviewed annually until they are in compliance. The following cases were presented:

Hiwassee Utilities Commission

Although not under the jurisdiction of the Board, the case was presented because the reported water loss was a negative. Ms. Welborn asked Chris Leauber to explain how the negative water loss was possible. Mr. Leauber explained that under registering or over registering of sales or production meters could create such a situation. The board took no action.

City of Union City

The initial referral for the City reflected a validity score of 57. After the City analyzed the data once again, the submitted a revised AWWA form reflecting a score of 71. The City was deemed in compliance with the guidelines and dismissed from the jurisdiction of the Board.

City of Waynesboro

The initial referral for the City reflected non-revenue water as percent by cost of operating system of 37.2%. After the City analyzed the data once again, the submitted a revised AWWA form reflecting a score of 26.8%. The City was deemed in compliance with the guidelines and dismissed from the jurisdiction of the Board.

Status – water loss

Water loss status reports were presented for the Cities of Elizabethton, Lenoir City, Mountain City; Town of Spencer; and the Watauga River Regional Water Authority. The Board took no action on these reports.

Compliance Reports

The following are in compliance with both financial distress and water loss: Cities of Dresden, Etowah, McEwen, Mount Pleasant, Pikeville and Rockwood; and Towns of Baileyton and Moscow.

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.

Ms. Welborn shared the responses provided to the Joint Government Operations Committee during the Sunset review process. The Committee will make a recommendation to the General Assembly in 2014 to extend the Board for five years.

Future Meetings

The next regular meeting was scheduled for November 14, 2013, at 10:00 AM in the Legislative Plaza.

Mr. Bolton moved to adjourn. Motion was seconded by Mr. Wiggins. Motion carried unanimously. Meeting was adjourned at 12:30 p. m.

Respectfully submitted,

Ann Butterworth
Chair

Joyce Welborn
Board Coordinator

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. A road bore could not be done so the road was cut resulting in \$45,000 of additional repair expense.

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.

At the last meeting, the Board voted to defer action until counsel for the Board could clarify if the action of the Town relative to the rate for municipal buildings was legal.

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
<u>Sewer rates</u>			
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.

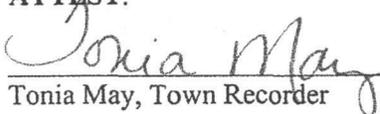
IT IS FURTHER ORDAINED AND ENACTED that the Town's sewer fund shall invoice the Town's general fund for such sewer rate surcharge on a monthly basis.

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 Obion, Obion County
Mayor: Rodney Underwood
Customers: 669 water and sewer
Validity Score: 74
Non-revenue water: 10.6%

The Town of Obion 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 why the system was in its current shape, the Mayor responded: poor management and record keeping. There are administrative problems in the office and salaries are not being allocated to the correct funds based on the duties. Meter replacements have not been done timely. Recently fifty meters were replaced and the sales increased \$7.00 per month per customer because of the more accurate recording of the water usage. The Town has been paying a neighboring operator \$1,000 per month, but current staff should be certified by the end of 2013.

A new accounting system has been purchased. Sewer smoke testing was completed last year. A collection agency is now being used to help with delinquent bills.

The Mayor began his two-year term of office in November 2012. During his first term in the 1990's, he had a new computer system installed that included hand-held meter readers. The employees didn't like the electronic system, so they returned to the "hand written meter books." Another system has now been purchased and training is underway.

Based on the attached letter from the Mayor, he is focusing on getting back to the basic business practices – accounting, budgeting, billing, water loss, meters, and employee training. It is staff's understanding that a rate increase is not planned during this fiscal year, but the emphasis will be on developing an understanding of the current situation and how it can be changed.

Staff recommends the Board endorse the actions of the Town based on the information included in the attached letter from Mayor Underwood. Since the Mayor will be at the end of his term of office by the time things are analyzed and "under control", staff would also recommend that a small inflationary based increase be implemented January 1, 2014.

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

TOWN OF OBION			
HISTORY FILE			
	Audited	Audited	Audited
Fiscal Year ended 6/30	2010	2011	2012
W/S Revenues	\$ 350,736	\$ 334,956	\$ 362,865
Other revenues	\$ 27,024	\$ 18,327	\$ 23,397
Grant revenue	\$ 279,889	\$ 81,749	\$ 304
GF Transfer	\$ 29,995	\$ 27,972	
Total Revenues	\$ 687,644	\$ 463,004	\$ 386,566
Total Expenses	\$ 367,474	\$ 481,244	\$ 396,491
Revene vs. Expenses	\$ 320,170	\$ (18,240)	\$ (9,925)
Interest Expense	\$ 3,831	\$ 10,148	\$ 2,506
Change in Net Assets	\$ 316,339	\$ (28,388)	\$ (12,431)
<u>Supplemental Information</u>			
Principal payment	\$13,667	\$6,666	\$14,667
Depreciation	\$ 86,900	\$ 86,645	\$ 83,649
<u>Water Rates</u>			
<u>Residential, sm comm in town</u>			
First 1,500 gallons	\$ 10.20	\$ 10.20	\$ 10.50
All over	\$ 3.66	\$ 3.66	\$ 4.00
<u>Residential, sm comm rural</u>			
First 2,000 gallons	\$ 16.30	\$ 16.79	\$ 16.79
Over 2,000 gallons	\$ 5.48	\$ 5.48	\$ 9.00
Sewer rates are 100% of water			
Water customers	532	444	
Sewer customers	262	241	
Customers			669
Water Loss	14.252%	16.840%	
Validity score			74
Non-revenue as% of operation			10.60%

Rodney Underwood
Mayor

Councilmen:
Robert Anderson
Patsy Barker
James Depriest

Town of Obion

137 East Palestine
Post Office Box 547
Obion, Tennessee 38240
Phone: 731-536-6242
Fax: 731-536-6216

THE TOWN OF OBION IS AN EQUAL OPPORTUNITY PROVIDER.

Jana Fluty
Recorder

Councilmen:
Polk Glover
Mike Miller
Gracie Ashley

July 22, 2013

AUG 02 2013

State of Tennessee
Comptroller of the Treasury
Division of Local Gov't Audit
Suite 1500, James K. Polk Building
505 Deadrick Street
Nashville, TN 37243-1402

ATTN: Joyce Welborn

Re: Follow up on July 19, 2013 meeting

Dear Ms. Welborn,

I am writing to follow up on the meeting we had on July 19, 2013. Below is a list of actions taken and /or planned to be taken by the Town of Obion Mayor and Council in cooperation with the appropriate departments to address the negative change in assets in the water department:

A. BUDGET

- (1). Accounting separately all expenditures not incurred during normal operations and maintenance.
- (2). Reviewing revenues and expenditures regularly to assure compliance with budget.

B. BILLING AND ACCOUNTING OFFICE

- (1). Purchased and implemented an electronic meter reading system to replace outdated hand written procedures, reducing the time needed to input data by 21 hours per month.
- (2). Budgeting to purchase new software and cash drawers to further improve productivity and improve usage report data.
- (3). Cut- off policy in place and enforced.

C. WATER DEPARTMENT

- (1). Working on lowering unaccounted for water.
 - (a) Meters installed at creek crossings.
 - (b) Looking into the cost of moving lines off of bridge and having the lines bored under creek.

Rodney Underwood
Mayor

Councilmen:
Robert Anderson
Patsy Barker
James Depriest

Town of Obion

137 East Palestine
Post Office Box 547
Obion, Tennessee 38240
Phone: 731-536-6242
Fax: 731-536-6216

THE TOWN OF OBION IS AN EQUAL OPPORTUNITY PROVIDER.

Jana Fluty
Recorder

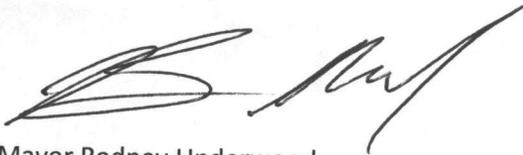
Councilmen:
Polk Glover
Mike Miller
Gracie Ashley

- (c) Working on fixing leaks properly instead of patching.
 - (d) Public works director is in the process of obtaining all licensure; the final license should be obtained in 2013. This will decrease expenditures by \$12,000 annually, the cost for contracting with an independent, licensed water and wastewater operator.
- (2). Meter program
- (a) Starting a replacement program for water meters.
 - (b) Installing 50 new meters- we will flag these to measure increase in revenues from new meters versus old meters.
 - (c) Also changing boxes and valves as we change out meters.
 - (d) Plans to request funding from Council to calibrate all 2" and larger meters and to two master meters.

A rate increase is not being considered until July, 2014 at the earliest. Town officials are trying to get better control over the expenditures and to understand the complete administration and operation of the system.

I enjoyed meeting with you and if there are any questions feel free to contact me at 731-536-6242 or 731-796-0859.

Sincerely,



Mayor Rodney Underwood

WATER AND WASTEWATER FINANCING BOARD
Case Study

Case: Town of Hornsby, Hardeman County
Mayor: Mack Carter
Customers: 398 water
Water loss: 18.91%

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

During FY 10 and FY 11, the US Highway 64 bypass was under construction, which caused “lots of leaks.” Also, the Town changed the water supplier from Bolivar to Selmer. The cost for water is currently \$2.07 per thousand gallons.

The meters in the system were originally installed in the 1970’s. Although a few have been replaced, most are still in use.

The Town does not have a set of written policies, including those for meter replacement or debt management. Meters are replaced when they stop. The system is debt free.

The Mayor just took office in November 2012 and he is still learning the system in order to determine which move should be made first.

Staff suggested that the Mayor contact MTAS for a consultation about a rate study and TAUD for assistance with the AWWA reporting worksheet and a policy manual.

The Town Council passed a 20% rate increase in August. An analysis of FY 13 is showing a positive change in net assets. A decision was to be made at the Town council on November 5 on whether to implement the increase based on the analysis.

Staff’s recommendation will be made at the November 14 meeting based on the information received after the Town Council meeting on November 5. The Town will continue to be under the jurisdiction of the Board until an audit is received which reflects compliance.

TOWN OF HORNSBY				
HISTORY FILE				
	Audited	Audited	Audited	Audited
FYE 6/30	2009	2010	2011	2012
Water revenues	\$ 158,536	\$ 139,501	\$ 124,784	\$ 130,055
Other revenues	\$ 1,228	\$ 1,064	\$ 122	\$ 1,822
Total Oper Rev.	\$ 159,764	\$ 140,565	\$ 124,906	\$ 131,877
Total Oper Exp.	\$ 131,201	\$ 126,378	\$ 142,145	\$ 140,699
Operating Income	\$ 28,563	\$ 14,187	\$ (17,239)	\$ (8,822)
Interest Expense	\$ 3,004	\$ 2,170	\$ 1,363	\$ 1,729
Change in Net assets	\$ 25,559	\$ 12,017	\$ (18,602)	\$ (10,551)
<u>Additioan info</u>				
Principal payment	\$ 16,016	\$ 16,850	\$ 17,663	\$ 17,291
Depreciation	\$ 15,254	\$ 15,188	\$ 15,488	\$ 15,382
<u>Water rates</u>				
<u>Inside town</u>				
<i>Residential</i>				
0 - 2,000 gallons	\$ 12.50	\$ 12.50	\$ 12.50	\$ 12.50
All over	\$ 4.25	\$ 4.25	\$ 4.25	\$ 4.25
<i>Commercial</i>				
0 - 2,000 gallons	\$ 16.50	\$ 16.50	\$ 16.50	\$ 16.50
All over	\$ 4.75	\$ 4.75	\$ 4.75	\$ 4.75
<u>Outside town</u>				
<i>Residential</i>				
0 - 2,000 gallons	\$ 13.50	\$ 13.50	\$ 13.50	\$ 13.50
All over	\$ 4.75	\$ 4.75	\$ 4.75	\$ 4.75
<i>Commercial</i>				
0 - 2,000 gallons	\$ 20.25	\$ 20.25	\$ 20.25	\$ 20.25
All over	\$ 5.25	\$ 5.25	\$ 5.25	\$ 5.25
Customers	404	402	402	398
Water loss	10.45%	16.40%	26.55%	18.91%

TOWN OF HORNSBY
P.O. Box 58
Hornsby, Tennessee 38044

Board of Aldermen:

Patricia Plunk
Greg Vance
Anita Ruth Johnson
Pamela Parchman

Board of Aldermen:

Brian King
Raymond Cox
Curtis Vandiver

Mayor

Mack Carter, Jr.

Recorder

Helen P. Coffman

October 28, 2013

STATE OF TENNESSEE
Water and Wastewater Financing Board
James K. Polk State Office Building
Suite 1500
505 Deaderick Street
Nashville, Tennessee 37243-6216

OCT 31 2013

Subject: Water Rate Increase Plan for the City of Hornsby, Tennessee

Dear Ms. Joyce Welborn:

Attached is the financial Plan required to increase the Water Rates in the city of Hornsby. The board and I have reviewed the Water and Wastewater Financing Board requirements and the two years negative change in Net Assets and adopted a 20 percent water rate increase. Although an analysis of the 2013 financials show a small positive change in net assets, we have already approved the 20 percent water rate increase at our August Board Meeting.

In the next board meeting on November 5, 2013, the board will decide the date to implement the new water rate increase. I am going to recommend December 1, 2013 unless the board decides a different date.

I am currently formulating a letter to be submitted to all city water customers informing them of the two years (2011 and 2012) negative change in Net Assets and the requirement of the Water and Wastewater Financing Board that a rate change be implemented based on those results.

If you have any questions, please contact me on my cell phone at 731-433-8098

Sincerely,


Mack Carter, Jr.

**HORNSBY WATER RATE STUDY WITH PROJECTIONS
AND RECOMMENDATIONS FOR RATE INCREASE.**

PREPARED BY

THE

HORNSBY WATER DEPARTMENT

OCTOBER 29, 2013

TABLE OF CONTENT

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 - VI. TABLE III, HORNSBY WATER FUND HISTORY AND FINANCIAL PROJECTIONS FOR 2014, 2015 AND 2016
 - VII. ANALYSIS OF OPERATION COST FOR PAST FOUR YEARS (2010, 2011, 2012 AND 2013 WITH ATTACHED GRAPH)
 - VIII. NEW WATER RATE TABLE FOR ALL CUSTOMERS
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-

INTRODUCTION

The Hornsby Water Department has experienced an operation loss for fiscal years 2011, 2012. By Tennessee State Law, no municipal public water system can operate with continuing operating losses for two successive fiscal years. Upon two successive losses, the state issues an order to municipality requiring it to develop a plan as to how the operating deficit may be eliminated and return to profitability.

On 06/11/13, the state submitted a letter to Hornsby explaining the state stature and instructing the city to develop an financial plan as to how the Hornsby Water District will return to profitability and also informing the mayor that a meeting will be set up to discuss their recommendations to return to profitability.

That state recommended that the water rates be increased immediately by 20%. Since that meeting in July, the city has closed the fiscal year 2013 with an operating water gain. The Water Department has completed a financial plan that reviewed the past four fiscal years for 2010, 2011, 2012 and 2013 to project the finances for 2014, 2015 and 2016.

**Table I: Hornsby, TN
Water Billing Summary by Customer Class - 2013**

	NUMBER OF BILLS	CONSUMPTION (GALLONS/YEAR)	REVENUE/YEAR
RESIDENTIAL - INSIDE	238	125,962.00	75,033.29
RESIDENTIAL - OUTSIDE	131	71,009.00	45,705.85
COMMERCIAL - INSIDE	11	14,646.00	9,388.35
COMMERCIAL - OUTSIDE	14	5,770.00	12,551.90
UTILITY DISTRICT	0	0	
INDUSTRIAL	0	0	
TOTAL	394	217,387.00	142,679.39

Table 2: Hornsby, TN

Water Usage Verse Revenue by Customer Class -2013

	Consumption (Gallon/Year)	%	Annual Revenue	%		
Residential - Inside	125,962.00	58%	\$ 75,033.29	53%		
Residential - Outside	71,009.00	33%	\$ 45,705.85	32%		
Commercial - Inside	14,646.00	7%	\$ 9,388.35	7%		
Commercial - Outside	5,770.00	3%	\$ 12,551.90	9%		
Utility District	0		\$ -			
Industrial	0		\$ -			
TOTAL	217,387.00	100%	\$ 142,679.39	100%		

**TABLE 3: HORNSBY
WATERSEWER FUND HISTORY AND FINANCIAL PROJECTIONS**

W/RATE INCREASE

	AUDIT FY 1010	AUDIT FY 2011	AUDIT FY 2012	CURRENT FY 2013	PROJECTED FY 2014	PROJECTED FY 2015	PROJECTED FY 2016
REVENUE							
Water Sales	139,501	124,784	130,055	142,679	142,679	142,679	142,679
Additional Water Revenue Inc.	0	0	0	0	0	0	0
Penalties	0	0	0	0	0	0	0
Tap/Service Fees/Other	0	0	0	0	0	0	0
20% Water Rate Increase					28,536	28,536	28,536
TOTAL REVENUE	139,501	124,784	130,055	142,679	171,215	171,215	171,215
EXPENSES							
Operating & Maintenance	111,190	126,657	129,232	124,178	124,178	124,178	124,178
2% Proj. Increase in Operating Expense	0	0	0	0	2,484	2,484	2,484
Depreciation	15,188	15,488	11,467	11,000	11,000	11,000	11,000
TOTAL EXPENSES	126,378	142,145	140,699	135,178	137,662	137,662	137,662
OPERATING INCOME (LOSS)	13,123	-17,361	-10,644	7,501	33,553	33,553	33,553
NON-OPERATING REVENUE/EXPENSES							
Interest Income	1,064	122	1,822	1,822	1,822	1,822	1,822
Interest Expense	-2,170	-1,363	-1,729	0	0	0	0
Interest - New Debt	0	0	0	0	0	0	0
Amortization	0	0	0	0	0	0	0
Miscellaneous'	0	0	0	0	0	0	0
TOTAL NON - OPERATING	-1,106	-1,241	93	1,822	1,822	1,822	1,822
INCOME (LOSS) BEFORE CONTRIBUTIONS & TRANSFERS							
	12,017	-18,602	-10,551	9,323	35,375	35,375	35,375
GRANTS TRANSFERS OUT							
	0	0	0	0	0	0	0
CHANGES IN NET ASSETS							
	12,017	-18,602	-10,551	9,323	35,375	35,375	35,375
WATER LOSS %							
	16.40%	26.55%	18.91%				
Growth rate water = 0 %					0	0	0

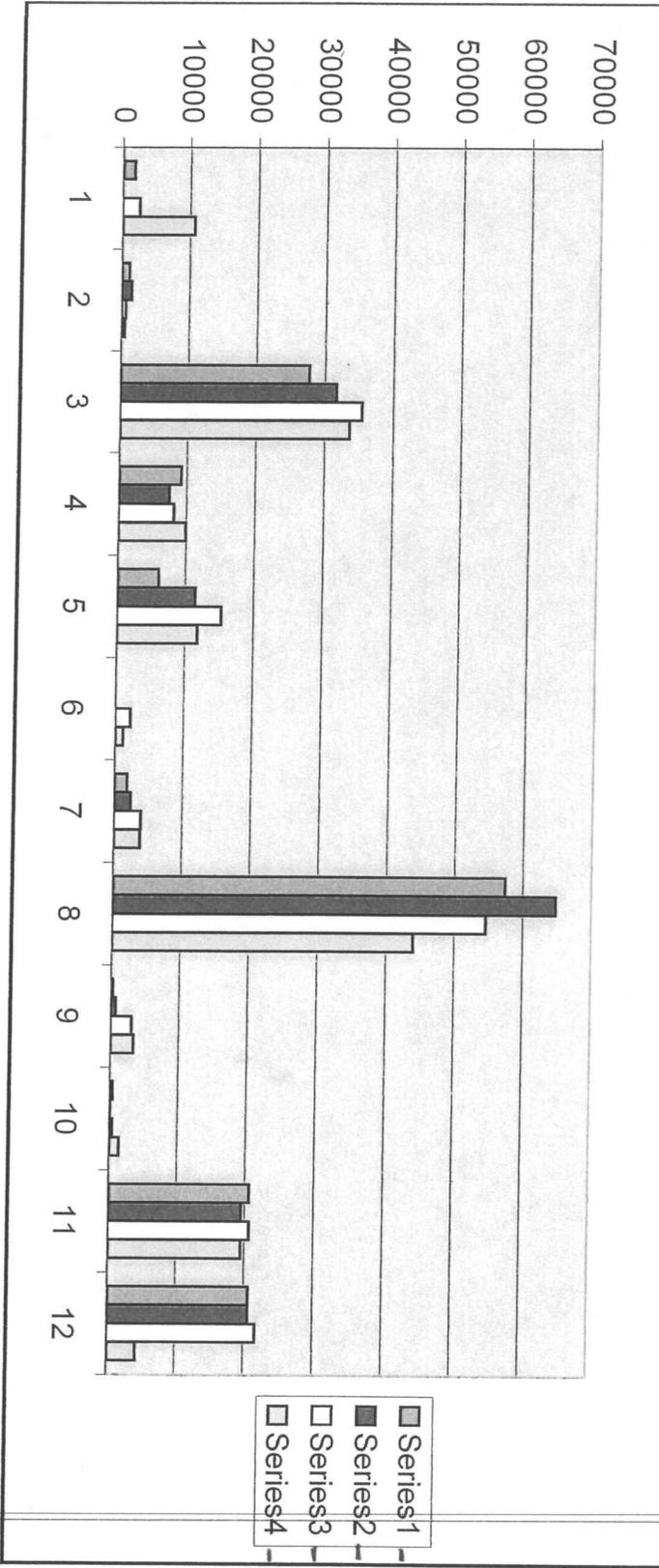
NOTE: PROJECTED EXPENSES IS LESS THAN CURRENT EXPENSES BY \$5,337.36. THIS DIFFERENCE IS DUE TO THE 2013 COST FOR COMPUTERS,
PRINTER AND MISC. EXPENSES THAT GOES AWAY IN FISCAL YEAR 2013.

OPERATING EXPENSES FOR FISCAL YEARS 2010 - 13

PRO SER	LABOR	WAGES	OFF EX	EQ & PT	MACH H	ELECT	WATER	PHON	INS	TAXES	MISC
1700	1070	27638.73	9133.37	6046.48	0	1863.09	57332.85	240	424.41	20577.58	20564.8
0	1455	31604	7422.31	11430.56	0	2387.54	64755.99	694.22	61.01	19466.55	20600
2457.65	600	35381	8121.12	15256.58	2150	3915.19	54552.24	3029.14	406.69	20647.82	21637.42
10617.5	435	33581	9909.77	11813.21	1147.9	3834.23	43943	3333.01	1376.32	19474.13	4186.57

2010
 2011
 2012
 2013

OPERATING EXPENSES FOR FISCAL YEARS 2012-2013



Series1 - 2010
 Series2 - 2011
 Series3 - 2012
 Series4 - 2013

TO: Central Service Association
Attention: Billing Office

From: Hornsby Water District
Hornsby, TN 38044

New Water Rates

In City Rates: **RESIDENTIAL**

Minimum of 2000 gallons ----- \$15.00
Over 2000 gallons per thousand ----- \$5.10

Commercial:

Minimum of 2000 gallons ----- \$19.80
Over 2000 gallons per thousand ----- \$ 5.70

Outside City Water Rates:

RESIDENTIAL

Minimum of 2000 gallons ----- \$16.20
Over 2000 gallons per thousand ----- \$ 5.70

Commercial

Minimum of 2000 galloons ----- \$24.30
Over 2000 gallons per thousand ----- \$ 6.30

SUMMARY OF DETAILED ANALYSIS

Analysis of the operating expenses for 2010,, 2011 2012 and 2013 show that the major expenses for wages, equipment and parts, water, taxes and miscellaneous are showing a decline.

Wages expenses increased in 2011 and 2012 from \$27,638 in 2010 to \$31,604 in 2011 up to \$35,381 in 2012. 2013 wages was reduced from \$35,381 in 2012 to \$33,581 or 5%.

Equipment & Parts show a decline in 2013 from \$15,256 in 2012 to \$411,813 in 2013 a 22% decline.

Water Expense has shown a decline in the past three years from \$64,756 in 2011 to \$54,552 in 2012 to \$43,943 in 2013. It appears that the city is experiencing fewer water leaks and meter changes. The expense that change the most was that of Miscellaneous Expenses. The reduction in this expense was due to the payoff of the long term debt in 2012.

The department will continue in an effort to bend the wage cure to decrease cost. Some of the major cost in wages are related to water sampling, meter readings, water leaks detection and repair, water meter shut-off and turn-on and water meter replacements. Each of these areas are under review by process mapping with time studies to properly identify all cost.

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 July 2010, 2011, 2012, and 2013.

Even though rate increases were implemented, the actual revenue amount from water sales did not increase accordingly. One problem, city officials believe, is a computer glitch during installation of the new computer system allowing the bills to be generated based on a 2,000 gallon minimum bill instead of a 1,000 gallon as approved by the City. The system, purchased during FY 12, is allowing better accounting of the expenses and, therefore, better control. It also allows a more accurate record of the active water customers versus inactive accounts.

Repairs made to the well during the same period, generated approximately \$6,000 of non-recurring expenses

During the spring of 2013, the City was forced connect to the Town of Eastview for water while the water tank was being renovated. The connection generated slightly increased expenses during the FY13 fiscal year. Existing funds within the water department funded the temporary connection.

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

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

The plan submitted by the City includes rate increases of 19.7% for FY15, 11.5% for FY16, 6.9% for FY17, and 5.5% for FY18. The increases are based on the average use in the Town of 5,100 gallons.

Staff recommends the Board require the City to adopt and implement a meter replacement program. Although a plan developed by the City appears to be sufficient to eliminate the negative change in net position, staff suggests that MTAS be contacted for an in-depth rate review. The City 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%	

City of Ramer

October 25, 2013

Dear Board Members:

Prior to fiscal year 12/13, we did not have proper accounting software. We have since then purchased Local Government Software and our clerk is learning the system so our methods of accounting should improve. The old billing system shows 255 customers which included inactive accounts that would not fall off of the customer base; however, there are only 206 active accounts & we have resolved this problem with the new software.

We feel that repairs & software purchases have caused our expenses to increase in the prior two fiscal years. We have also found an error in the rate entered into the billing system. We have been implementing the 10% increase but have included 2000 gallons in our base rate instead of 1000 gallons.

We are asking that we not make another rate change this fiscal year, but correct it in 2014/2015 since we have already had a rate increase this year. The board has adopted a new plan of action you will find attached to this e-mail. Thank you in advance for your consideration in this matter.

Sincerely,

George Armstrong
Mayor

Ramer Water Department Rate Projections				
Year	Base Rate/1st 1000 gallons	Rate After 1st 1000 gallons	Total Based on Avg of 5100 gallon usage	Avg Gross income 206 customers
2014/2015	\$20.25	\$2.50	\$30.50	\$75,396.00
2015/2016	\$22.50	\$2.81	\$34.02	\$84,097.00
2016/2017	\$24.74	\$2.84	\$36.38	\$89,931.00
2017/2018	\$26.63	\$2.87	\$38.40	\$94,924.00

March 19, 2013

Mayor Michael Bursey
Town of Henning
P. O. Box 488
Henning, TN 38041-0488

Dear Mayor Bursey:

The Water and Wastewater Financing Board met on March 14, 2013, in part, to address the financial distress and excessive water loss of the Town of Henning. At that meeting, the Board 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 a mapping program; and,
8. Prepare a presentation for the Board at its July 11, 2013, meeting.

The required information should be in our office no later than June 15, 2013, for inclusion in the Board packet for the July 11 meeting. Officials are not required to attend the meeting, but evidence of completion of (or progress toward) the listed items should be submitted.

If you have any questions or need further assistance, please contact me at (615) 401-7864 or Joyce.Welborn@cot.tn.gov.

Sincerely,

Joyce Welborn
Board Coordinator

TO: Mrs. Joyce Welborn
FROM: Mayor Marva Temple
DATE: October 30, 2013
SUBJECT: Financial Distress and excessive water loss of the Town of Henning.

Dear Mrs. Welborn:

Please find answers to the questions on financial distress and excessive water loss of the Town of Henning.

1. Require that the Town contract MTAS for a rate study; Mr. Steven Wyatt (MTAS) and Mr. Tony Wyatt of (TAUD) is working with Mr. Cordell Walton in completing a rate study.
2. Prepare a leak detection study to determine the next step for water loss reduction; We have contacted Rye Engineering, a meeting has been set for November 7, 2013.
3. Adopt a formal set of written policies; Policy has been completed with the assistance of Tony Wyatt of TAUD. (sheet enclosed)
4. Continue the replacement of two and six-inch water lines; Water mains are replaced as needed. Household meters are replaced ever ten years or one million gallons.
5. Revise the AWWA water loss reporting worksheet; Completed with the help of Mr. Tony Wyatt (TAUD). (sheet enclosed)
6. Develop a plan for future rate increases without the necessity for grant funds; Currently working with Mr. Steven Wyatt to develop a plan for future rate increases without the necessity of grant funding.
7. Develop and implement a mapping program; A2H Engineer has been contacted

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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

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="5"/>	<input type="text" value="46.412"/>	Million gallons (US)/yr. (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="7"/>	<input type="text" value="0.461"/>	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: MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="7"/>	<input type="text" value="20.766"/>	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="7"/>	<input type="text" value="0.586"/>	MG/Yr

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

AUTHORIZED CONSUMPTION: 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="7"/>	<input type="text" value="1.563"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="7"/>	<input type="text" value="0.208"/>	MG/Yr

Apparent Losses:

Pcnt: Value:

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 CARR)

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="12.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="7"/>	<input type="text" value="9"/>	477
Connection density:		<input type="text" value="40"/>	conn./mile main
Average length of customer service line:	<input type="text" value="7"/>	<input type="text" value="10"/>	ft
			(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="7"/>	<input type="text" value="7"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="8"/>	<input type="text" value="200,349"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="7"/>	<input type="text" value="14.94"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="7"/>	<input type="text" value="1,060.45"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input text"="" type="text" value="\$28,210"/>
Annual cost of Real Losses:	<input type="text" value="\$25,061"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="10.85"/>	gallons/connection/day
Real Losses per service connection per day:	<input type="text" value="135.74"/>	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="2.26"/>	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 (CARR):

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

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

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 66 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](#)

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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

Reporting Year: **2013** | **7/2012 - 6/2013**

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="5"/>	<input type="text" value="47.860"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="7"/>	<input type="text" value="0.479"/>	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="48.339"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="7"/>	<input type="text" value="21.092"/>	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="n/a"/>	<input type="text" value="0.604"/>	MG/Yr
AUTHORIZED CONSUMPTION:		<input type="text" value="21.696"/>	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="n/a"/>	<input type="text" value="0.121"/>	MG/Yr
Customer metering inaccuracies:	<input type="text" value="7"/>	<input type="text" value="1.588"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="7"/>	<input type="text" value="0.211"/>	MG/Yr
Apparent Losses:		<input type="text" value="1.919"/>	

Pcnt: Value:

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="12.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="7"/>	<input type="text" value="477"/>	
Connection density:	<input type="text" value="7"/>	<input type="text" value="40"/>	conn./mile main
Average length of customer service line:	<input type="text" value="7"/>	<input type="text" value="10"/>	ft
Average operating pressure:	<input type="text" value="7"/>	<input type="text" value="60.0"/>	psi

(pipe length between curbstop and customer meter or property boundary)

COST DATA

Total annual cost of operating water system:	<input type="text" value="7"/>	<input type="text" value="8"/>	<input type="text" value="\$259,218"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="7"/>	<input type="text" value="8"/>	<input type="text" value="\$17.29"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="7"/>	<input type="text" value="8"/>	<input type="text" value="\$1,158.69"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="56.4%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="24.1%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$33,187"/>
Annual cost of Real Losses:	<input type="text" value="\$28,647"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="11.02"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="142.00"/>	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="2.37"/>	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	<input type="text" value="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):

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: 66 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](#)

Questions concerning water loss from the Water and Wastewater Financing Board

1. Are you billing for all general water use?
All of the city property that has water and sewer is billed monthly per meter reading except for the wastewater lagoon. Henning is in the process of installing a water meter at the lagoon. Once installed, the lagoon will be billed monthly for usage based upon meter readings.
2. Are you accounting for the water used by the water and/or sewer departments:
As stated above the lagoon is not. The water plant is billed.
3. Do you periodically check or inspect all 2" and larger meters?
At this time the city does not have a schedule to have 2" and larger meters checked and verified on a regular basis. The plan is to present this item in our next meeting to our board of mayor and aldermen to get approval to include periodic checks into the annual budget. Rye Engineering is scheduled to check our 2" water meters on November 7, 2013.
4. Do you have a recalibration policy and procedure in place? No.
This has never been a line item in the budget for Henning. The plan is to bring this item up in our board of mayor and alderman meeting and to get approval to include this in the annual budget. As stated in question #3, Rye engineering will be doing an annual calibration.
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?
In the past meters were only replaced when they quit working. The operator is going to produce a written meter replacement program with assistance from MTAS. The program with estimated annual cost will be presented to the city council for approval and implementation. The triggers used to identify meters to be replaced will be a combination of years in service and consumption.
Yes, the triggers are based on age (length of time in service) or on gallons.
6. Do you have a process to inspect for unauthorized consumption?
We have written a policy and procedure to look out for unauthorized consumption, it has to be presented to the board for approval. Normally as meters are read the staff can identify locations where the meter is on or should not be on.
What are the consequences if unauthorized consumption is discovered?
Meters are read when they are turned on or off and a lock is placed on the meter. If it is discovered that the meter has been tampered with, the client is charged at fee of \$150, if not paid they will be cited to court and the judge will make the ruling.
7. Do you have a leak detection program currently in place?
At this time, we do not have a leak detection program in place. We have a meeting set with Rye Engineering to complete this process.
8. Do you have written policies, including a policy for billing adjustments?
We have prepared a written policy that is being presented to the board of aldermen at the next board meeting.
Are the written policies followed correctly by all levels of staff? Yes, they will be enforced.

9. Do you have authorized non-customers users (volunteer fire departments, etc.)?
Yes, the fire department.
Do you account for the use? Yes, we do account for the use.
Do you have a method for the user to report water usage?
Yes, the fire chief tells the utility staff how often they fill the tankers and how much water is used in flushing the fire hydrants. Volumes are calculated from the tank size.
10. Is your system "zoned" to isolate water loss?
Yes, we have system valves which can isolate portions of the distribution system.
11. Do you search for leaks at night when there is little traffic or small household usage?
No, we do not search for leaks at night. Please refer to #7 on our tentative leak detection plan.
12. Do you or can you control pressure changes?
No, we can not control pressure changes. The system has no controls to do this. The pressure is determined either by the high service pumps or the tank levels.
13. Do you have or have access to leak detection equipment?
No, we do not have access to leak detection equipment. We will look into purchasing our own equipment after the meeting on Nov. 7, 2013 with Rye Engineering/
14. What is your policy for notifying customers they have a leak?
If a leak is detected, the utility notifies the home owner by phone, in person or leaving a door hanger.
15. Do you have public a relations program to encourage citizens to report leaks?
No, we do not have a public realations program in the past. We presently have community meetings to educate residents on what to report to city hall to be passed on to our utility workers.
16. Do you have a policy to prosecute water theft or meter tampering/damage?
We have prepared a written policy to be presented to the board of mayor and aldermen for approval.
17. What is the monetary value of the lost water?
In the past, the monetary value of water loss was approximately \$5,000. We believe that number has dropped due to more accurate record keeping.
18. Is the cost to repair the leaks justified based on the amount of water being lost?
No, the cost to repair the leaks are not based on the amount of water being lost. When a leak is detected or reported, it is fixed, immediately.

TOWN of HENNING.... Water Meter Replacement and Accuracy Policy

PURPOSE:

The purpose of this policy is to insure the accurate collection of volumes of water used by a customer and water produced/purchased by the utility. This method is to ensure that all customers pay for their own usage. Thus, the utility rates are fair and equitable.

ACCURACY:

The master meters at the water plant, or at the point of purchase will be checked annually for accuracy.

All 1" meters or greater in the system will be checked at least every two years for accuracy.

(Optional—Every two years the utility will randomly collect a representative group of meters and have them tested for accuracy).

Any meter which is not registering within the following range will either be replaced or repaired. A meter will be considered accurate if it is registering with 95% to 105% of flow.

REPLACEMENT/REPAIR:

Any water meter that is found to be broken or not properly registering will either be promptly replaced or repaired.

On an annual basis the utility will budget for and replace 5% of the small meters in the system. This percentage will not include any meter replaced when found broken or not properly registering.

During the last 60 days of the fiscal year, the utility will prepare a list of meters that will be replaced during the next fiscal year. The number of meters to be replaced will have been included in the next year's budget.

The utility will place a meter on the replacement list based upon either age in service or amount of flow registered that has passed through a meter. A meter that has been in the ground for at least 10 years or has registered 1,000,000 gallons will be placed on the replacement list for the next fiscal year.

The meters on the replacement list will be removed throughout the year so that other work is not drastically impaired by the process. We will replace 5 meters per quarter.

UNAUTHORIZED USE/THEFT POLICY:

Unauthorized use include; broken locks on meters, meters in backwards, water hoses ran from the supply line or other customers homes. Anyone caught will be charged a \$150 fine or cited to court.

ADJUSTMENT POLICY FOR WATER BILLS:

If a customer has a water leak, the average of the last six (6) months consumption will be divided by 6 to find the usage and this amount will be taken from the sewer portion of the bill. The water portion of the bill will stay the same.

If a customer's bill has been over-read, we will adjust the water and sewer portion of the bill (same as for customer with water leak).

If a customer has a swimming pool, we must first verify this to be true. We will then adjust the sewer portion of the bill the same as for a water leak.

If you are a new customer, we will take the amount of the bill in question down to the minimum bill.

If you have an ongoing leak, we will work with the client on the highest bill. At this point, we will offer a payment plan to the client.

GENERAL GUIDELINES:

All water meters will be visually inspected on a regular basis.

Any needed repairs will be documented and scheduled for repairs or replacement.

Any other issues regarding the meter will be recorded and dealt with as needed.

Major leaks will be fixed immediately. A major leak is one that has a large volume of water leakage or has the potential of property damage.

EFFECTIVE DATE:

This resolution takes effect from and after its first passage, or upon final passage, the public warfare requiring it and supersedes any policy previously adopted.

PASSED 1ST reading _____, 2013

PASSED 2ND reading _____, 2013

PASSED 3RD reading _____, 2013

Mayor

Recorder

March 19, 2013

Mayor Dennis Dozier
Town of Hornbeak
P. O. Box 265
Hornbeak, TN 38232-0265

Dear Mayor Dozier:

The Water and Wastewater Financing Board met on March 14, 2013, in part, to discuss the financial condition of the Town of Hornbeak. At that meeting, the Board voted to endorse the actions of the Town with regards to the rate increase. The Board also allowed the Town to gradually increase the rates in order to complete the construction project. The gradual increase is approved based on the commitment of the Town to be in compliance by June 30, 2016.

The Town will be monitored annually until an audit is received reflecting compliance with the law.

If you have any questions or need further assistance, please contact me at (615) 401-7864 or Joyce.Welborn@cot.tn.gov.

Sincerely,

Joyce Welborn
Board Coordinator



PO BOX 265

HORNBEAK, TN 38232

Phone: (731) 538-9626

Fax: (731) 538-9626

Dennis Dozier, Mayor

08/26/2013

SEP 06 2013

Ms. Joyce Welborn

Comptroller of the Treasury

Water and Wastewater Financing Board

Suite 1500 James K. Polk State Office Building

505 Deadrick Street

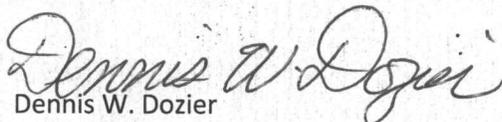
Nashville, Tennessee 37243-1402

Ms. Welborn:

Hope this day is good. Hornbeak has at least taken one step toward resolving our distressed sewer rate. The Hornbeak board was hard to convince the state of our sewer rate dilemma but to update, we have devised a rate ordinance no. 13-04 which took effect July billing cycle. This rate ordinance is attached which is 40% of the needed amount.

A new rate will begin next June 2014 with 50% of the remaining amount needed to achieve a final rate. 2015 will be the final 50% with some tweaking which will be completed for our three year extension period in order to be compliant with your office's projection.

Also attached please find a letter dated August 27, 2013 from Steven R. Watson, Auditor. Other matters mentioned in the letter are being addressed as the scribing of the letter.


Dennis W. Dozier

Hornbeak Mayor

ORDINANCE NO. 13-04

AN ORDINANCE OF THE TOWN OF HORNBEAK, TENNESSEE, ESTABLISHING A SCHEDULE OF RATES FOR CUSTOMERS OF THE MUNICIPAL WASTEWATER UTILITIES.

BE IT ORDAINED BY THE BY THE BOARD OF MAYOR AND ALDERMEN ON THE TOWN OF HORNBEAK, TENNESSEE, AS FOLLOWS:

- 1. Municipal Wastewater Rates.** The Hornbeak Board of Mayor and Aldermen hereby adopt the following monthly rate schedule applicable to all customers of the municipal wastewater utility, exclusive of applicable taxes:

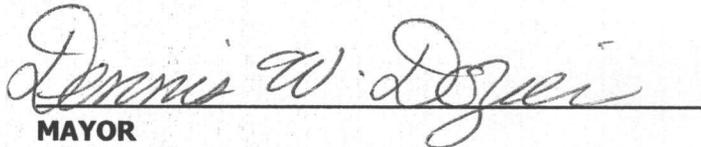
MONTHLY WASTEWATER RATES	In Town	
Minimum charge, includes first 2,000 gallons of usage	\$ 18.60	
Cost of additional consumption, per 1,000 gallon usage:	\$ 5.80	
(a) Commercial Rate for monthly usage over 10,000 gal @ \$5.00 per 1,000 gallon usage	\$ 5.00	
(b) Black Oak School per month usage flat rate @	\$1,300.00	

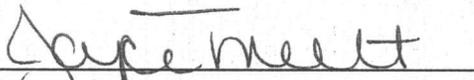
- 2. Effective date.** This ordinance shall be in full force and effect from and after its date of adoption by the Hornbeak Board of Mayor and Aldermen.

PASSED AND APPROVED THIS 22nd DAY OF July, 2013 BY A ROLL CALL VOTE OF THE BOARD OF MAYOR AND ALDERMEN.

1st Reading July 9, 2013

2nd Reading July 22, 2013


MAYOR

ATTEST: 
City Recorder



STATE OF TENNESSEE
COMPTROLLER OF THE TREASURY
DEPARTMENT OF AUDIT
DIVISION OF LOCAL GOVERNMENT AUDIT

SUITE 1500
JAMES K. POLK STATE OFFICE BUILDING
NASHVILLE, TENNESSEE 37243-1402
PHONE (615) 401-7841

August 27, 2013

Town of Hornbeak
PO Box 265
Hornbeak, TN 38232

Honorable Mayor and Board:

I have performed a limited review of the annual financial report on the Town of Hornbeak for the fiscal year ended June 30, 2012, as audited by Alexander Thompson Arnold PLLC, Certified Public Accountants. This report has been filed as part of the public records of the State of Tennessee.

The sewer system reported a change in net assets of \$(10,360), resulting in a net assets balance of \$923,732. Because the system meets one or more of the criteria in Section 68-221-1010, *Tennessee Code Annotated*, defining a financially distressed system, we have referred your system to the Water and Wastewater Financing Board as required by state law.

In addition to the above, I would like to bring certain applicable reporting requirements to your attention. Although current financial report revisions are not being required, responsible officials should ensure that future financial reports comply with the following reporting requirements.

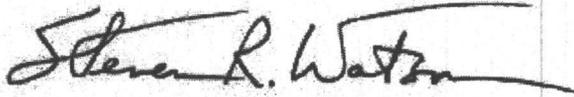
The notes to the financial statements did not include disclosure of the initial, individual cost amount used as policy for capitalizing capital assets. Please refer to the *Codification of Governmental Accounting and Financial Reporting Standards*, Section 2300, for disclosure requirements considered essential to fair presentation.

The financial report did not include sufficient detail and/or proper names for certain revenues of the state street aid fund (e.g., "gas 1989", "gas 3 cent", etc. – see revenue source captions on the municipality's 2012 state shared revenues confirmation) as required by the Audit Manual. The municipality's revenues should be presented by source (e.g., taxes, intergovernmental revenues, licenses and permits, fines and forfeits, etc.). Taxes and intergovernmental revenues should be further detailed by specific source (e.g., property tax, TVA-in lieu of tax, beer tax, gasoline and motor fuel tax, etc.).

The financial report included a schedule of property tax rates and assessments covering two (2) years; however, the *Audit Manual*, page C-5, requires property tax rates and assessments be presented for the last ten (10) years.

If you have any questions concerning the above, please contact this office.

Sincerely,



Steven R. Watson, Auditor
Division of Local Government Audit

1717

xc: Alexander Thompson Arnold PLLC
Certified Public Accountants
624 East Reelfoot Avenue
Union City, TN 38261

July 12, 2013

Mayor Tony Hawn
Town of Englewood
P. O. Box 150
Englewood, TN 37329-0150

Dear Mayor Hawn:

The Water and Wastewater Financing Board met on July 11, 2013, in part, to address the financially distressed condition of the Town of Englewood. At that meeting, the Board voted to endorse the actions of the Town relative to the 20% increase effective May 1, 2013. However, the Board requests the method of justification for the rates being charged outside the Town limits be submitted for presentation at the November 14, 2013 meeting of the Board. It is suggested that the Town contact MTAS for assistance in determining a more equalized rate structure for customers both inside the Town limits and outside. The Town will remain under the jurisdiction of the Board until an audit is received which reflects compliance.

If you have any questions or need further assistance, please contact me at (615) 401-7864 or Joyce.Welborn@cot.tn.gov.

Sincerely,

Joyce Welborn
Board Coordinator

**TOWN OF ENGLEWOOD
P.O. BOX 150
111 S. NIOTA RD.
ENGLEWOOD, TN. 37329
PHONE (423) 887-7224
FAX (423) 887-7715**

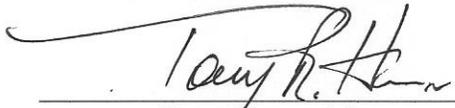
11/01/2013

Joyce Welborn
Water and Wastewater Financing Board,

The Englewood Board of Commissioners and Mayor met on October 31, 2013, to address the letter of recommendations regarding justification on our outside town customers. Brad Harris with MTAS presented a rate study plan for the Board to consider. The rate study recommendation would bring the inside and outside rates to a more equalized structure of rates. As far as rates for outside; minutes reflected the outside rates went from 150% to 250% in 1993 due to work that was being done at the water plant. The plant was in the process of being closed down by the state and was in financial distress. The Board felt since the customers inside had built the plant and the sewer fund was giving money to help support the plant; that it was only logical to have the outside customers pay for the repairs. At that time the Board made a good faith promise to lower the rate as soon as possible. Therefore, in July 1993 the outside rate dropped to 225% and In February 1997 the rate dropped again to 200%. MTAS's recommendations is to increase our inside rate an extra 20%, sewer 30%, and outside 15%.

Also, the Board has requested additional time from your office regarding the meeting that is scheduled to be held on November 14, 2013 to allow them more time to determine the best plan of action for the town.

Please let us know if a new meeting date can be scheduled.



Tony Hawn, Mayor

Townofenglewood.com

July 12, 2013

Mayor George W. Potter
Town of Huntsville
P. O. Box 150
Huntsville, TN 37756-0150

Dear Mayor Potter:

The Water and Wastewater Financing Board met on July 11, 2013, in part, to address the financially distressed condition of the Town of Huntsville. At that meeting, the Board voted to require the Mayor to attend the November 14, 2013, meeting of the Board unless an audit is received by the Comptroller which reflects compliance. The Mayor should be prepared to explain how the absorption of the Scott County Sewer System is or will be handled. Also be prepared to submit a plan to achieve and maintain compliance for three consecutive years. The November 14, 2013, meeting will begin at 10:00 am in Room 31 of the Legislative Plaza in Nashville.

If you have any questions or need further assistance, please contact me at (615) 401-7864 or Joyce.Welborn@cot.tn.gov.

Sincerely,

Joyce Welborn
Board Coordinator

**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

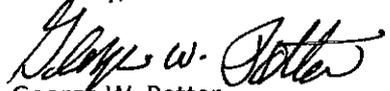
Page 2

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 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.



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

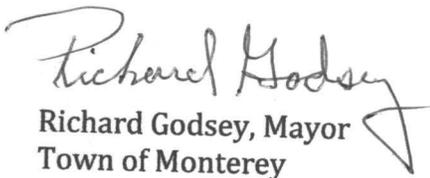
First 2,000 gallons \$24.09
Over 2,000 gallons \$ 8.50/per 1,000 gal

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)
Supplemental Information						
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						



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

September 24, 2013

SEP 27 2013

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

Dear Ms. Welborn:

In response to your letter dated July 12, 2013, the Town of Monterey is in agreement on the 17% increase, over a three year compliance period, unless there is no longer a need to do so. We have already implemented a four percent (4%) increase for FYE 2014.

We are currently working on paying the interfund departmental loan from the general fund and have decreased the amount by \$37,474.50. We also understand that we will remain under the jurisdiction of the Board until an audit is received which reflects compliance to these rules.

Also, you will find enclosed page 19 of our most recent audit, 2012-2013, from our enterprise fund for your review. If you have any questions or if we need to do anything else, please feel free to call me at the above number.

Sincerely,

Richard Godsey
Mayor

TOWN OF MONTEREY, TENNESSEE

Statement of Revenues, Expenses
and Changes in Net Position

Enterprise Fund

For the Year Ended June 30, 2013

Operating Revenues:	
Metered sales	\$1,632,785
Tap and service fees	19,638
Total Operating Revenues	<u>1,652,423</u>
Operating Expenses:	
Salaries	431,108
Payroll taxes	22,941
Employee benefits	137,583
Utilities	212,009
Repair and maintenance	104,040
Supplies	221,749
Office expense	11,460
Gas and oil	28,030
Insurance	51,786
Depreciation	426,817
Amortization	2,413
Miscellaneous	8,471
Total Operating Expenses	<u>1,658,407</u>
Operating income (loss)	<u>(5,984)</u>
Nonoperating Revenues (Expenses):	
Interest expense	(77,779)
Interest income	362
Total Nonoperating Revenues (Expenses)	<u>(77,417)</u>
Capital contributions	423,404
Operating transfer: in lieu of tax	(37,475)
Net change in Net Position	<u>302,528</u>
Net Position, July 1, 2012	<u>10,760,466</u>
Net Position, June 30, 2013	<u><u>\$11,062,994</u></u>

The notes accompanying the financial statements are an integral part of these financial statements.

July 12, 2013

Mayor Billy J. Myers,
Town of Mosheim
1000 Main Street
Mosheim, TN 37818

Dear Mayor Myers:

The Water and Wastewater Financing Board met on July 11, 2013, in part, to address the financially distressed condition of the Town of Mosheim. At that meeting, the Board voted to endorse the actions of the Town regarding the grant funds received during FY 13, which should result in compliance. The Board also requested additional information regarding the "no" responses on the initial checklist, an updated water loss control program, and the submittal of the AWWA reporting worksheet. All information should be sent to staff no later than October 15, 2013. The Town will remain under the jurisdiction of the Board until an audit is received reflecting compliance.

If you have any questions or need further assistance, please contact me at (615) 401-7864 or Joyce.Welborn@cot.tn.gov.

Sincerely,

Joyce Welborn
Board Coordinator



Town of MOSHEIM

Mosheim, Tennessee 37818

A proud heritage ... a challenging future.

October 9, 2013

OCT 11 2013

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

RE: Request for Additional Information in July 2013 Meeting
Town of Mosheim Water System, Greene County

Dear Ms. Welborn,

In your letter dated July 12, 2013, to the Town of Mosheim you asked for additional information. Attached is the requested information.

We have attached a copy of the Facilities Plan for Water Loss Correction Project, an AWWA worksheet and updated responses to the checklist.

Mr. Steve Roberts, TAUD, assisted us in preparing the worksheet for the 2013 audit year.

We have a project that includes meter replacements and line replacements underway and have confidence this will improve our water loss. We are committed to continue efforts that are needed so that both our water system and our sewer system are in compliance with the laws and regulations that govern our systems.

We appreciate all of your help.

If you need any additional information, please let me know.

Sincerely,

Tommy Gregg
Mayor

Attachments

THE FOLLOWING ARE UPDATED RESPONSES TO THE CHECKLIST

(The Board asked the Town of Mosheim to submit additional information to the "No" Responses in their July 2013 Meeting)

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

The Town of Mosheim is currently completing a SRF Water System Project. The project will include replacing all of the meters in the system (including the 2" and larger). The meter portion of the project has been advertised for bids and bids were received October 8, 2013. Once meters are awarded the Town will bid the installation of the meters. The new meters should be installed within 12 months. Once the new meters are installed the Town will implement a program to inspect all meters, 2" and larger, annually.

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

The Town does not have a policy in place now. However, once the new meters have been installed they are considering adopting a policy to begin calibrating large meters (that are used on a regular basis) based on AWWA recommendations as follows:

Meters 1" to 4" – Every 5 years

Meters 4" and larger – Every year

In addition, Once the new meters have been purchased we are considering having the meter company train a staff member to calibrate meters in our system.

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

The Town of Mosheim has implemented a line replacement program. The Town has contracted with Merkel Brothers Construction, Inc. to replace approximately 32,000 LF of waterline. The project is approximately 30% complete. It is being funded by SRF and ARC. In areas where the lines are not being replaced the Town plans to review them using their new leak detection equipment that was recently purchased. The Town has purchased a Heath Aqua-Scope and has plans to receive training on the operation of the equipment in the near future. In addition, the Greeneville Water Commission has agreed to allow Mosheim personnel to use their leak detection equipment if needed.

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

The Mosheim system is a small system so any divisions (or zones) within the system would be small. If the system still has a high water loss after the meter replacement, line replacement and leak detection has been completed the Town will consider installing sub-metering in order to further locate problem areas.

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

When the Town begins to locate leaks using the new leak detection equipment some of the evaluation will be completed at night where applicable.

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

The Town has purchased a Heath Aqua-Scope. In addition, the Greeneville Water Commission has agreed to allow Mosheim personnel to use their leak detection equipment if needed.

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

The Town has a sign that has been placed in the office lobby and at the drive-thru window. See attached. Also, the Town will be printing on the water bills periodically the following message:

"Please report water leaks and theft of water"

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

We do not have any written policy. However, per the Town's attorney, the Town can prosecute (if such instance occurs) per TCA 39-14-101. The Town is considering adopting policies concerning this issue.

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

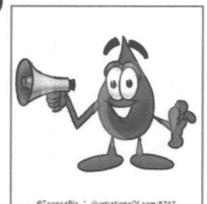
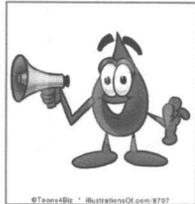
No. It is the Town's policy to repair all leaks identified regardless of the cost.

**HELP US SAVE YOU
\$\$ MONEY \$\$**



PLEASE REPORT

WATER LEAKS



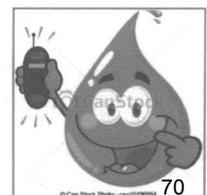
AND

THEFT OF WATER.

CALL:

MOSHEIM TOWN HALL

423-422-4051



AWWA WLCC Free Water Audit Software: Reporting Worksheet

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Water Audit Report for: **Mosheim Water Works**

Reporting Year: **2013** / 7/2012 - 6/2013

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="8"/>	<input type="text" value="81.041"/>	MG/Yr
Water exported:	<input type="text" value="4"/>	<input type="text" value="18.328"/>	MG/Yr
WATER SUPPLIED:		<input type="text" value="62.713"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="4"/>	<input type="text" value="37.547"/>	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="10"/>	<input type="text" value="0.080"/>	MG/Yr

AUTHORIZED CONSUMPTION: 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="2"/>	<input type="text" value="1.976"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="10"/>	<input type="text" value="0.095"/>	MG/Yr

Apparent Losses:

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="9"/>	<input type="text" value="19.9"/>	miles
Number of active AND inactive service connections:	<input type="text" value="7"/>	<input type="text" value="732"/>	
Connection density:		<input type="text" value="37"/>	conn./mile main
Average length of customer service line:	<input type="text" value="8"/>	<input type="text" value="25.0"/>	ft (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="7"/>	<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="\$180,525"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="7"/>	<input type="text" value="\$8.42"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$1,470.00"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="40.1%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="29.1%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$18,759"/>
Annual cost of Real Losses:	<input type="text" value="\$33,602"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="8.34"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="85.55"/>	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="1.01"/>	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: 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: Water exported**
- 3: Billed metered**

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

July 12, 2013

Mayor Dennis Reagan
City of Sunbright
P. O. Box 188
Sunbright, TN 37872-0188

Dear Mayor Reagan:

The Water and Wastewater Financing Board met on July 11, 2013, in part, to address the financially distressed condition of the City of Sunbright. At that meeting, the Board voted to endorse the actions of the City relative to the 6% rate increase, suggest that they find other ways to generate revenue without the use of a general fund transfer, and provide evidence that Plateau Utility District has been contracted regarding a possible takeover of the Sunbright sewer system. The Board would like to see a plan to achieve and maintain financial compliance within three years. The City will continue to be monitored by the Board until an audit is submitted reflecting compliance.

If you have any questions or need further assistance, please contact me at (615) 401-7864 or Joyce.Welborn@cot.tn.gov.

Sincerely,

Joyce Welborn
Board Coordinator



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

She 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

TOWN OF ASHLAND CITY, TENNESSEE

Schedule of Unaccounted for Water - Unaudited

For the Year Ended June 30, 2012

(All amounts in gallons)

A	Water Treated and Purchased:	354,900,000
B	Water Pumped (Potable)	0
C	Water purchased	0
D	Total Water Treated and Purchased	<u>354,900,000</u>
E	Accounted for Water:	
F	Water sold	176,630,955
G	Metered for Consumption (in house usage)	30,645,900
H	Fire Department(s) Usage	88,125
I	Flushing	22,930,543
J	Tank Cleaning/Filling	0
K	Street Cleaning	72,000
L	Bulk Sales	0
M	Water Bill Adjustments	0
N	Total Accounted for Water	<u>230,367,523</u>
O	Unaccounted for Water	<u>124,532,477</u>
P	Percent Unaccounted for Water	<u>35.09%</u>
Q	Other (explain)	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.

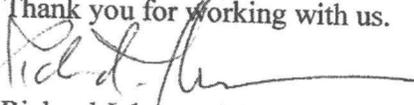


All Roads Lead to Ashland City

Ms. Welborne:

Please forgive us for not responding sooner. We are aggressively working to reduce our water loss. We recalibrated the meter servicing our largest customer, A. O. Smith. That one action increased their consumption by 20%. We also had several meters that were not being read. Since first of this year, one employee has spent more than half of their time searching for leaks. Leaks are repaired immediately. In the last six months we have reduced our loss to 27.2%. Do we need to have a representative at the July 11th meeting?

Thank you for working with us.


Richard Johnson, Mayor
Town of Ashland City
101 Court Street
P.O. Box 36
Ashland City, TN 37015

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Water Audit Report for: **Ashland City Water**

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="9"/>	<input type="text" value="354.900"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="7"/>	<input type="text" value="0.142"/>	over-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="354.758"/>	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="7"/>	<input type="text" value="176.631"/>	MG/Yr
Billed unmetered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled metered:	<input type="text" value="7"/>	<input type="text" value="30.652"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="5"/>	<input type="text" value="23.360"/>	MG/Yr
AUTHORIZED CONSUMPTION:		<input type="text" value="230.643"/>	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="7"/>	<input type="text" value="0.887"/>	MG/Yr
Customer metering inaccuracies:	<input type="text" value="5"/>	<input type="text" value="21.254"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="5"/>	<input type="text" value="20.076"/>	MG/Yr
Apparent Losses:		<input type="text" value="42.217"/>	

Pcnt: Value:

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="7"/>	<input type="text" value="81.898"/>	MG/Yr
WATER LOSSES:		<input type="text" value="124.115"/>	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="9"/>	<input type="text" value="58.3"/>	miles
Number of active AND inactive service connections:	<input type="text" value="9"/>	<input type="text" value="2,175"/>	
Connection density:		<input type="text" value="37"/>	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="60.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="7"/>	<input type="text" value="10"/>	<input type="text" value="\$2,075,699"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="7"/>	<input type="text" value="9"/>	<input type="text" value="\$6.20"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="7"/>	<input type="text" value="9"/>	<input type="text" value="\$2,250.00"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="50.2%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="27.3%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$261,744"/>
Annual cost of Real Losses:	<input type="text" value="\$184,271"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="53.18"/>	gallons/connection/day
Real Losses per service connection per day*:	<input type="text" value="103.16"/>	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="1.72"/>	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	<input type="text" value="14.05"/>	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	<input type="text" value="81.90"/>	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	<input type="text" value="5.83"/>	

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

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 77 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: Master meter error adjustment
- 3: Billed metered

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

Ashland City

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 are billed
2. Are you accounting for the water used by the water and/or sewer department?
Both the water plant and wastewater plants are being accounted
3. Do you periodically check or inspect all 2" and larger meters?
Currently Started a program to inspect
4. Do you have a recalibration policy and procedure in place?
Currently starting a program
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?
Currently changing meter out depending on gallons used and age
6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?
First time is a warning second will be prosecuting
7. Do you have a leak detection program currently in place?
We have guys checking for leaks daily
8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?
All billing adjustment are handled at city hall with the staff following the policy
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?
Fire Department keeps a log of how many gallons are filled on each truck and is sent to the water plant at the end of each month
10. Is your system "zoned" to isolate water loss?
Leaks are repaired through the system in all areas
11. Do you search for leaks at night when there is little traffic or small household usage?
Currently starting a program
12. Do you or can you control pressure surges?
Controlled threw pumps in the system

13. Do you have or have access to leak detection equipment?
The city owns its leak detection equipment
14. What is your policy for notifying customers they have a leak?
Door tags ,phone calls and in person
15. Do you have a public relations program to encourage citizens to report leaks?
Advertisements on water bill to report leaks
16. Do you have a policy to prosecute water theft or meter tampering/damage?
Prosecuting by law
17. What is the monetary value of the lost water?
0.002 cents per gallon
18. Is the cost to repair the leak justified based on the amount of water being lost?
We repair all leaks we find in our water system

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.

Thanks

Town of Ashland City

AWWA WLCC Free Water Audit Software: Reporting Worksheet

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[Back to Instructions](#)

Water Audit Report for: **Town of Benton, Tennessee**
 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="1"/>	<input type="text" value="95.966"/>	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	<input type="text" value="1"/>	<input type="text" value="0.000"/>	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:		95.966	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="6"/>	<input type="text" value="63.696"/>	MG/Yr
Billed unmetered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled metered:	<input type="text" value="8"/>	<input type="text" value="1.008"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="10"/>	<input type="text" value="0.139"/>	MG/Yr
AUTHORIZED CONSUMPTION:		64.843	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="0.240"/>	MG/Yr
Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed			
Customer metering inaccuracies:	<input type="text" value="6"/>	<input type="text" value="2.696"/>	MG/Yr
Systematic data handling errors:	<input type="text" value="8"/>	<input type="text" value="0.855"/>	MG/Yr
Apparent Losses:		3.791	

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="27.332"/>	MG/Yr
WATER LOSSES:	31.123	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	<input type="text" value="32.270"/>	MG/Yr
= Total Water Loss + Unbilled Metered + Unbilled Unmetered		

SYSTEM DATA

Length of mains:	<input type="text" value="4"/>	<input type="text" value="50.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="8"/>	<input type="text" value="1,061"/>	
Connection density:		<input type="text" value="21"/>	conn./mile main
Average length of customer service line:	<input type="text" value="8"/>	<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="75.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="8"/>	<input type="text" value="\$434,616"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="10"/>	<input type="text" value="\$8.38"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$364.01"/>	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="33.6%"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="9.7%"/>
Annual cost of Apparent Losses:	<input type="text" value="\$31,768"/>
Annual cost of Real Losses:	<input type="text" value="\$9,949"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="9.79"/>	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="1,497.65"/>	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):

*** 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: 58 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:

- Volume from own sources
- Billed metered
- Customer metering inaccuracies

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

**TOWN OF BENTON
PO BOX 687
BENTON, TN 37307
423-338-5733**

September 9, 2013

SEP 11 2013

State of Tennessee
Water & Wastewater Financing Board
James K Polk State Office Bldg
505 Deaderick Street, Suite 1500
Nashville, TN. 37243-1402

Dear Joyce Welborn:

In response to the AWWA reporting worksheet we will address your questions on the initial check list for water loss but we believe the reason we scored so low is because our ackpack meter, the drop-in chamber and magmeter at the water plant were defective. Therefore we had to estimate the GPM. Ryan Fields with CI Thornburg installed a new ackpack meter, drop-in chamber and magmeter in December 2012. This repair along with monitoring of government water use will give us more of an accurate water loss information.

1. Before the survey we did not account for government water use. Currently we are accounting for government water use.
2. We started accounting for water and sewer dept. water use after the survey.
3. At this time we do not inspect our 2" or larger water meters unless we notice a change in water usage. We have approximately ten 2" meters in our system.
4. We do not have a recalibration policy and procedure in place.
5. We do not have a meter replacement policy but do change out older meters if there is a change in water usage.
6. We read all meters in our system. We do not estimate readings so we are aware if there is unauthorized consumption. We will place theft charges on the homeowner if unauthorized consumption is discovered.
7. We do not have a leak detection program currently in place.
8. We do have a written policy for billing adjustments and all levels of staff follow it.
9. All non-customer users account for and pay for all water usage except the fire department. We do not currently account for the water used by the fire department.
10. Our system is not "zoned" to isolate water loss.
11. We do not routinely search for leaks at night.
12. We cannot control pressure surges because we are a gravity system.
13. We do not have leak detection equipment.
14. We notify our customers they have a leak by calling them or leaving a door knocker.
15. We do not have a public relations program but our system is very small and our customers do not hesitate to inform us about leaks.
16. We do have a policy to prosecute water theft or meter tampering/damage.

17. We are not sure about the monetary value of the lost water because we do not believe we lost as much as the report revealed because it was an equipment defect instead of water loss.
18. We repair all leaks.

If you have any questions please do not hesitate to call.

Sincerely,

A handwritten signature in cursive script that reads "Jerry T. Stephens". The signature is written in black ink and is positioned above the printed name.

Jerry T. Stephens
Mayor

City of Dunlap, TN
Responses to State of Tennessee Comptroller's Office
Initial Check List for Addressing Water Loss and
Water Loss Reduction Plan
October 15, 2013

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

Yes. The City is billing the following – City of Dunlap City Hall, Operation Center, City of Dunlap Natural Gas Office, Dunlap Justice Center, City of Dunlap Municipal Building, Dunlap Natural Gas System, Harris Park Office, City of Dunlap Park Building, City of Dunlap Operations Center.

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

Water used for routine flushing of water lines is accounted for. This is accomplished by a combination of metering flushing volumes (fire-hydrant meters) and estimating flushing volumes using the AWWA Method that considers the diameter of the pipe being flushed and the height and distance of the water stream. The City has found that using a fire hydrant meter is sometimes difficult because of clogging of the meter. Water used internally at the Water and Wastewater Plants is currently accounted for using water meters.

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

All 2” and larger meters are read monthly. At that time they are checked to make sure they are operating. These meters have not been recalibrated.

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

No calibration plan is currently in place. The master meter at the Water Plant has never been recalibrated. Two-inch and larger meters have also not been recalibrated.

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

The City's meter replacement program is replacing all meters with AMR meters by the end of 2015. By the end of the 2013/2014 fiscal year the City will have replaced approximately 1,750 of their 2,929 meters.

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

The City's current process is to turn off and lock meters for non-payment. After meters are locked, an employee inspects the meters every 3 to 5 days to make sure meters have not been tampered with. If a meter has been tampered with, a penalty fee of \$100.00 is charged to the customer's bill. Unauthorized use of fire hydrants also carries a fine of \$100 plus the cost of the water utilized.

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

Water Department staff currently monitors tank levels, distribution system pressures, investigates water quality/quantity complaints, and looks out for obvious signs of leakage such as water running on the surface, unusually green vegetation, etc. in order to determine if there are leaks in the system.

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

The City has a written policy in the form of Resolution No. 248. A resolution establishing a water and sewer adjustment policy. Water leak adjustment – this adjustment may be taken once per person per location. Three (3) bills prior to or after the leak are used to get an average on usage. The bill amount minus the average determines the amount of the leak. We then divide the leak amount by two (2). The customer pays half leak cost plus average bill. The remaining half of the leak is adjusted off. All leak repairs must be verified by water/sewer personnel and the person requesting the adjustment must sign the proper forms to receive the adjustment. All leaks must be repaired in a timely fashion (three (3) months or less). If not repaired within the three (3) month timeframe, adjustments beyond that timeframe will not be allowed.

The staff is trained on this policy and the policy is followed in-house up to a \$500.00 limit. Over \$500.00 the adjustment is presented to the Mayor and board of commissioners.

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?

We do have a volunteer fire department (VFD) that only uses our water for firefighting and training. The fire department does not currently report water usage. Their usage consists of filling tanker trucks from fire hydrants and transporting that water to the fire or training event.

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

The system is divided into pressure zones by closed valves and water storage tanks. There is no metering process to know how much water goes into each zone. However, a SCADA system is used to monitor tank volumes 24 hours per day. The tank level records are reviewed daily to ensure there are no unusual drops in tank level which would indicate a water leak.

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

There is no night time leak detection currently in place. Tank levels are monitored 24 hours per day and recorded using the SCADA system at the Water Plant. The tank level records are reviewed daily to ensure there are no unusual drops in tank level which would indicate a water leak.

12. Do you or can you control pressure surges?

Soft starts are installed on pump stations to reduce pressure surge. Soft starts are also used at the Water Filtration Plant. There have been no complaints and no known problems due to pressure surges in the water distribution system.

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

The City owns leak detection equipment and has historically used it to find leaks on an as needed basis.

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

The City's policy is to notify the customer as soon as the City becomes aware of the leak. The customer is notified by the quickest means available determined by whatever customer information is on file. This generally includes telephone calls and door hangers.

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

We have information on the customer monthly bill to encourage customers to report leaks. Customers routinely report unusual water appearing on the surface of the ground, whether it is a leak or not.

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

The City's current process is to turn off and lock meters for non-payment. After meters are locked, an employee inspects the meters every 3 to 5 days to make sure meters have not been tampered with. If a meter has been tampered with, a penalty fee of \$100.00 is charged to the customer's bill. Unauthorized use of fire hydrants also carries a fine of \$100 plus the cost of the water utilized.

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

The Variable Production Cost of water at the Water Filtration Plant is \$420 per million gallons. This number is calculated by adding up the expenses that vary with water production such as chemical cost, electricity, other materials, overtime resulting from high demand, etc. Based on the AWWA Water Loss Spreadsheet results, the monetary cost of lost water is \$420/million gallons x 75.263 million gallons = \$31,610.04

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

The cost to repair leaks is considered to be justified based on the amount of water that is being lost. All known leaks are repaired as quickly as possible to prevent the leak from getting worse over time or to prevent other damage due to soil erosion or subsidence or other property damage.

City of Dunlap, TN
Water Loss Reduction Plan
In Response to Requirements of the State of Tennessee Comptroller's Office
October 15, 2013

The City of Dunlap has created a Water Loss Reduction Plan to ensure that every practical effort is being made to reduce unaccounted for water in the water distribution system. The result of the City's Water Loss Audit evaluation using the AWWA Water Loss Control Committee Free Audit Software revealed a validity score that was lower than the current requirement. The validity score is basically defined as the level of confidence the water utility places in the data they are using to evaluate their water loss. Because the City's validity score is low primarily due to metering and policy issues, the Water Loss Reduction Plan focuses primarily on measures to reduce "apparent" water losses rather than "real" water losses. The City believes that the new policies and procedures adopted in the plan will be more than sufficient to raise the validity score to an acceptable level by the next reporting period, as well as reducing both "apparent" and "real" losses.

The City will begin implementing the Water Loss Reduction Plan immediately upon approval by the Comptroller's office. The results of the Water Loss Reduction Plan will be evaluated annually to ensure the actions are carried out and that they are having the desired effect.

1. The City will continue the practice of accounting for the water used for flushing by metering the flow from larger mains, but will begin using a mag-meter to eliminate the clogging problem that they have encountered with standard hydrant meters. The AWWA Method that considers the diameter of the pipe being flushed and the height and distance of the water stream will also continue to be used to estimate flows from smaller blow-off assemblies.
2. The City will inspect and calibrate all 2" and larger meters annually and will evaluate the possibility of outside contractors to accomplish this task.
3. The City will recalibrate master meters at Water Treatment Plant annually.
4. The City will test a "statistically significant" number of residential meters each year to estimate average meter accuracy. This will probably be no more than 20 or 30 meters per year. This testing will ensure that the meter replacement policy is having the intended effect of maintaining meter accuracy within the AWWA guidelines. The City plans to begin another 10-year meter replacement cycle by 2021 and complete that cycle by 2025. The primary replacement trigger will be age, but total meter registration will be monitored and replacements of individual meters will occur after registering 1,000,000 gallons.

5. The City has twelve meter-reading routes and will survey one route per month for leaks. This will cover the entire system every year. The estimated time requirement for this program will be ten days per month and may require additional personnel. There is currently no plan to create district metering areas to isolate water loss. If the water loss numbers do not respond adequately to other measures taken in this plan, then district metering areas with zone meters will be considered. There is also no plan to create a night-time leak detection program. If the water loss numbers do not respond adequately to other measures, then this may be considered.
6. The City will meet with the local volunteer fire department and work with them to develop a reporting worksheet that they will submit to the City. This worksheet will report number of tanker trucks filled, the volume of the tanker truck, and any usage directly from a fire hydrant. The fire hydrant flow data will include time from opening to closing of the hydrant and an estimate of the flow rate using the AWWA Method previously mentioned.
7. The City will review and amend their Billing and Meter Permitting Policies in order to ensure that their reporting is as accurate and complete as possible. The City will also review the capabilities of their computerized record system to more fully utilize its capability to confirm billing data and system functionality and eliminate systematic data handling errors. This effort will also be enhanced as the City continues to implement its policy to change out all water meters by the end of 2015 with AMR-type meters. The characteristics of these meters are automatically downloaded into the electronic system creating a very reliable database that can be easily audited by a third party.

**SCHEDULE OF UNACCOUNTED FOR WATER - unaudited
TOWN OF HOLLOW ROCK, TENNESSEE**

For the Year Ended June 30, 2012

(All amounts in gallons)

		<u>Totals</u>	
A	Water Treated and Purchased:		
B	Water Pumped (potable)	31,219,000	
C	Water Purchased	0	
D	Total Water Treated and Purchased (Sum Lines B and C)		31,219,000
E	Accounted for Water:		
F	Water Sold	23,688,890	
G	Metered for Consumption	9,750	
H	Fire Department Usage	45,550	
I	Flushing	238,030	
J	Tank Cleaning/Filling	0	
K	Street Cleaning	0	
L	Bulk Sales	12,300	
M	Water Bill Adjustments	—	
N	Total Accounted for Water (Sum Lines F thru M)		23,994,520
O	Unaccounted for Water (Line D minus N)		7,224,480
P	Percent Unaccounted for Water (Line O divided by Line D times 100)		23.141%
Q	Other (explain)		

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.

See the accompanying independent audit report.

**The following are responses to the Initial Check List for Addressing Water Loss
The Town of Hollow Rock**

1. We generate a bill for our 4 municipal buildings which includes the city hall, maintenance shop and 2 fire halls.
2. Our town does not have sewer and our water plant is not metered. There is minimal water used for testing.
3. Our town is small with only three 2 inch meters so they are easily monitored each month when read.
4. We do not have a recalibration policy in place but our plan is to begin to do that this year.
5. As of this time we do not have a replacement policy. Our meters have only been in service since 2005.
6. We do not have a formal process for unauthorized consumption. Because of the small size of our water base customers, it is easy to monitor if someone moves in a residence and doesn't come in to get service. When the meter is found to be tampered (lock removed) the police issue a citation for theft of services. Restitution for damages, labor and water use are required.
7. The flow chart at our water plant as well as recording daily water pumped shows us any increased water usage. We take into account if there is usage by the fire departments as well as time of year situations such as filling swimming pools. Since we are a small town, our water operator drives through town for any signs of leaks daily.
8. We have a cut-off policy and an adjustment policy that are fully defined and followed by our staff.
9. We have 2 volunteer fire departments that use our system besides our own. We provide our towns' department with a hydrant meter. The other departments know how many gallons their tankers hold and provide that information to us monthly.
10. We are not zoned to isolate water loss.
11. If we have not found a suspected leak during the day, we will go back out at night to search. Our police department is a great aid in reporting leaks when they are on patrol.
12. Pressure surges are controlled through proper opening and closing hydrants in relation to where the water has been turned off.
13. We do not have leak detection equipment.
14. We call customers if we suspect they have a leak. We will write it on their bill if suspected leak is found close to when meter is read.
15. We do not have a formal public relations program on reporting leaks but have never found that to be a problem in our town. We find that most of our citizens feel it is their obligation and duty to do so.
16. As explained in number 6, when intentional damage is found at one of our meters, a citation is written and restitution is required.
17. We figure the lost water as if it was a regular service and water is charged at that rate.

18. Many variables are determined when a water leak is found. We assess the degree of water loss as to whether as example we should pay someone overtime to come out on a weekend or if it can wait until working hours. We repair all leaks as soon as possible.



STATE OF TENNESSEE
 COMPTROLLER OF THE TREASURY
 DEPARTMENT OF AUDIT
 DIVISION OF LOCAL GOVERNMENT AUDIT

Justin P. Wilson
 Comptroller of the Treasury

MEMORANDUM

TO: Water and Wastewater Financing Board
 FROM: Division of Local Government Audit - Municipalities and Utility Districts
 SUBJECT: Division of Local Government Audit Referral Pursuant to TCA 68-221-1010(d)

In accordance with the requirements of Tennessee Code Annotated, we are hereby filing the following vendor with the board(s) noted above.

Record Number	Vendor Name			<input type="checkbox"/>	Component Unit
1716	Hollow Rock				
Report Year	Utility Type	Date Received	Date Referred	Reviewer	Report Status
6/30/2012	Water and Sewer	1/10/2013	3/4/2013	SRW	Not Yet Reviewed

FINANCIAL DISTRESS

A Has deficit net assets for the fiscal year ended.

B Decrease in net assets for two consecutive years.

Fiscal Year End	Decrease in NA

C Is in default on certain outstanding debt.

Holders of the Bonds, etc.	Principal	Interest

WATER LOSS

D Water Loss Referral

AWWA water audit info

Water Loss Schedule - Status

Schedule Included in Report Old Format

AWWA Excel File

[]

Validity score below the amount established by the board

Validity Score

58

Excessive non-revenue water % as established by the board
 (Non-Revenue Water as Percent by Cost of Operating System)

Non-Rev Water %

1.1

Comments:

Schedule = Old format (i.e., not AWWA format). However, AWWA Excel file submitted via CARS -- as result "Validity Score" & "Non-Rev Water %"

AWWA WLCC Free Water Audit Software: Reporting Worksheet

Back to Instructions

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Click to access definition

Water Audit Report for: **City of New Johnsonville**
 Reporting Year: **2012** - **7/2013** - **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 grade.

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="262.450"/>	Million gallons (US)/yr. (MG/yr)
Master meter error adjustment (enter positive value):	<input type="text" value=""/>	MG/yr
Water imported:	<input type="text" value=""/>	MG/yr
Water exported:	<input type="text" value=""/>	MG/yr
WATER SUPPLIED:	262.450	MG/yr

AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="187.220"/>	MG/yr
Billed unmetered:	<input type="text" value=""/>	MG/yr
Unbilled metered:	<input type="text" value=""/>	MG/yr
Unbilled unmetered:	<input type="text" value="3.281"/>	MG/yr
AUTHORIZED CONSUMPTION:	190.501	MG/yr

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

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)

71.949 MG/yr

Apparent Losses

Unauthorized consumption:	<input type="text" value="0.656"/>	MG/yr
Customer metering inaccuracies:	<input type="text" value="9.854"/>	MG/yr
Systematic data handling errors:	<input type="text" value="0.900"/>	MG/yr
Apparent Losses:	11.410	

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

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="60.540"/>	MG/yr
WATER LOSSES:	71.949	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="20.0"/>	miles
Number of active AND inactive service connections:	<input type="text" value="880"/>	
Connection density:	<input type="text" value="44"/>	conn./mile main
Average length of customer service line:	<input type="text" value="60.0"/>	ft. (pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	<input type="text" value="45.0"/>	psi

COST DATA

Total annual cost of operating water system:	<input type="text" value="\$907,000"/>	\$/Year
Customer retail unit cost (Applied to Apparent Losses):	<input type="text" value="\$7.98"/>	\$/1000 litres
Variable production cost (Applied to Real Losses):	<input type="text" value="\$0.00"/>	\$/Million-gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="28.74"/>
Non-revenue water as percent by cost of operating system:	<input type="text" value="38.04"/>
Annual cost of Apparent Losses:	<input type="text" value="\$344,663"/>
Annual cost of Real Losses:	<input type="text" value="\$0"/>

Operational Efficiency Indicators

Apparent Losses per service connection per day:	<input type="text" value="35.52"/>	gallons/connection/day
Real Losses per service connection per day:	<input type="text" value="188.48"/>	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="4.19"/>	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	<input type="text" value="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):

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: 84 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: Volume from own sources
- 3: Unauthorized consumption

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



City of New Johnsonville

323 Long St.
New Johnsonville, TN 37134
(931) 535-2715 Fax: (931) 535-2185

Lance Loveless
Mayor

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

OCT 16 2013

Dear Ms. Welborn,

This is a response to your letter dated July 25th, 2013 concerning The City of New Johnsonville's (City) referral to the Water and Wastewater Financing Board for having reported non-revenue water as 38% of operating costs. As you requested, we have provided: A) a plan to reduce water loss and B) responses to the questions on the enclosed sheet.

A. Plan to Reduce Water Loss:

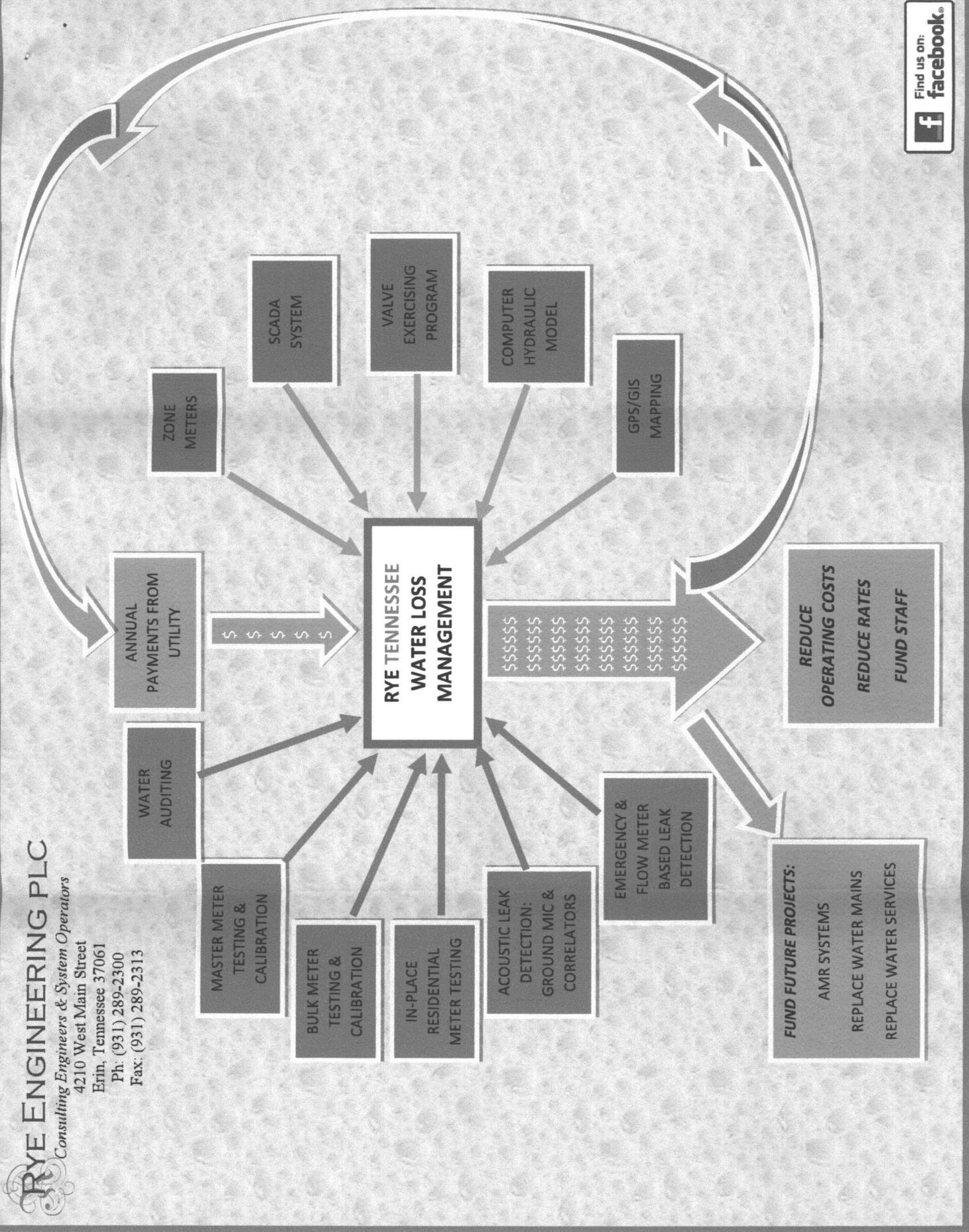
After receiving your letter, we contacted Rye Engineering PLC (RYE), a consulting company specializing in water loss management, to develop a plan to reduce water loss to bring us into compliance with Tennessee's water loss regulations and to recover lost revenue for the City. RYE developed a proposal that would enroll the City in the Tennessee Water Loss Management (TWLM) program. Under TWLM, a system specific plan has been tailored to meet our water loss needs, addressing the major aspects of the AWWA water audit requirements and our deficiencies in each of those areas. In exchange for these water loss management services, we will be paying RYE on a monthly, fixed cost basis to manage our water loss.

The **TWLM Plan** that we have enrolled in will provide the following regular water loss activities:

1. **Annual Water Audit in AWWA format;**
2. **Semi-Annual Master Meter Testing;**
3. **Semi-Annual Master Meter Calibration;**
4. **Semi-Annual Bulk Sales Water Meter Testing;**
5. **Semi-Annual Bulk Sales Water Meter Calibration;**
6. **In-place Customer Meter Testing (10% of meters/year);**
7. **Annual System Pressure Testing/Calculation;**
8. **Semi-Annual Acoustic Leak Detection Survey;**
9. **Emergency Leak Detection, Flow Based Leak Detection, & Step Testing (flow based/pressure observation).**

We have also including a graphical representation of the TWLM concept shown in the following graphic as provided by RYE:

RYE ENGINEERING PLC
Consulting Engineers & System Operators
 4210 West Main Street
 Erin, Tennessee 37061
 Ph: (931) 289-2300
 Fax: (931) 289-2313



RYE was just approved (mid-September) to begin work and has already been coordinating the testing of the master meter(s) at our water plant and our bulk sales meter at our largest industrial customer (ERACHEM) which uses approximately ½ of our daily water production. Additionally, emergency leak detection has been occurring and the first complete leak survey is scheduled for November 2013.

By enrolling in this comprehensive plan, we submit that we are making our best efforts to come into State compliance and are eager to re-audit our water system and submit those results to you next year after the program has time to positively affect our water loss performance indicators.

B. Response to Questions on Initial Checklist for Addressing Water Loss:

We've provided answers to the questions you sent us that were listed on your initial check list. The questions are listed first and the answers follow in italics:

- 1. Are you billing for all general government water use?**
Yes, it is the City's policy to bill for all general government water use. We have meters installed on City Hall, the Senior Citizens Center, Safe Room, City Park, and Fire Hall.
- 2. Are you accounting for the water used by the water and/or sewer department?**
Yes, water used by the water and sewer department is metered. In the distribution system, we have a flow meter connected to a diffuser that we connect to hydrants when flushing and flow testing. We also meter the majority of plant usage at our Water Treatment Plant (WTP). However, we are working with RYE to evaluate all usages at the WTP to make sure all usages are metered, including the recently constructed chemical building, which is not metered at the present time.
- 3. Do you periodically check or inspect all 2" and larger meters?**
No, currently we only read these meters. However, under the new RYE TWLM program, we will be testing and calibrating large bulk sales meters twice per year.
- 4. Do you have a recalibration policy and procedure in place?**
No. However, under the new RYE TWLM program, we will be calibrating our master meters and bulk water meters as well as testing 10% of our customer meters each year.
- 5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?**
No, currently meters are only replaced when they stop working. The RYE TWLM program however will result in meters being replaced when their accuracy begins to drop in a statistically significant manner as determined by the results of the annual testing of 10% of the meters.
- 6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?**

Yes, our meter readers check for unauthorized consumption during the meter reading cycle. If unauthorized consumption is detected, the Police Department cites the alleged offender into City Court.

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

Until we enrolled in the RYE TWLM program, we would only leak detect on an emergency basis, that is, when we were already aware that a leak had developed by visible signs of water above the ground. The leak detection would be done to pinpoint the exact location of the leak prior to excavation. Now, under the RYE TWLM program, our entire system will be leak surveyed twice per year. Additionally, emergency leak detection and flow based leak detection is included in the program and is built into the monthly fee that we will be paying to RYE.

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

Yes, customer bills are adjusted upon legitimate request and are documented. Bills are adjusted by a single staff level at City Hall. Each adjustment is accounted for and listed in the City Audit.

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, each time authorized non-customers such as the fire department uses water they must fill out a form that documents and estimates the usage. These forms are turned into the water department.

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

No, there is only one pressure zone within the City. However, under the TWLM program, we will look for valves that can be used to isolate the system for real-time leak detection methods such as installation of temporary ultrasonic flow meters and step-testing methods.

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

No, currently leak detection is performed during the day on a limited basis. When the TWLM program is in full effect, night flows may be monitored to compare minimum night flows with legitimate night consumption levels.

12. Do you or can you control pressure surges?

Yes, we recently installed pressure reducing valves on several streets during a rehabilitation project to reduce the pressure on water mains feeding residential services.

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

Yes, we have limited handheld acoustical equipment. However, under the TWLM program, we have employed RYE, a company with electronic ground microphones,

acoustical correlators, ultrasonic flow meters, and employees knowledgeable in water distribution system operation and water loss control to use this equipment.

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

If we suspect that customers have a leak, we call them or send an employee to speak with them on their property.

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

No, we do not a formal program to encourage water leaks to be reported, but citizens do sometimes call in on their own accord.

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

Yes, water theft is prosecuted in City Court and at higher levels if necessary as prescribed by law.

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

According to the AWWA Water Audit that was turned in, our Non-Revenue Water is approximately \$344,663. However, as part of the TWLM, RYE will re-audit the system to verify the accuracy of this number.

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

We submit that in most cases, the costs to repair leaks are justified, and they are repaired as soon as they are found. However, to date, no cost analysis has been performed to verify our assumption.

Please let me know if you have any questions about the information that we have provided or need more detail on our future plans to control and manage our water loss. We appreciate your time in reviewing our efforts.

Sincerely,



Lance Loveless, Mayor

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: **HALLS PUBLIC WORKS (TN)**

Reporting Year: **2013** 7/2012 - 6/2013

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	178.850	Million gallons (US)/yr (MG/Yr)
Master meter error adjustment (enter positive value):	?	4	10.000	over-registered MG/Yr
Water imported:	?	n/a	0.000	MG/Yr
Water exported:	?	n/a	0.000	MG/Yr
WATER SUPPLIED:			168.850	MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	?	6	120.858	MG/Yr
Billed unmetered:	?	n/a	0.000	MG/Yr
Unbilled metered:	?	9	0.000	MG/Yr
Unbilled unmetered:	?		2.111	MG/Yr
AUTHORIZED CONSUMPTION:	?		122.969	MG/Yr

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

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)

45.881 MG/Yr

Apparent Losses

Unauthorized consumption:	?		0.422	MG/Yr
Customer metering inaccuracies:	?	5	2.466	MG/Yr
Systematic data handling errors:	?	5	0.500	MG/Yr
Apparent Losses:	?		3.389	

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

Pcnt: 0.25% Value:

2.00% 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:	?		42.493	MG/Yr
WATER LOSSES:			45.881	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	?		47.992	MG/Yr
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= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	?	5	147.0	miles
Number of active AND inactive service connections:	?	5	2,425	
Connection density:			16	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:	?	5	80.0	psi

COST DATA

Total annual cost of operating water system:	?	8	\$921,568	\$/Year
Customer retail unit cost (applied to Apparent Losses):	?	4	\$4.64	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	?	4	\$274.64	\$/Million gallons

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	28.4%
Non-revenue water as percent by cost of operating system:	3.0%
Annual cost of Apparent Losses:	\$15,723
Annual cost of Real Losses:	\$11,670

Operational Efficiency Indicators

Apparent Losses per service connection per day:	3.83	gallons/connection/day
Real Losses per service connection per day*:	N/A	gallons/connection/day
Real Losses per length of main per day*:	791.96	gallons/mile/day
Real Losses per service connection per day per psi pressure:		gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	33.84	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	42.49	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	1.26	

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

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 60 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: Customer retail unit cost (applied to Apparent Losses)

[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, all City owned properties metered.
2. Are you accounting for the water used by the water and/or sewer department? Yes, metered
3. Do you periodically check or inspect all 2" and larger meters? Yes, most have changed out.
4. Do you have a recalibration policy and procedure in place? yes
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons? 1.5 million gallons
6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered? Cited to court.
7. Do you have a leak detection program currently in place? Rye Engineering just finished one.
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? Chiefs report estimated usage
10. Is your system "zoned" to isolate water loss? yes
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? no
13. Do you have or have access to leak detection equipment? Yes. Aqua-Scope & HL-4000
14. What is your policy for notifying customers they have a leak? As soon as possible
15. Do you have a public relations program to encourage citizens to report leaks? yes
16. Do you have a policy to prosecute water theft or meter tampering/damage? City Ordinance
17. What is the monetary value of the lost water? Rye Engineering is currently working on that. (Seth Rye 931-289-2300
18. Is the cost to repair the leak justified based on the amount of water being lost? yes

Around 20 leaks discovered during leak survey. All have been repaired. We also applied to SRF for automated meter reading. We didn't rank high enough on their list for AMR/AMI Project. In 1988 we lost 147,000,000 gallons. In 2012 we lost 57,000,000 gallons. We have made a lot of

progress but still have more work to do. Thanks Alan Cherry 731-836-7379 cell # 731-225-9786

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.

Water and Wastewater Financing Board

Compliance Reports

November 14, 2013

City of Cowan, June 30 2013 Validity Score 75, Non-revenue water 16.9%

Systems under the WWFB November 2013		
SYSTEM	COUNTY	LAST AUDIT
Town of Alexandria	DeKalb	2012
City of Ashland City WL	Cheatham	2012
Town of Atwood	Carroll	2012
City of Benton WL	Polk	2012
Town of Big Sandy	Benton	2012
Town of Carthage	Smith	2012
Coffee County WTA	Coffee	2012
City of Collinwood	Wayne	2011
Town of Cumberland Gap WL	Claiborne	2012
Town of Decaturville WL	Decatur	2012
City of Decherd WL	Franklin	2012
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 WL	Lauderdale	2012
City of Harriman WL	Morgan	2012
Town of Henning	Lauderdale	2012
City of Henry	Henry	2012
Hiwasse 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	2012
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 Munford	Tipton	2012
City of Niota	McMinn	2010
Town of Obion	Obion	2012
Town of Oliver Springs	Anderson/Morgan/Rc	2012
Town of Oneida	Scott	2012
Town of Petersburg	Lincoln	2011

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				
Benton	58/9.7%	6/30/2012						
Collinwood	45.96%	6/30/2009	51.30%	6/30/2010	51.30%	6/30/2011		
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	36.70%	6/30/2012		
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	1.37%	6/30/2012		
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		