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November 30, 2011

*Via Hand Delivery*

Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street – Filing Room  
P.O. Box 3265  
Harrisburg, PA 17105-3265

RECEIVED  
2011 NOV 30 PM 2:50  
PA PUC  
SECRETARY'S BUREAU

**RE: BOROUGH OF QUAKERTOWN; FILING OF TARIFF SUPPLEMENT  
NO. 14 TO TARIFF WATER – PA PUC NO. 1; Docket No. R-2011-2251181**

Dear Ms. Chiavetta:

Enclosed for filing with the Pennsylvania Public Utility Commission (“Commission”), on behalf of the Borough of Quakertown (“Quakertown”), are eight (8) copies of each of the following documents:

1. Tariff Supplement No. 14 to Tariff Water – Pa. P.U.C. No. 1.
2. Supporting documentation required by the Commission’s Regulation at 52 Pa. Code § 53.52.

Also enclosed are 9 copies each of (1) a Notice of Proposed Rate Change, which is posted in the Borough’s office and was mailed to all customers who live outside of the Borough limits, and (2) a Press Release. Affidavits confirming distribution of these documents in accordance with the Commission’s regulations will be filed with the Commission under separate cover letter.

Copies of the enclosed documents have been served as indicated on the attached Certificate of Service.

Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
November 30, 2011  
Page Two

If you have any questions, please feel free to contact me. Thank you for your attention to this matter.

Very truly yours,



Thomas J. Sniscak  
Steven K. Haas  
*Counsel to Borough of Quakertown*

SKH/san  
Enclosures

cc: Per Certificate of Service

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SECRETARY'S BUREAU

## BOROUGH OF QUAKERTOWN

November 30, 2011

### Notice of Proposed Rate Changes

#### To Our Customers:

The Borough of Quakertown is filing a request with the Pennsylvania Public Utility Commission (PUC) to increase your rates as of January 29, 2012. This notice describes the borough's rate request, the PUC's role, and what actions you can take.

The Borough of Quakertown has requested an overall rate increase of \$278,853 per year. If the borough's entire request is approved, the total bill for a metered residential customer using 3,000 gallons of water per month would increase from \$13.50 to \$28.98 per month or by 114.7%.

The total bill for a metered commercial customer using 1,000 gallons of water per month would increase from \$13.50 to \$23.20 per month or by 71.9%.

The total bill for a metered industrial customer using 35,000 gallons of water per month would increase from \$126.00 to \$257.14 per month or by 104.0%.

To find out your customer class or how the requested increase may affect your water bill, contact The Borough of Quakertown at (215) 536-5001. The rates requested by the Borough may be found in Supplement No. 14 to Tariff - Water Pa. P.U.C. No. 1. You may examine the material filed with the PUC which explains the increase and the reasons for it. A copy of this material is kept at the Borough of Quakertown's office.

The State agency which approves rates for public utilities is the PUC. The PUC will examine the requested rate increase and can prevent existing rates from changing until it investigates and/or holds hearings on the request. The Borough must prove that the requested rates are reasonable. After examining the evidence, the PUC may grant all, some, or none of the request or may reduce existing rates.

The PUC may change the amount of the rate increase or decrease requested by the utility for each customer class. As a result, the rate charged to you may be different than the rate requested by the Borough and shown above.

There are three ways to challenge a Borough's request to change its rates:

1. You can file a formal complaint. If you want a hearing before a judge, you must file a formal complaint. By filing a formal complaint, you assure yourself the opportunity to take part in hearings about the rate increase request. All complaints should be filed with the PUC before January 29, 2012. If no formal complaints are filed, the Commission may grant all, some, or none of the request without holding a hearing before a judge.
2. You can send us a letter telling why you object to the requested rate increase. Sometimes there is information in these letters that makes us aware of problems with the Borough's service or management. This information can be helpful when we investigate the rate request.

Send your letter or request for a formal complaint to the Pennsylvania Public Utility Commission, Post Office Box 3265, Harrisburg, PA 17105-3265.

3. You can be a witness at a public input hearing. Public input hearings are held if the Commission opens an investigation of the Borough's rate increase request and if there is a large number of customers interested in the case. At these hearings you have the opportunity to present your views in person to the PUC judge hearing the case and the Borough representatives. All testimony given "under oath" become part of the official rate case record. These hearings are held in the service areas of the Borough.

For more information, call the PUC at 1-800-692-7380 or 1-717-783-5187. You may leave your name and address so you can be notified of any public input hearings that may be scheduled.

BOROUGH OF QUAKERTOWN

## NEWS RELEASE

QUAKERTOWN, PA - On November 30, 2011, the Borough of Quakertown will file for an increase in annual revenues for customers that reside outside the Borough limits to meet increasing operating expenses. The requested annual increase of \$278,853 is proposed to become effective January 29, 2012. The typical residential customer's current monthly water bill of \$13.50 will increase \$15.48 to a total of \$28.98. The typical commercial customer's current monthly water bill of \$13.50 will increase \$9.70 to a total of \$23.20. The typical industrial customer's current monthly water bill of \$126.00 will increase \$131.14 to a total of \$257.14. Customers may contact the Borough at (215) 536-5001 to get further information on the proposed increase.

BOROUGH OF QUAKERTOWN  
Quakertown, Pennsylvania

RATES, RULES AND REGULATIONS GOVERNING  
THE DISTRIBUTION OF WATER  
IN THE TERRITORY OUTSIDE THE BOROUGH OF QUAKERTOWN  
INCLUDING  
A PORTION OF RICHLAND TOWNSHIP,  
BUCKS COUNTY, PENNSYLVANIA

ISSUED: NOVEMBER 30, 2011

EFFECTIVE: JANUARY 29, 2012

BY: Scott C. McElree, Borough Manager  
Borough of Quakertown  
35 North Third Street  
Quakertown, PA 18951

THIS TARIFF MAKES CHANGES IN EXISTING RATES.  
(See Ninth Revised Page No. 2)

BOROUGH OF QUAKERTOWN

Supplement No. 14 to  
Water-Pa. P.U.C. No.1  
Ninth Revised Page No. 2  
Canceling Eighth Revised  
Page No. 2

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LIST OF CHANGES MADE BY THIS SUPPLEMENT

Changes:

Rate for general water service and fire protection service are increased. The overall increase in annual operating revenues is approximately 87.9%

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BOROUGH OF QUAKERTOWN

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Supplement No. 14 to  
Water-Pa. P.U.C. No.1  
Eighth Revised Page 5  
Canceling Seventh Revised  
Page No. 5

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BOROUGH OF QUAKERTOWN

SCHEDULE OF MONTHLY WATER RATES (I)

There are imposed upon Consumers for water service with respect to each Property served outside the Borough limits the following rates:

(a) Metered Monthly Rates:

First 2,250 Gallons or less	\$23.20 (Minimum)
Next 13,667 Gallons	\$7.71 per 1,000 Gallons
Over 16,667 Gallons	\$6.65 per 1,000 Gallons

(b) Minimum Monthly Charges:

<u>Meter Size</u>	<u>Minimum Charge</u>	<u>Monthly Consumption Allowance</u>
5/8 inch	\$ 23.20	2,250 Gallons
3/4 inch	23.20	2,250 Gallons
1 inch	51.55	5,000 Gallons
1 1/4 inch	77.33	7,500 Gallons
1 1/2 inch	103.10	10,000 Gallons
2 inch	128.88	12,500 Gallons
2 1/2 inch	160.38	16,250 Gallons
3 inch	191.89	20,000 Gallons
4 inch	231.98	25,000 Gallons

5/8-inch minimum and allowance are applicable to each dwelling unit served through one common meter.

(c) Flat Rate per month for Private Fire Hydrant - The charge for each private fire hydrant shall be \$24.41 per month with hydrants furnished, installed and maintained by the Consumer.

(d) Sprinkler Service Charge, including fire base outlets and other devices for fire protection - unmetered fire protection service:

1 Inch Connection	\$ 25.44 per Month
2 Inch Connection	40.59 per Month
4 Inch Connection	61.22 per Month
6 Inch Connection	101.78 per Month
8 Inch Connection	152.68 per Month
10 Inch Connection	229.38 per Month

(e) Public Fire Protection:

For Each Public Fire Hydrant	\$ 42.98 per Month
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(I) Indicates Increase

**BOROUGH OF QUAKERTOWN**

Supporting Data  
for  
Supplement No. 14 to  
Tariff Water - Pa. P.U.C. No. 1  
Docket No. R-2011-2251181

By

Scott D. Fogelsanger  
Principal

**AUS CONSULTANTS**  
275 Grandview Ave., Suite 100  
Camp Hill, PA 17011

November 2011





SCOTT D. FOGELSANGER  
Principal

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717.763.9931 • Fax  
sfogelsanger@fwf-ausinc.com

November 27, 2011

Mr. Scott C. McElree, Borough Manager  
BOROUGH OF QUAKERTOWN  
35 North Third Street  
Quakertown, PA 18951

Dear Mr. McElree:

In accordance with your instructions, we have prepared the following report containing responses to Tariff Regulations of the Pennsylvania Public Utility Commission related to Supplement No. 14 to Tariff Water - Pa. P.U.C. No. 1 of the Borough of Quakertown, to be issued November 30, 2011.

Supplement No. 14 to Tariff Water - Pa. P.U.C. No. 1 increases the existing rate schedule. The proposed rate schedule increases existing revenue requirements by approximately 87.9 percent for customers that reside outside the Borough limits. The Supporting Data for the operating revenues and expenses were obtained from the operating books and records of the Borough. The adjustments to the operating revenues and expenses as of December 31, 2010 and December 31, 2011 were made to normalize or amortize the operating expenses for the historic and future test year periods.

The proposed increase in annual operating revenues will produce an additional \$278,854. The proposed increase will provide a pro forma return of \$147,976 or approximately 6.63 percent on the measures of value as of December 31, 2011.

The above conclusions are supported by detailed schedules contained in this report.

Respectfully submitted,

AUS Consultants

A handwritten signature in black ink that reads "Scott D. Fogelsanger". The signature is written in a cursive style with a long horizontal flourish at the end.

By: Scott D. Fogelsanger

# BOROUGH OF QUAKERTOWN

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**BOROUGH OF QUAKERTOWN**

Information to Accompany  
Supplement No. 14 to  
Tariff Water - Pa. P.U.C. No. 1

PURSUANT TO 52 PA. CODE § 53.52 OF THE  
COMMISSION'S TARIFF REGULATIONS

## BOROUGH OF QUAKERTOWN

### Statement of Reasons for Rate Increase Answer to 52 Pa. Code § 53.52 (b) (1)

The Borough of Quakertown is filing Supplement No. 14 to Tariff Water - Pa. P.U.C. No. 1 on November 30, 2011 with a requested effective date of January 29, 2012 for the purpose of increasing water service revenue by \$278,853 per annum, based upon future test year operations ended December 31, 2011.

For the twelve months ended December 31, 2011, the future test year period in this filing, utility operations produced a net operating income (loss) as follows:

<u>Operations</u>	<u>Net Income</u>	<u>Reference</u>
Per Books	(\$87,159)	Section 1, Page 1-11
Per Books (Going-level Present Rates)	(\$130,878)	Section 1, Page 1-11

The current rate filing is necessary to realize a reasonable rate of return on the Borough's fixed capital investment and to recover increased operating expenses. The supporting data, detailed calculations, and proposed customer tariff schedules as contained in Sections 1 through 3 of this report address, in many cases, rate making elements and annual revenue requirement increases attributable to customers that reside outside the Borough's limits. Numerous factors were given consideration in establishing the proposed increase, which are categorized and set forth in the following narrative.

#### **Operating Revenues**

The operating revenues per books at December 31, 2010 amounted to \$1,313,355. An audit of the number of customers was performed as of December 31, 2010. Per the

## BOROUGH OF QUAKERTOWN

### Statement of Reasons for Rate Increase Answer to 52 Pa. Code § 53.52 (b) (1)

latest audit and for the purpose of this rate filing, the following number of projected customers that reside outside the Borough limits at December 31, 2011 by classification will be utilized:

<u>Type</u>	<u>Number</u>
Residential	803
Commercial	83
Industrial	13
Fire Protection	<u>32</u>
Total	931

As a result of the customer audit and the customer bill frequency analysis, adjustments were required to the book level of operating revenue as set forth in response to Tariff Regulation b(4), Sheet No. 1a . Also, an adjustment was required remove the revenue associated with the customers that reside within the Borough limits. These adjustments result in an overall decrease of (\$995,983) in operating revenue producing a going-level operating revenue at present rates of \$317,372.

#### **Operating Expenses**

An extensive review of the Borough's current and projected operating expenses was performed. For the twelve months ended December 31, 2010 and December 31, 2011, pro forma utility operations produced operating expense levels as follows:

<u>Operating Expenses</u>	<u>Amount</u>	<u>Reference</u>
Per books	\$1,267,644	Section 1, Page 1-12
Going-level at present rates	\$385,001	Section 1, Page 1-12

The Borough has projected operating costs as reflected in the going-level adjustments contained in response to Tariff Regulation c(1), Sheets No. 1b through 1d.

## **BOROUGH OF QUAKERTOWN**

### **Statement of Reasons for Rate Increase Answer to 52 Pa. Code § 53.52 (b) (1)**

#### **Original Cost - Plant in Service**

The original costs of the plant in service at December 31, 2010 were obtained through Borough records. The total plant in service per books at December 31, 2010 is \$17,665,153. During 2011, the Borough has not projected any capital additions. Therefore, the total plant in service at December 31, 2011 remains at \$17,665,153.

The original cost of the utility plant in service, less assets associated with the customers that reside within the Borough's limits, at December 31, 2011 is \$3,121,095 and is contained in Supporting Schedule No.12 by fixed capital plant account.

#### **Accrued Depreciation**

*The calculations of annual and accrued depreciation in this report are based upon the Straight Line Method and applied to the original costs at December 31, 2010 and December 31, 2011. The accrued depreciation at December 31, 2011 amounts to \$958,625. It must be noted that this amount excludes the accrued depreciation associated with the customers that reside within the Borough limits assets.*

#### **Annual Depreciation Expense**

The annual depreciation expense of \$63,249 shown on Supporting Schedule No. 12, Section 2, is based upon the depreciable original cost base at December 31, 2011. It must be noted that this amount excludes the annual depreciation expense associated with the customers that reside within the Borough's limits assets.

## BOROUGH OF QUAKERTOWN

### Statement of Reasons for Rate Increase Answer to 52 Pa. Code § 53.52 (b) (1)

#### **Measures of Value**

Three (3) elements of rate base were utilized to determine a fair measure of value of the Borough for the purpose of base rate revenue as follows:

I. Depreciated Utility Plant in Service (Net)

The depreciated utility plant in service (net) at December 31, 2011 was determined by deducting calculated accrued depreciation from the original adjusted cost of the plant in service at December 31, 2011 as follows:

	<u>Original Cost</u>	<u>Reference</u>
Utility Plant in Service (Net)	\$3,121,095	Supporting Schedule No.12
Reserve for Depreciation (Net)	<u>\$958,625</u>	Supporting Schedule No.12
Depreciated Utility Plant In Service (Net)	\$2,162,470	

II. Materials and Supplies

The Borough does not account for materials and supplies for normal operations. The Borough believes an alternative calculation of one (1) percent of the depreciable plant in service (\$2,162,470) amounting to \$21,625 would be appropriate.

III. Cash Working Capital

The amount included in the measure of value for cash working capital was based upon one-eighth (1/8) of the pro forma operating and maintenance expenses of \$385,001 less Bad Debt Expense of \$2,451 and amounts to \$47,819.

**BOROUGH OF QUAKERTOWN**

Statement of Reasons for Rate Increase  
Answer to 52 Pa. Code § 53.52 (b) (1)

A detailed compilation of the total measures of value and rates of return at December 31, 2011 is contained in response to Tariff Regulation c(1) - Sheet No. 2.

**Rate of Return**

Supporting Schedule No. 15 contains the detailed pro forma calculations of the cost of capital and fair rate of return at December 31, 2011. The pro forma capital structure is based upon the actual capital structure ratio of 43% debt and 57% common equity. Based upon these calculations, the Borough has utilized an overall 6.63% rate of return for this rate application.

**Tariff Design**

The overall proposed increase in rates is approximately \$278,854 or 87.9%, as follows:

	<u>Amount</u>
Total Proposed Revenue	\$596,226
Going-Level Revenue at Present Rates	<u>317,372</u>
Total Proposed Increase	\$278,854
Percent Increase	87.9%

A bill frequency analysis at present rates was prepared for the twelve months ended December 31, 2010. Summaries of the detailed calculations of the bill frequency analysis are contained in Section 3, Supporting Schedule No. 1. The results of that analysis were utilized to prepare proofs of revenue at proposed rates that are contained in the Report on *Cost of Service Allocations and Tariff Design* in Section 3.

## **BOROUGH OF QUAKERTOWN**

### **Statement of Reasons for Rate Increase Answer to 52 Pa. Code § 53.52 (b) (1)**

#### **General Comments**

The proposed level of annual operating revenues of \$596,226 will allow the Borough to provide proper maintenance to the system, as well as, recover the increased operating cost of the Borough. The increased revenue will also provide a fair rate of return of \$147,976, which will ensure continued safe and adequate service to their customers.



**Borough of Quakertown**

Operating Revenue for the Twelve Months Ended  
 December 31, 2010 and December 31, 2011 Under Present Rates  
 Answer to 52 Pa. Code § 53.52 b(2)

Customer Classification	Year Ended 12/31/10 (Per Books)	Year Ended 12/31/11 at Present Rates
<u>Operating Revenues - Inside:</u>		
Residential	\$617,653	\$597,174
Commercial	226,971	211,843
Industrial	162,585	201,002
Fire Protection	21,162	22,529
Debt Service Fee	0	737,923
Customers' Penalties	0	15,403
Misc. Operating Revenue	0	32,066
Total Operating Revenues - Inside	\$1,028,371	\$1,817,940
<u>Operating Revenues - Outside:</u>		
Residential	\$206,467	\$207,617
Commercial	46,194	45,509
Industrial	17,238	18,825
Fire Protection	15,085	32,267
Customers' Penalties	0	4,268
Misc. Operating Revenue	0	8,886
Total Operating Revenues - Outside	\$284,984	\$317,372
Total Operating Revenues	\$1,313,355	\$2,135,312

## Borough of Quakertown

Number of Customers Served at December 31, 2010  
and December 31, 2011 Whose Bill Will Be  
Increased Under the Proposed Tariff  
Answer to 52 Pa. Code § 53.52 b(3)

<u>Customer Classification</u>	<u>Total Customers 12/31/10</u>	<u>Total Customers 12/31/11</u>
<u>Customers - Inside:</u>		
Residential	2,664	2,664
Commercial	373	373
Industrial	77	77
Fire Protection	42	42
	-----	-----
Total Customers - Inside	3,156	3,156
<u>Customers - Outside:</u>		
Residential	803	803
Commercial	83	83
Industrial	13	13
Fire Protection	32	32
	-----	-----
Total Customers - Outside	931	931
	-----	-----
Total Customers Served	4,087	4,087
	=====	=====

**Borough of Quakertown**

Statement of Operating Revenue Under the Existing Rates for the Twelve (12) Months  
 Ended December 31, 2010 and December 31, 2011, and Under the Proposed Rates  
 Answer to 52 Pa. Code § 53.52 b(4) - Sheet No. 1a

Operating Revenues	Schedule Number	Total System		Total System		Outside Borough		Outside Borough		
		Year Ended 12/31/10 (Per Books)	Adjustments	Anticipated Revenue at Present Rates Year Ended 12/31/10	Amount	Anticipated Revenue at Present Rates Year Ended 12/31/11	Adjustments	Anticipated Revenue at Proposed Rates Year Ended 12/31/11	Adjustments	Amount
<b>Operating Revenues - Inside:</b>										
Residential	b(2)	\$617,653	(\$20,479)	\$597,174	(\$597,174)	\$0	\$0	\$0	\$0	\$0
Commercial	b(2)	226,971	(15,128)	211,843	(211,843)	0	0	0	0	0
Industrial	b(2)	162,585	38,417	201,002	(201,002)	0	0	0	0	0
Fire Protection	b(2)	21,162	1,367	22,529	(22,529)	0	0	0	0	0
Debt Service Fee	b(2)	0	737,923	737,923	(737,923)	0	0	0	0	0
Customers' Penalties	b(2)	0	15,403	15,403	(15,403)	0	0	0	0	0
Miscellaneous Operating Revenues	b(2)	0	32,066	32,066	(32,066)	0	0	0	0	0
<b>Total Operating Revenues - Inside</b>		<b>\$1,028,371</b>	<b>\$789,569</b>	<b>\$1,817,940</b>	<b>(\$1,817,940)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Operating Revenues - Outside:</b>										
Residential	b(2)	\$206,467	\$1,150	\$207,617	\$0	\$207,617	\$188,800	\$396,417		
Commercial	b(2)	46,194	(685)	45,509	0	45,509	38,675	84,184		
Industrial	b(2)	17,238	1,587	18,825	0	18,825	17,069	35,894		
Fire Protection	b(2)	15,085	17,182	32,267	0	32,267	34,310	66,577		
Customers' Penalties	b(2)	0	4,268	4,268	0	4,268		4,268		
Miscellaneous Operating Revenues	b(2)	0	8,886	8,886	0	8,886		8,886		
<b>Total Operating Revenues - Outside</b>		<b>\$284,984</b>	<b>\$32,388</b>	<b>\$317,372</b>	<b>\$0</b>	<b>\$317,372</b>	<b>\$278,854</b>	<b>\$596,226</b>		
<b>Total Operating Revenues</b>		<b>\$1,313,355</b>	<b>\$821,957</b>	<b>\$2,135,312</b>	<b>(\$1,817,940)</b>	<b>\$317,372</b>	<b>\$278,854</b>	<b>\$596,226</b>		

**Per Book Adjustment:**

1) Adjustment to reflect revenues for the debt service fee, customers penalties, miscellaneous operating and fire protection revenues.

Debt Service Fee - Inside	\$737,923
Customer Penalties - Inside	15,403
Misc. Operating Revenues - Inside	32,066
Fire Protection - Outside	16,000
Customer Penalties - Outside	4,268
Misc. Operating Revenues - Outside	8,886
<b>Total</b>	<b>\$814,546</b>

**Going-Level Adjustment:**

2) Adjustment to reflect the bill frequency analysis results. \$7,411

Refer to Supporting Schedule No. 1

## **Borough of Quakertown**

Calculation of Number of Customers Served at December 31, 2011  
Whose Bills will be Decreased Under the Proposed Tariff  
Answer to 52 Pa. Code § 53.52 b(5)

Proposed Supplement No. 14 to Tariff Water - Pa. P.U.C. No. 1 will not decrease rates by any classification of service. No customers will have decreased bills for similar service or use under the proposed rates.

**Borough of Quakertown**

Statement of Net Operating Revenue Under the Existing Rates for the Twelve (12) Months  
 Ended December 31, 2010 and December 31, 2011, and Under the Proposed Rates  
 Answer to 52 Pa. Code § 53.52 c(1) - Sheet No. 1a

	Schedule Number	<i><b>Total System</b></i> Year Ended 12/31/10 (Per Books)	<i><b>Total System</b></i> Net Operating Revenue at Present Rates Year Ended 12/31/10		<i><b>Outside Borough</b></i> Net Operating Revenue at Present Rates Year Ended 12/31/11		<i><b>Outside Borough</b></i> Net Operating Revenue at Proposed Rates Year Ended 12/31/11	
			Adjustments	Amount	Adjustments	Amount	Adjustments	Amount
Operating Revenues	b(4)-1a	\$1,313,355	\$821,957	\$2,135,312	(\$1,817,940)	\$317,372	\$278,854	\$596,226
Operating Revenue Deductions:								
Operating Expenses	c(1) - 1b	\$1,267,644	\$597,111	\$1,864,755	(\$1,479,754)	\$385,001		\$385,001
Depreciation Expense	Sup. Sch. Nos. 10-12	228,935	128,781	357,716	(294,467)	63,249		63,249
<b>Total Operating Revenue Deductions</b>		<b>\$1,496,579</b>	<b>\$725,892</b>	<b>\$2,222,471</b>	<b>(\$1,774,221)</b>	<b>\$448,250</b>	<b>\$0</b>	<b>\$448,250</b>
<b>Net Operating Revenues</b>		<b>(\$183,224)</b>	<b>\$96,065</b>	<b>(\$87,159)</b>	<b>(\$43,719)</b>	<b>(\$130,878)</b>	<b>\$278,854</b>	<b>\$147,976</b>

**Borough of Quakertown**

Operating Expenses for the Twelve Months Ended  
December 31, 2010 and December 31, 2011  
Answer to 52 Pa. Code 53.52 c(1) - Sheet No. 1b

Acct. No.	Account Description	Total System		Going-Level		Total System		Outside Borough	
		Year Ended 12/31/10 (Per Books)	No.	Adjustments	Amount	Future Test Year Ending 12/31/11	No. 7	Future Test Year Ending 12/31/11	
06-401-199	401A Contributions	\$14,860				\$14,860	(\$12,016)	\$2,844	
06-404-310	Legal Fees	13,833				13,833	(10,976)	2,857	
06-404-314	Legal Fees - Labor	19,191				19,191	(15,228)	3,963	
06-407-213	Computer Hardware & Software	21				21	(17)	4	
06-407-252	Computer Parts & Supplies	14				14	(11)	3	
06-407-325	Internet Service	775				775	(615)	160	
06-407-452	Contracted IT Services	757				757	(601)	156	
06-407-453	Web Design / Maintenance	6,858				6,858	(5,442)	1,416	
06-407-700	Capital Purchase	500				500	(397)	103	
06-408-313	Engineering Services	22,502				22,502	(18,382)	4,120	
06-409-226	Cleaning Supplies	432				432	(343)	89	
06-409-236	Building Supplies	1,535				1,535	(1,218)	317	
06-409-373	Repairs & Maintenance	317				317	(252)	65	
06-409-460	Contracted Services	665				665	(528)	137	
06-448-000	Bad Debt Expense	11,869				11,869	(9,418)	2,451	
06-448-110	Salaries - Administrative	75,482	2	\$2,264		77,746	(62,865)	14,881	
06-448-115	Salaries & Wages - Production/Treatment	159,625	2	4,789		164,414	(135,740)	28,674	
06-448-120	Salaries & Wages - Distribution	111,737	2	3,352		115,089	(94,902)	20,187	
06-448-140	Salaries - Clerical	48,802	2	1,464		50,266	(38,815)	11,451	
06-448-181	Salaries & Wages - Meter Maintenance	47,888	2	1,437		49,325	(38,089)	11,236	
	Salaries & Wages - Meter Reading	0	1,2	27,213		27,213	(21,014)	6,199	
06-448-210	Office Supplies	2,233				2,233	(1,724)	509	
06-448-215	Postage	10,689				10,689	(8,254)	2,435	
06-448-222	Chemicals	106,676				106,676	(88,072)	18,604	
06-448-225	Lab Testing	13,212				13,212	(10,908)	2,304	
06-448-231	Gasoline	15,655				15,655	(12,789)	2,866	
06-448-238	Uniforms	1,225				1,225	(991)	234	
06-448-246	Road Materials	1,137				1,137	(929)	208	
06-448-251	Vehicle Maint. & Repairs	5,988				5,988	(4,892)	1,096	
06-448-253	Meter Maintenance	103				103	(80)	23	
06-448-260	Small Tools & Equipment	3,712				3,712	(2,866)	846	
06-448-265	Office Furniture & Equipment	30				30	(24)	6	
06-448-321	Telephone	11,272				11,272	(8,944)	2,328	
06-448-340	Advertising & Printing	3,247				3,247	(2,576)	671	
06-448-361	Utility - Electric	7,607	4	375,817		383,424	(316,555)	66,869	
	Utility - Sewer		5	50,016		50,016	(41,293)	8,723	
06-448-420	Dues, Subscription & Membership	1,038				1,038	(824)	214	
06-448-450	Contracted Services	15,432				15,432	(12,245)	3,187	
06-448-460	Training	1,040				1,040	(825)	215	
06-448-470	CDL Drug & Alcohol Testing	190				190	(151)	39	
06-448-670	Well Maintenance & Repairs	49,198				49,198	(40,618)	8,580	
06-448-671	Lines Maintenance & Repairs	37,400				37,400	(30,840)	6,560	
06-448-750	Meter Maintenance & Repairs	16,043				16,043	(12,388)	3,655	
06-481-190	FICA	34,361	1,3	3,100		37,461	(30,291)	7,170	
06-481-198	NU Pensions	42,464				42,464	(34,336)	8,128	
06-481-354	Workers' Compensation	20,128				20,128	(16,276)	3,852	
06-486-351	Property	16,002				16,002	(12,698)	3,304	
06-486-352	Liability	13,762				13,762	(10,920)	2,842	
06-486-355	Automobile	7,685				7,685	(6,098)	1,587	
06-486-356	Umbrella	5,739				5,739	(4,554)	1,185	
06-486-357	Inland Marine	1,524				1,524	(1,209)	315	
06-487-191	Medical	87,848				87,848	(71,034)	16,814	
06-487-192	Medical Waiver	1,668				1,668	(1,349)	319	
06-487-193	Dental	8,647				8,647	(6,992)	1,655	
06-487-197	Long Term Disability	1,055				1,055	(853)	202	
06-487-199	Life	967				967	(782)	185	
	Employee Benefits - Meter Reading	0	1	22,987		22,987	(18,587)	4,400	
06-491-200	Misc. Expenditure	4				4	(3)	1	
06-492-001	Transfer to General Fund	185,000	4	64,672		249,672	(198,115)	51,557	
	Rate Case Costs - Normalization	0	6	40,000		40,000	0	40,000	
	<b>Total Operating Expenses</b>	<b>\$1,267,644</b>		<b>\$597,111</b>		<b>\$1,864,755</b>	<b>(\$1,479,754)</b>	<b>\$385,001</b>	

**Borough of Quakertown**

Answer to 52 Pa. Code § 53.52 c(1) - Sheet 1c

Going-Level Adjustments:

1. An adjustment is required to include meter reading expense that is provided by an affiliated Borough utility. This results in a going-level adjustment of \$51,428.

Salaries & Wages - Meter Reading	\$26,420	
Employee Benefits	22,987	
Payroll Taxes	2,021	
	-----	
Going- Level Adjustment		\$51,428
		=====

2. An adjustment is required to reflect the 2011 salaries and wages increase. This results in a going-level adjustment of \$14,099.

Going- Level Adjustment		\$14,099
		=====

**Refer to Supporting Schedule No. 2.**

3. An adjustment is required to reflect the increase in payroll taxes. This results in a going-level adjustment of \$1,079.

Going- Level Adjustment		\$1,079
		=====

**Refer to Supporting Schedule No. 2.**

4. The electric power is supplied by the Borough's electric utility for Wells #7, #8, #10, #11, #12, #13, #14, #15, #17, #19 and Erie & Belmont Tank. The electric costs for these locations were not included in the 2010 operating expenses. This results in a going-level adjustment of \$375,817.

Going- Level Adjustment		\$375,817
		=====

**Refer to Supporting Schedule No. 3.**

5. The backwash of the filters utilizes the Borough's sewer utility. The sewer costs for backwashing of the filters were not included in the 2010 operating expenses. This results in a going-level adjustment of \$50,016.

Going- Level Adjustment		\$50,016
		=====

**Refer to Supporting Schedule No. 4.**

**Borough of Quakertown**

Answer to 52 Pa. Code § 53.52 c(1) - Sheet 1d

Going-Level Adjustments (continued):

6. The Borough estimates that the expenses related to this rate filing will aggregate \$120,000 for a fully-litigated filing. For the purposes of this filing, the Borough believes that a normalization period of three [3] years is appropriate and has adopted this period for this rate filing. This results in a going-level adjustment of \$40,000.

Total Estimated Costs for Rate Case	\$120,000	
Divide by:		
Normalization Period	÷ 3	
	-----	
Going- Level Adjustment		\$40,000
		=====

\* It must be noted that this is strictly an estimate. The rate case costs will be updated throughout the course of the proceeding and may be higher or lower than \$120,000.

7. An adjustment is required to the operating expenses associated with the customers that reside inside the Borough. This results in a going-level adjustment of (\$1,479,754).

Going- Level Adjustment	(\$1,479,754)
	=====

**Refer to Supporting Schedule No. 5.**



**Borough of Quakertown**

Statement of Calculation of the Rate of Return Under the Existing Rates for the  
 Twelve Months Ended December 31, 2011 and Under the Proposed Rates  
 Answer to 52 Pa. Code § 53.52 c(1) - Sheet No. 2

	Notes	<i>Total System</i> Original Cost 12/31/11	<i>Outside Borough</i> Original Cost 12/31/11
Total Utility Plant in Service	1	\$17,665,153	\$3,121,095
Less:			
Reserve for Depreciation	1	(5,368,331)	(958,625)
		-----	-----
Total Depreciated Utility Plant in Service		\$12,296,822	\$2,162,470
Add:			
Materials & Supplies	2	122,968	21,625
Cash Working Capital	3	231,611	47,819
		-----	-----
Total Measures of Value		\$12,651,401	\$2,231,914
		=====	=====

Pro Forma Return:

Present:

Dollars	(\$87,159)	(\$130,878)
Percent	-0.69%	-5.86%

Proposed (Indicated):

Dollars		\$147,976
Percent		6.63%

Notes:

1) Refer to Supporting Schedule No. 12.

2) Based on 1% of Depreciated Utility Plant in Service. Allocated based on the composite allocation of the Total Depreciated Utility Plant in Service (Net).

3) Based on 45 days of pro forma operating and maintenance expenses.

*Total System:*

    (\$1,864,755 - \$11,869) x 1/8 = \$231,611

*Outside Borough:*

    (\$385,001 - \$2,451) x 1/8 = \$47,819

**Borough of Quakertown**

Assets & Liabilities for the Twelve Months Ended  
 December 31, 2010 and December 31, 2011  
 Answer to 52 Pa. Code § 53.52 c(2)  
*Total System*

Account Title	Per Books December 31, 2010	Adjusted Per Books December 31, 2010	Pro Forma December 31, 2011
<b>Assets &amp; Other Debits</b>			
Utility Plant in Service	\$12,931,579	\$17,665,153	\$17,665,153
Less: Accumulated Depreciation	(3,676,637)	(5,010,615)	(5,368,331)
	-----	-----	-----
Utility Plant in Service (Net of Depreciation)	\$9,254,942	\$12,654,538	\$12,296,822
Cash & Cash Equivalents	151,537	151,537	151,537
Accounts Receivable	324,407	324,407	324,407
Due From Other Funds	1,186,663	1,186,663	1,186,663
	-----	-----	-----
Total Assets & Other Debits	\$10,917,549 =====	\$14,317,145 =====	\$13,959,429 =====
<b>Liabilities &amp; Other Credits</b>			
Retained Earnings	\$4,400,650	\$7,800,246	\$7,892,524
Long-Term Debt	6,398,248	6,398,248	5,948,254
Accounts Payable	16,652	16,652	16,652
Accrued Expenses	101,999	101,999	101,999
	-----	-----	-----
Total Liabilities & Other Credits	\$10,917,549 =====	\$14,317,145 =====	\$13,959,429 =====

## Borough of Quakertown

Original Cost of Utility Plant in Service at  
December 31, 2010 and December 31, 2011  
Answer to 52 Pa. Code § 53.52 c(3)

Acct. No.	Account Title	Adjusted Per Books December 31, 2010 (1)	Pro Forma December 31, 2011
<u>Non-Depreciable Plant:</u>			
311.1	Source of Supply Land	\$16,286	\$16,286
311.4	Rights of Way	1,011	1,011
311.5	Reservoir & Standpipe Land	1,489	1,489
		-----	-----
	Total Source of Supply & Pumping Plant	\$18,786	\$18,786
<u>Depreciable Plant:</u>			
312.13	Wells & Springs	\$6,154,681	\$6,154,681
312.2	Power & Pumping Structures	271,753	271,753
312.3	Purification Structures	470,485	470,485
312.5	Distribution Reservoirs & Standpipes	1,765,906	1,765,906
312.61	Office Buildings	57,728	57,728
312.62	Stores, Shop & Garage Buildings	55,937	55,937
316	Electric Pumping Equipment	487,836	487,836
320	Purification System	801,165	801,165
322	Mains & Accessories	6,714,901	6,714,901
323	Services	74,595	74,595
324	Meters	384,728	384,728
325	Fire Hydrants	137,237	137,237
328.1	Office Furniture	1,210	1,210
328.2	Office Equipment	1,720	1,720
328.3	Office Computer	3,600	3,600
329	Transportation Equipment	162,265	162,265
331	Shop Equipment	4,828	4,828
332	Tools & Work Equipment	89,133	89,133
333	Communication Equipment	6,659	6,659
		-----	-----
	Total Depreciable Plant	\$17,646,367	\$17,646,367
		-----	-----
	Total Plant in Service	\$17,665,153	\$17,665,153
		=====	=====

**Borough of Quakertown**

Reserve for Depreciation of Utility Plant as of  
December 31, 2010 and December 31, 2011

Answer to 52 Pa. Code § 53.52 c(4)

*Total System*

<u>Account Title</u>	<u>Per Books 12/31/10</u>	<u>Adjusted Per Books 12/31/11</u>	<u>Pro Forma 12/31/11</u>
Reserve for Depreciation	\$3,676,637	\$5,010,615	\$5,368,331

## Borough of Quakertown

Statement of Operating Income Setting Forth the Operating Revenues  
and Expenses at Present Rates by Detail Accounts for the Twelve Months  
Ended December 31, 2010 and December 31, 2011  
Answer to 52 Pa. Code § 53.52 c(5)  
*Total System*

	December 31, 2010 (Per Books)	December 31, 2011 (Anticipated at Present Rates)
Operating Revenue	\$1,313,355	\$2,135,312
<u>Operating Revenue Deductions:</u>		
Operating Expenses	\$1,267,644	\$1,864,755
Depreciation Expense	228,935	357,716
	-----	-----
Total Operating Revenue Deductions	\$1,496,579	\$2,222,471
	-----	-----
Net Operating Income	(\$183,224)	(\$87,159)
<u>Non-Operating Income &amp; Expenses:</u>		
Interest & Dividend Income	\$799	\$799
State Aid - Pension	24,234	24,234
Interest Expense	(146,627)	(167,034)
	-----	-----
Total Non-Operating Income & Expenses	(\$121,594)	\$25,033
	-----	-----
Net Income	(\$304,818)	(\$62,126)
	=====	=====

## **Borough of Quakertown**

Statement Detailing Major Changes in the Operating or Financial  
Condition Occurring Between December 31, 2010 and November 30, 2011  
Answer to 52 Pa. Code § 53.52 c(6)

There were no major accounting changes between December 31, 2010 and November 30, 2011 which would effect the operating or financial condition of the Borough of Quakertown.



**Borough of Quakertown**

Operating Revenues Under Present Rates  
For the Year Ended December 31, 2010

	Bill Analysis Revenue	Per Books Year Ended 12/31/10	Per Books Adjustments	Adjusted Per Books Year Ended 12/31/10	Difference
<u>Inside Borough:</u>					
Residential	\$597,174	\$617,653		\$617,653	(\$20,479)
Commercial	211,843	226,971		226,971	(15,128)
Industrial	201,002	162,585		162,585	38,417
Fire Protection	22,529	21,162		21,162	1,367
Debt Service Fee	737,923		\$737,923	737,923	0
Customers' Penalties	15,403		15,403	15,403	0
Misc. Operating Revenue	32,066		32,066	32,066	0
	-----	-----	-----	-----	-----
Totals - Inside Borough	\$1,817,940	\$1,028,371	\$785,392	\$1,813,763	\$4,177
<u>Outside Borough:</u>					
Residential	\$207,617	\$206,467		\$206,467	\$1,150
Commercial	45,509	46,194		46,194	(685)
Industrial	18,825	17,238		17,238	1,587
Fire Protection	32,267	15,085	\$16,000	31,085	1,182
Customers' Penalties	4,268		4,268	4,268	0
Misc. Operating Revenue	8,886		8,886	8,886	0
	-----	-----	-----	-----	-----
Totals - Inside Borough	\$317,372	\$284,984	\$29,154	\$314,138	\$3,234
	-----	-----	-----	-----	-----
Subtotal	\$2,135,312	\$1,313,355	\$814,546	\$2,127,901	\$7,411
					=====



**Borough of Quakertown**

Operating Revenues Under Present Rates  
For the Year Ended December 31, 2010

**Inside Borough Customers**

<b><u>Residential - Inside:</u></b>			
	Number	Rate	Revenue
Minimum Charges:	of Bills		
5/8" & 3/4"	31,932	\$11.28	\$360,192.96
1"	24	\$25.06	601.44
4"	12	\$113.05	1,356.60
Total Minimum Charges			\$362,151.00
<b>Consumption Charges:</b>			
	Thousand Gallons	Rate	
Minimum	80,512		
Step 1	59,412	\$3.75	\$222,795.00
Step 2	4,049	\$3.02	12,227.98
Total Consumption Charges			\$235,022.98
Total Residential - Inside			\$597,173.98
<b><u>Commercial - Inside:</u></b>			
	Number	Rate	
Minimum Charges:	of Bills		
5/8" & 3/4"	3,888	\$11.28	\$43,856.64
1"	216	\$25.06	5,412.96
1 1/4"	12	\$37.60	451.20
1 1/2"	168	\$50.13	8,421.84
2"	120	\$62.66	7,519.20
3"	60	\$92.89	5,573.40
4"	12	\$113.05	1,356.60
Total Minimum Charges			\$72,591.84
<b>Consumption Charges:</b>			
	Thousand Gallons	Rate	
Minimum	12,173		
Step 1	13,444	\$3.75	\$50,415.00
Step 2	29,416	\$3.02	88,836.32
Total Consumption Charges			\$139,251.32
Total Commercial - Inside			\$211,843.16
<b><u>Industrial - Inside:</u></b>			
	Number	Rate	
Minimum Charges:	of Bills		
5/8" & 3/4"	264	\$11.28	\$2,977.92
1"	84	\$25.06	2,105.04
1 1/4"	48	\$37.60	1,804.80
1 1/2"	120	\$50.13	6,015.60
2"	204	\$62.66	12,782.64
3"	72	\$92.89	6,688.08
4"	132	\$113.05	14,922.60
Total Minimum Charges			\$47,296.68
<b>Consumption Charges:</b>			
	Thousand Gallons	Rate	
Minimum	10,293		
Step 1	2,171	\$3.75	\$8,141.25
Step 2	48,200	\$3.02	145,564.00
Total Consumption Charges			\$153,705.25
Total Industrial - Inside			\$201,001.93

**Borough of Quakertown**

Operating Revenues Under Present Rates  
For the Year Ended December 31, 2010

**Inside Borough Customers (Continued)**

<u>Fire Protection - Inside:</u>	No. of <u>Units</u>	Annual <u>Rate</u>	<u>Revenue</u>
Public Fire Hydrants	2	\$234.68	\$469.36
Private Fire Hydrants	6	\$133.27	799.62
2" Fire Connection	1	\$221.50	221.50
4" Fire Connection	6	\$334.15	2,004.90
6" Fire Connection	17	\$555.66	9,446.22
8" Fire Connection	10	\$833.48	8,334.80
10" Fire Connection	1	\$1,252.11	1,252.11
Total Fire Protection - Inside			\$22,528.51
Debt Service Fee			\$737,923.00
Customers' Penalties			15,403.00
Miscellaneous Operating Revenue			32,066.00
Total Inside Borough Revenue			\$1,817,939.58

**Outside Borough Customers**

<u>Residential - Outside:</u>	Number <u>of Bills</u>	<u>Rate</u>	<u>Revenue</u>
Minimum Charges: 5/8" & 3/4"	9,636	\$13.50	\$130,086.00
Total Minimum Charges			\$130,086.00
Consumption Charges:	Thousand <u>Gallons</u>	<u>Rate</u>	
Minimum	24,901		
Step 1	16,312	\$4.55	\$74,219.60
Step 2	920	\$3.60	3,312.00
Total Consumption Charges			\$77,531.60
Total Residential - Outside			\$207,617.60
<u>Commercial - Outside:</u>	Number <u>of Bills</u>	<u>Rate</u>	<u>Revenue</u>
Minimum Charges: 5/8" & 3/4"	708	\$13.50	\$9,558.00
1"	108	\$30.00	3,240.00
1 1/4"	84	\$45.00	3,780.00
1 1/2"	60	\$60.00	3,600.00
2"	24	\$75.00	1,800.00
3"	12	\$111.67	1,340.04
Total Minimum Charges			\$23,318.04
Consumption Charges:	Thousand <u>Gallons</u>	<u>Rate</u>	
Minimum	3,137		
Step 1	2,214	\$4.55	\$10,073.70
Step 2	3,366	\$3.60	12,117.60
Total Consumption Charges			\$22,191.30
Total Commercial - Outside			\$45,509.34

**Borough of Quakertown**

Operating Revenues Under Present Rates  
For the Year Ended December 31, 2010

**Outside Borough Customers (Continued)**

<b><u>Industrial - Outside:</u></b>	<b>Number</b>	<b>Rate</b>	<b>Revenue</b>
	<b><u>of Bills</u></b>		
Minimum Charges:			
5/8" & 3/4"	12	\$13.50	\$162.00
1"	12	\$30.00	360.00
1 1/4"	24	\$45.00	1,080.00
1 1/2"	36	\$60.00	2,160.00
2"	60	\$75.00	4,500.00
3"	12	\$111.67	1,340.04
			-----
Total Minimum Charges			\$9,602.04
	<b>Thousand</b>	<b>Rate</b>	
	<b><u>Gallons</u></b>		
Consumption Charges:			
Minimum	1,461		
Step 1	113	\$4.55	\$514.15
Step 2	2,419	\$3.60	8,708.40
			-----
Total Consumption Charges			\$9,222.55
			-----
Total Industrial - Outside			\$18,824.59
<b><u>Fire Protection - Outside:</u></b>	<b>No. of</b>	<b>Annual</b>	
	<b><u>Units</u></b>	<b><u>Rate</u></b>	
Public Fire Hydrants	64	\$249.96	\$15,997.44
Private Fire Hydrants	7	\$141.96	993.72
4" Fire Connection	3	\$356.04	1,068.12
6" Fire Connection	9	\$591.96	5,327.64
8" Fire Connection	10	\$888.00	8,880.00
			-----
Total Fire Protection - Outside			\$32,266.92
Customers' Penalties			\$4,268.00
Miscellaneous Operating Revenue			8,886.00
			-----
Total Outside Borough Revenue			\$317,372.45
			-----
Total Operating Revenue			\$2,135,312.03
			=====

### Borough of Quakertown

#### Calculation of the 2010/2011 Salaries & Wages Increase and the Associated Payroll Tax Increase

Position	Per Books Year Ended 12/31/10	Per Books Adjustment	Adjusted Per Books Year Ended 12/31/10	2011 Increase (3%)
Salaries & Wages - Administration	\$75,482		\$75,482	\$2,264
Salaries & Wages - Production/Treatment	159,625		159,625	4,789
Salaries & Wages - Distribution	111,737		111,737	3,352
Salaries & Wages - Clerical	48,802		48,802	1,464
Salaries & Wages - Meter Maintenance	47,888		47,888	1,437
Salaries & Wages - Meter Reading	0	\$26,420	26,420	793
	-----	-----	-----	-----
Totals	\$443,534	\$26,420	\$469,954	\$14,099
				=====

**Payroll Tax Increase:**

Pro Forma Salaries & Wages Increase	\$14,099
Multiply by: FICA Tax Rate	7.65%
	-----
Additional Payroll Tax	\$1,079
	=====

**Borough of Quakertown****Electric Charges at Wells That Are  
Supplied by the Borough's Electric System**

<u>Location</u>	<u>2010 Imputed Annual Bill</u>
Well #7	\$16,870.41
Well #8	33,777.75
Well #10 & #17	22,672.49
Well #11	15,350.40
Well #12	41,977.58
Well #13	41,167.53
Well #14	74,970.57
Well #15	51,971.08
Well #19	70,083.41
Well @ Standpipe (Erie & Belmont)	6,975.54
Total	----- \$375,816.76 =====

## Borough of Quakertown

### Sewer Charges at Wells for Backwash of Filters

Location	Estimated Consumption	Pro Forma Sewer Charges
Well #10 & #17	47,500	\$327.76
Well #11	363,000	1,312.45
Well #12	2,008,000	4,397.68
Well #13	9,251,300	16,276.69
Well #14	6,000,000	10,944.56
Well #15	3,702,700	7,176.99
Well #19	5,167,690	9,579.57
		-----
		\$50,015.70
		=====

Sewer charges are based on the current Borough's sewer rates as follows:

Quarterly Minimum Charge - 1" Mete (Includes an allowance of 20,000 gallons)	\$81.94
---	---------

Volumetric Charges:

First 20,000 gallons or less per qtr.	N/C
Next 30,000 gallons per qtr.	\$4.09
Next 50,000 gallons per qtr.	\$3.03
Next 150,000 gallons per qtr.	\$2.20
Over 250,000 gallons per qtr.	\$1.64

## Borough of Quakertown

Allocation of the Operating Expenses  
For the Future Test Year Ended December 31, 2011

Acct. No.	Account Description	Total System	Allocation Code	Inside Borough	Outside Borough
		Future Test Year Ending 12/31/11		Future Test Year Ending 12/31/11	Future Test Year Ending 12/31/11
06-401-199	401K Contributions	\$14,860	4	\$12,016	\$2,844
06-404-310	Legal Fees	13,833	7	10,976	2,857
06-404-314	Legal Fees - Labor	19,191	7	15,228	3,963
06-407-213	Computer Hardware & Software	21	7	17	4
06-407-252	Computer Parts & Supplies	14	7	11	3
06-407-325	Internet Service	775	7	615	160
06-407-452	Contracted IT Services	757	7	601	156
06-407-453	Web Design / Maintenance	6,858	7	5,442	1,416
06-407-700	Capital Purchase	500	7	397	103
06-408-313	Engineering Services	22,502	5	18,382	4,120
06-409-226	Cleaning Supplies	432	7	343	89
06-409-236	Building Supplies	1,535	7	1,218	317
06-409-373	Repairs & Maintenance	317	7	252	65
06-409-460	Contracted Services	665	7	528	137
06-448-000	Bad Debt Expense	11,869	7	9,418	2,451
06-448-110	Salaries - Administrative	77,746	4	62,865	14,881
06-448-115	Salaries & Wages - Production/Treatment	164,414	1	135,740	28,674
06-448-120	Salaries & Wages - Distribution	115,089	3	94,902	20,187
06-448-140	Salaries - Clerical	50,266	2	38,815	11,451
06-448-181	Salaries & Wages - Meter Maintenance	49,325	2	38,089	11,236
	Salaries & Wages - Meter Reading	27,213	2	21,014	6,199
06-448-210	Office Supplies	2,233	2	1,724	509
06-448-215	Postage	10,689	2	8,254	2,435
06-448-222	Chemicals	106,676	1	88,072	18,604
06-448-225	Lab Testing	13,212	1	10,908	2,304
06-448-231	Gasoline	15,655	5	12,789	2,866
06-448-238	Uniforms	1,225	4	991	234
06-448-246	Road Materials	1,137	5	929	208
06-448-251	Vehicle Maint. & Repairs	5,988	5	4,892	1,096
06-448-253	Meter Maintenance	103	2	80	23
06-448-260	Small Tools & Equipment	3,712	2	2,866	846
06-448-265	Office Furniture & Equipment	30	7	24	6
06-448-321	Telephone	11,272	7	8,944	2,328
06-448-340	Advertising & Printing	3,247	7	2,576	671
06-448-361	Utility - Electric	383,424	1	316,555	66,869
	Utility - Sewer	50,016	1	41,293	8,723
06-448-420	Dues, Subscription & Membership	1,038	7	824	214
06-448-450	Contracted Services	15,432	7	12,245	3,187
06-448-460	Training	1,040	7	825	215
06-448-470	CDL Drug & Alcohol Testing	190	7	151	39
06-448-670	Well Maintenance & Repairs	49,198	1	40,618	8,580
06-448-671	Lines Maintenance & Repairs	37,400	3	30,840	6,560
06-448-750	Meter Maintenance & Repairs	16,043	2	12,388	3,655
06-481-190	FICA	37,461	4	30,291	7,170
06-481-198	NU Pensions	42,464	4	34,336	8,128
06-481-354	Workers' Compensation	20,128	4	16,276	3,852
06-486-351	Property	16,002	7	12,698	3,304
06-486-352	Liability	13,762	7	10,920	2,842
06-486-355	Automobile	7,685	7	6,098	1,587
06-486-356	Umbrella	5,739	7	4,554	1,185
06-486-357	Inland Marine	1,524	7	1,209	315
06-487-191	Medical	87,848	4	71,034	16,814
06-487-192	Medical Waiver	1,668	4	1,349	319
06-487-193	Dental	8,647	4	6,992	1,655
06-487-197	Long Term Disability	1,055	4	853	202
06-487-199	Life	967	4	782	185
	Employee Benefits - Meter Reading	22,987	4	18,587	4,400
06-491-200	Misc. Expenditure	4	7	3	1
06-492-001	Transfer to General Fund	249,672	7	198,115	51,557
	Rate Case Costs - Normalization	40,000	6	0	40,000
	<b>Total Operating Expenses</b>	<b>\$1,864,755</b>		<b>\$1,479,754</b>	<b>\$385,001</b>
		=====		=====	=====
		100.00%		79.35%	20.65%

Allocation Codes:

- 1 - Allocates items based on the estimated 2011 billable consumption. (Refer to Supporting Schedule No. 6)
- 2 - Allocates items based on the estimated number of customers at December 31, 2011. (Refer to Supporting Schedule No. 6)
- 3 - Allocates items based on feet of transmission and distribution mains. (Refer to Supporting Schedule No. 7)
- 4 - Allocates items based on the composite allocation of salaries and wages. (Refer to Supporting Schedule No. 8)
- 5 - Allocates items based on the composite allocation of maintenance of wells, lines and meters. (Refer to Supporting Schedule No. 9)
- 6 - 100% of costs attributable to outside borough customers.
- 7 - Allocates items based on the Total Operating Expenses composite allocation.

### Borough of Quakertown

#### Calculation of Allocation Code 1 Based on Estimated 2011 Billable Consumption

Location	Billable Consumption (Gallons)	Percent
Inside Borough	259,671,117	82.56%
Outside Borough	54,845,301	17.44%
Totals	314,516,418	100.00%

#### Calculation of Allocation Code 2 Based on the Estimated Number of Customers

Location	No. of Customers	Percent
Inside Borough	3,156	77.22%
Outside Borough	931	22.78%
Totals	4,087	100.00%



**Borough of Quakertown**Calculation of Allocation Code 3  
Based on Feet of Transmission & Distribution Mains

<u>Location</u>	<u>Length of Mains (Feet)</u>	<u>Percent</u>
Inside Borough	174,000	82.46%
Outside Borough	37,000	17.54%
Totals	----- 211,000	----- 100.00%

### Borough of Quakertown

#### Calculation of Allocation Code 4 Based on Composite Salaries & Wages Allocation

Account Description	<i>Total System</i> Future Test Year Ending 12/31/11	Allocation Code	<i>Inside Borough</i> Future Test Year Ending 12/31/11	<i>Outside Borough</i> Future Test Year Ending 12/31/11
Salaries & Wages - Production/Treatment	\$164,414	1	\$135,740	\$28,674
Salaries & Wages - Distribution	115,089	3	94,902	20,187
Salaries & Wages - Clerical	50,266	2	38,815	11,451
Salaries & Wages - Meter Maintenance	49,325	2	38,089	11,236
Salaries & Wages - Meter Reading	27,213	2	21,014	6,199
	-----		-----	-----
Totals	\$406,307		\$328,560	\$77,747
	=====		=====	=====
	100.00%		80.86%	19.14%

Allocation Codes:

- 1 - Allocates items based on the estimated 2011 billable consumption. (Refer to Supporting Schedule No. 6)
- 2 - Allocates items based on the estimated number of customers at December 31, 2011. (Refer to Supporting Schedule No. 6)
- 3 - Allocates items based on feet of transmission and distribution mains. (Refer to Supporting Schedule No. 7)

**Borough of Quakertown**

Calculation of Allocation Code 5  
Based on Composite Maintenance of Wells, Lines and Meters Allocation

Account Description	<i>Total System Future Test Year Ending 12/31/11</i>	Allocation Code	<i>Inside Borough Future Test Year Ending 12/31/11</i>	<i>Outside Borough Future Test Year Ending 12/31/11</i>
Wells Maintenance & Repairs	\$49,198	1	\$40,618	\$8,580
Lines Maintenance & Repairs	37,400	3	30,840	6,560
Meter Maintenance & Repairs	16,043	2	12,388	3,655
	-----		-----	-----
Totals	\$102,641		\$83,846	\$18,795
	=====		=====	=====
	100.00%		81.69%	18.31%

Allocation Codes:

- 1 - Allocates items based on the estimated 2011 billable consumption. (Refer to Supporting Schedule No. 6)  
 2 - Allocates items based on the estimated number of customers at December 31, 2011. (Refer to Supporting Schedule No. 6)  
 3 - Allocates items based on feet of transmission and distribution mains. (Refer to Supporting Schedule No. 7)

**Borough of Quakertown**

Summary of Original Cost, Annual Depreciation Expense  
and Depreciation Reserve as of December 31, 2010

Acct. No.	Description	Original Cost at 12/31/09	Original Cost at 12/31/10	Average	Depreciation Percent	Annual Depreciation Amount	Depreciation Reserve 12/31/09	2010 Retirements	Depreciation Reserve 12/31/10
<b>Depreciable Plant:</b>									
312.13	Wells & Springs	\$6,154,680.73	\$6,154,680.73	\$6,154,680.73	1.96%	\$120,631.74	\$1,642,342.01	\$0.00	\$1,762,973.75
312.2	Power & Pumping Structures	271,753.33	271,753.33	271,753.33	2.00%	5,435.07	134,556.33	0.00	139,991.40
312.3	Purification Structures	470,485.76	470,485.76	470,485.76	2.01%	9,456.76	248,325.44	0.00	257,782.20
312.5	Distribution Reservoirs & Standpip	1,765,906.21	1,765,906.21	1,765,906.21	3.85%	67,987.39	993,763.37	0.00	1,061,750.76
312.61	Office Buildings	57,728.00	57,728.00	57,728.00	2.00%	1,154.56	15,586.56	0.00	16,741.12
312.62	Stores, Shop & Garage Buildings	14,485.69	55,936.69	35,211.19	2.57%	904.93	7,566.29	0.00	8,471.22
316	Electric Pumping Equipment	487,835.50	487,835.50	487,835.50	4.23%	20,635.44	416,676.10	0.00	437,311.54
320	Purification System	801,165.23	801,165.23	801,165.23	2.87%	22,993.44	503,368.36	0.00	526,361.80
322	Mains & Accessories	6,601,422.58	6,714,901.07	6,658,161.83	1.15%	76,568.86	142,637.12	9,139.00	210,066.98
323	Services	74,595.06	74,595.06	74,595.06	1.79%	1,335.25	48,392.75	0.00	49,728.00
324	Meters	381,472.48	384,727.48	383,099.98	2.62%	10,037.22	225,426.86	1,824.00	233,640.08
325	Fire Hydrants	137,236.96	137,236.96	137,236.96	1.59%	2,182.07	83,856.19	0.00	86,038.26
328.1	Office Furniture	1,210.00	1,210.00	1,210.00	2.56%	30.98	616.92	0.00	647.90
328.2	Office Equipment	1,719.99	1,719.99	1,719.99	12.56%	0.00	1,719.99	0.00	1,719.99
328.3	Office Computers	3,600.00	3,600.00	3,600.00	64.56%	0.00	3,600.00	0.00	3,600.00
329	Transportation Equipment	154,117.97	162,264.97	158,191.47	11.65%	18,429.31	125,035.12	30,000.00	113,464.43
331	Shop Equipment	4,828.26	4,828.26	4,828.26	4.08%	196.99	4,335.81	0.00	4,532.80
332	Tools & Work Equipment	89,133.35	89,133.35	89,133.35	5.50%	0.00	89,133.35	0.00	89,133.35
333	Communication Equipment	6,659.26	6,659.26	6,659.26	12.52%	0.00	6,659.26	0.00	6,659.26
	<b>Total Depreciable Plant</b>	<b>\$17,480,036.36</b>	<b>\$17,646,367.85</b>	<b>\$17,563,202.11</b>	<b>2.04%</b>	<b>\$357,980.01</b>	<b>\$4,693,597.83</b>	<b>\$40,963.00</b>	<b>\$5,010,614.84</b>
						=====	=====	=====	=====
<b>Non-Depreciable Plant:</b>									
311.1	Source of Supply Land	\$16,286.00	\$16,286.00	\$16,286.00					
311.4	Rights of Way	1,011.00	1,011.00	1,011.00					
311.5	Reservoir & Standpipe Land	1,489.00	1,489.00	1,489.00					
	<b>Total Non-Depreciable Plant</b>	<b>\$18,786.00</b>	<b>\$18,786.00</b>	<b>\$18,786.00</b>					
	<b>Total Plant in Service</b>	<b>\$17,498,822.36</b>	<b>\$17,665,153.85</b>	<b>\$17,581,988.11</b>					
		=====	=====	=====					

2-13

**Borough of Quakertown**

Summary of Original Cost, Annual Depreciation Expense  
and Depreciation Reserve as of December 31, 2011

Acct. No.	Description	Original Cost at 12/31/10	Original Cost at 12/31/11	Average	Depreciation Percent	Annual Depreciation Amount	Depreciation Reserve 12/31/10	2011 Retirements	Depreciation Reserve 12/31/11
<b>Depreciable Plant:</b>									
312.13	Wells & Springs	\$6,154,680.73	\$6,154,680.73	\$6,154,680.73	1.96%	\$120,631.74	\$1,762,973.75	\$0.00	\$1,883,605.49
312.2	Power & Pumping Structures	271,753.33	271,753.33	271,753.33	2.00%	5,435.07	139,991.40	0.00	145,426.47
312.3	Purification Structures	470,485.76	470,485.76	470,485.76	2.01%	9,456.76	257,782.20	0.00	267,238.96
312.5	Distribution Reservoirs & Standpip	1,765,906.21	1,765,906.21	1,765,906.21	3.85%	67,987.39	1,061,750.76	0.00	1,129,738.15
312.61	Office Buildings	57,728.00	57,728.00	57,728.00	2.00%	1,154.56	16,741.12	0.00	17,895.68
312.62	Stores, Shop & Garage Buildings	55,936.69	55,936.69	55,936.69	2.57%	1,437.57	8,471.22	0.00	9,908.79
316	Electric Pumping Equipment	487,835.50	487,835.50	487,835.50	4.23%	20,635.44	437,311.54	0.00	457,946.98
320	Purification System	801,165.23	801,165.23	801,165.23	2.87%	22,993.44	526,361.80	0.00	549,355.24
322	Mains & Accessories	6,714,901.07	6,714,901.07	6,714,901.07	1.15%	77,221.36	210,066.98	0.00	287,288.34
323	Services	74,595.06	74,595.06	74,595.06	1.79%	1,335.25	49,728.00	0.00	51,063.25
324	Meters	384,727.48	384,727.48	384,727.48	2.62%	10,079.86	233,640.08	0.00	243,719.94
325	Fire Hydrants	137,236.96	137,236.96	137,236.96	1.59%	2,182.07	86,038.26	0.00	88,220.33
328.1	Office Furniture	1,210.00	1,210.00	1,210.00	2.56%	30.98	647.90	0.00	678.88
328.2	Office Equipment	1,719.99	1,719.99	1,719.99	12.56%	0.00	1,719.99	0.00	1,719.99
328.3	Office Computers	3,600.00	3,600.00	3,600.00	64.56%	0.00	3,600.00	0.00	3,600.00
329	Transportation Equipment	162,264.97	162,264.97	162,264.97	11.65%	16,937.79	113,464.43	0.00	130,402.22
331	Shop Equipment	4,828.26	4,828.26	4,828.26	4.08%	196.99	4,532.80	0.00	4,729.79
332	Tools & Work Equipment	89,133.35	89,133.35	89,133.35	5.50%	0.00	89,133.35	0.00	89,133.35
333	Communication Equipment	6,659.26	6,659.26	6,659.26	12.52%	0.00	6,659.26	0.00	6,659.26
	<b>Total Depreciable Plant</b>	<b>\$17,646,367.85</b>	<b>\$17,646,367.85</b>	<b>\$17,646,367.85</b>	<b>2.03%</b>	<b>\$357,716.27</b>	<b>\$5,010,614.84</b>	<b>\$0.00</b>	<b>\$5,368,331.11</b>
						=====	=====	=====	=====
<b>Non-Depreciable Plant:</b>									
311.1	Source of Supply Land	\$16,286.00	\$16,286.00	\$16,286.00					
311.4	Rights of Way	1,011.00	1,011.00	1,011.00					
311.5	Reservoir & Standpipe Land	1,489.00	1,489.00	1,489.00					
	<b>Total Non-Depreciable Plant</b>	<b>\$18,786.00</b>	<b>\$18,786.00</b>	<b>\$18,786.00</b>					
	<b>Total Plant in Service</b>	<b>\$17,665,153.85</b>	<b>\$17,665,153.85</b>	<b>\$17,665,153.85</b>					
		=====	=====	=====					

2-14

**Borough of Quakertown**

Allocation of the Plant in Service, Annual Depreciation Expense  
and Depreciation Reserve as of December 31, 2011

2-15

Acct. No.	Description	Total Water System				Inside Borough			Outside Borough		
		Plant in Service 12/31/11	2011 Annual Depreciation	Depreciation Reserve 12/31/11	Allocation Code	Plant in Service 12/31/11	2011 Annual Depreciation	Depreciation Reserve 12/31/11	Plant in Service 12/31/11	2011 Annual Depreciation	Depreciation Reserve 12/31/11
<b>Depreciable Plant:</b>											
312.13	Wells & Springs	\$6,154,681	\$120,632	\$1,883,606	A	\$5,081,305	\$99,594	\$1,555,105	\$1,073,376	\$21,038	\$328,501
312.2	Power & Pumping Structures	271,753	5,435	145,426	A	224,359	4,487	120,064	47,394	948	25,362
312.3	Purification Structures	470,486	9,457	267,239	A	388,433	7,808	220,633	82,053	1,649	46,606
312.5	Distribution Reservoirs & Standpip	1,765,906	67,987	1,129,738	A	1,457,932	56,130	932,712	307,974	11,857	197,026
312.61	Office Buildings	57,728	1,155	17,896	E	47,527	951	14,700	10,201	204	3,196
312.62	Stores, Shop & Garage Buildings	55,937	1,438	9,910	E	46,053	1,184	8,140	9,884	254	1,770
316	Electric Pumping Equipment	487,836	20,635	457,947	A	402,757	17,036	378,081	85,079	3,599	79,866
320	Purification System	801,165	22,994	549,355	A	661,442	18,984	453,547	139,723	4,010	95,808
322	Mains & Accessories	6,714,901	77,221	287,288	C	5,537,107	63,676	236,898	1,177,794	13,545	50,390
323	Services	74,595	1,335	51,063	B	57,602	1,031	39,431	16,993	304	11,632
324	Meters	384,727	10,079	243,720	B	297,086	7,783	188,201	87,641	2,296	55,519
325	Fire Hydrants	137,237	2,182	88,220	D	105,137	1,672	67,585	32,100	510	20,635
328.1	Office Furniture	1,210	31	679	E	996	26	558	214	5	121
328.2	Office Equipment	1,720	0	1,720	E	1,416	0	1,413	304	0	307
328.3	Office Computers	3,600	0	3,600	E	2,964	0	2,957	636	0	643
329	Transportation Equipment	162,265	16,938	130,402	E	133,593	13,943	107,112	28,672	2,995	23,290
331	Shop Equipment	4,828	197	4,730	E	3,975	162	3,885	853	35	845
332	Tools & Work Equipment	89,133	0	89,133	E	73,383	0	73,214	15,750	0	15,919
333	Communication Equipment	6,659	0	6,659	E	5,482	0	5,470	1,177	0	1,189
	<b>Total Depreciable Plant</b>	<b>\$17,646,367</b>	<b>\$357,716</b>	<b>\$5,368,331</b>		<b>\$14,528,549</b>	<b>\$294,467</b>	<b>\$4,409,706</b>	<b>\$3,117,818</b>	<b>\$63,249</b>	<b>\$958,625</b>
		100.00%	100.00%	100.00%		82.33%	82.32%	82.14%	17.67%	17.68%	17.86%
<b>Non-Depreciable Plant:</b>											
311.1	Source of Supply Land	\$16,286	\$0	\$0	A	\$13,446	\$0	\$0	\$2,840	\$0	\$0
311.4	Rights of Way	1,011	0	0	C	834	0	0	177	0	0
311.5	Reservoir & Standpipe Land	1,489	0	0	A	1,229	0	0	260	0	0
	<b>Total Non-Depreciable Plant</b>	<b>\$18,786</b>	<b>\$0</b>	<b>\$0</b>		<b>\$15,509</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,277</b>	<b>\$0</b>	<b>\$0</b>
	<b>Total Plant in Service</b>	<b>\$17,665,153</b>	<b>\$357,716</b>	<b>\$5,368,331</b>		<b>\$14,544,058</b>	<b>\$294,467</b>	<b>\$4,409,706</b>	<b>\$3,121,095</b>	<b>\$63,249</b>	<b>\$958,625</b>

**Allocation Codes:**

- A - Allocates items based on the estimated 2011 billable consumption. (Refer to Supporting Schedule No. 13)
- B - Allocates items based on the estimated number of customers. (Refer to Supporting Schedule No. 13)
- C - Allocates items based on the feet of transmission and distribution mains. (Refer to Supporting Schedule No. 14)
- D - Allocates items based on the number of fire hydrants. (Refer to Supporting Schedule No. 14)
- E - Allocates items based on the composite Total Depreciable Plant in Service allocation.

### Borough of Quakertown

#### Calculation of Allocation Code A Based on Estimated 2011 Billable Consumption

Location	Billable Consumption (Gallons)	Percent
Inside Borough	259,671,117	82.56%
Outside Borough	54,845,301	17.44%
Totals	314,516,418	100.00%

#### Calculation of Allocation Code B Based on the Estimated Number of Customers

Location	No. of Customers	Percent
Inside Borough	3,156	77.22%
Outside Borough	931	22.78%
Totals	4,087	100.00%

### Borough of Quakertown

#### Calculation of Allocation Code C Based on Feet of Transmission & Distribution Mains

Location	Length of Mains (Feet)	Percent
Inside Borough	174,000	82.46%
Outside Borough	37,000	17.54%
Totals	211,000	100.00%

#### Calculation of Allocation Code D Based on Number of Fire Hydrants

Location	No. of Hydrants	Percent
Inside Borough	285	76.61%
Outside Borough	87	23.39%
Totals	372	100.00%



## Borough of Quakertown

### Cost of Capital and Fair Rate of Return Pro Forma at December 31, 2011

Type of Capital:	Ratios (1)	Cost Rate	Weighted Cost Rate
Debt	43.0%	2.81% (2)	1.21%
Common Equity	57.0%	9.50% (3)	5.42%
Total Capital	----- 100.0% =====		----- 6.63% =====

Notes:

(1) Based on actual capital structure ratios.

Debt	\$5,948,254	43.0%
Equity	7,892,524	57.0%
Total	----- \$13,840,778	----- 100.0%

(2) Calculation of the weighted cost of debt.

Description	Amount Outstanding	Cost Rate	Interest Expense
2004 PennVest Loan	\$5,063,859	2.696%	\$136,522
2005 General Obligation Note	884,395	3.450%	30,512
Total Long-Term Debt	----- \$5,948,254	----- 2.808%	----- \$167,034

(3) Required in order for the Borough to maintain a financial profile which will enable it to be in the capital attraction posture or credit profile of a water company with A-rated bonds and taking into account the non-taxable status of the Borough.



REPORT ON  
COST OF SERVICE ALLOCATIONS AND TARIFF DESIGN  
BOROUGH OF QUAKERTOWN  
OUTSIDE BOROUGH CUSTOMERS

INTRODUCTION

This report sets forth the procedures, findings, and results of a cost of service allocation study developed for the Borough of Quakertown - Outside Borough Customers. The cost of service allocation study developed herein is based on the pro forma financial and operating results for the twelve months ending December 31, 2011. The pro forma data is the same as that presented in this filing as support for Supplement No. 14 to Tariff Water Pa. P.U.C. No. 1.

A discussion of the rationale employed for the cost of service allocation study, including a description of the allocations, together with illustrative tables and a general discussion of tariff design follows.

GENERAL

The total cost of service is a utility's revenue requirement. This amount is determined by establishing the revenues needed – i.e., required – from all customers, in total, to permit the utility to recover its expenses and to produce a fair return on its rate base. The determination of the utility's revenue requirement involves the issues pertaining to revenues, expenses, and rate base that are typically raised in a rate proceeding. A cost of service allocation study allocates the total cost of service – i.e., the revenue requirement – to functional categories in accordance with recognized principles and generally-accepted procedures. A cost of service allocation study is one of a number of factors that may be considered in designing the rates that produce the required revenues.

Several bases or methods have evolved for use in the allocation of water utility costs. In this particular study, the cost allocation process is based upon the "Base-Extra Capacity Method" as recognized by the American Water Works Association (AWWA) as set forth in its Water Rates Manual. This methodology identifies costs and allocates them to the functional cost categories of base cost, extra capacity cost, customer cost, and fire hydrant cost.

### FUNCTIONAL COSTS

The base cost category includes those costs which would generally be incurred if the water system were operated at a uniform rate year-round and customers received water on the same basis. That is, base costs are generally associated with the provision of service under average or base load conditions without meeting peak demand requirements or water use variations. Base costs include the operating costs of supply, treatment, pumping, and distribution facilities, as well as the capital costs for water plant investment associated with serving customers at a constant, average rate of use.

The extra capacity cost category includes those costs related to peak rates of water use in excess of average requirements. Extra capacity costs include capital and operating charges for additional plant and system capacity beyond that required for average rate of use. In this study, these costs have been sub-divided into costs related to maximum day and maximum hour extra demand criteria.

The customer cost category includes those costs associated with connecting and serving customers irrespective of the volume of water used or demand requirements imposed. Customer costs generally comprise capital and operating costs related to services, meters, and customer installations and meter reading, billing, and collecting

expense. In this study, customer costs have been sub-divided into costs related to commercial operations and costs related to meters and services.

The fire hydrant functional cost category comprises costs exclusively related to fire protection, which are principally the capital investment in and maintenance of fire hydrants.

The costs of the water utility are assigned to the various functional cost categories through the use of allocation factors which are developed for each item of capital investment, operating expense, and other costs. Certain costs, such as chemical costs for water treatment, are assigned entirely to the base cost function. Other costs, such as meter reading and billing, are assigned directly to the customer cost function. Many cost elements, however, are not specifically related to a single cost function and are therefore allocated on the basis of appropriate factors. For example, the capital investment in and associated fixed charges of facilities required to meet maximum daily demands are allocated to the base cost and extra capacity maximum day functions in accordance with the relationship of the system maximum day consumption to the average annual rate of consumption.

That is, if the maximum daily rate of water consumption is equal to 15 million gallons per day, and average use is 10 million gallons per day, facilities required to meet maximum daily demands would be allocated 66.7 percent ( $10 \div 15$ ) to the base cost function and 33.3 percent ( $5 \div 15$ ) to the extra capacity maximum day function. Costs associated with facilities required to meet maximum hour demands are allocated similarly.

### CUSTOMER CLASSIFICATIONS

Once the cost of service has been determined by functional cost category, the next step is the allocation of such costs to the customer classifications.

Customer classifications, or equivalently customer groups, are the groupings of those customers who have similar service, consumption, and demand characteristics. This present study identifies and analyzes the following groups: residential, commercial, industrial, and fire protection service.

The proper allocation of the cost of service requires that each customer group be charged with a portion of the base cost, the extra capacity cost, the customer cost, and the hydrant cost in accordance with the respective needs and use of the service rendered. This is accomplished by allocating the functional costs to each customer group in the proportion that the respective group responsibility for cost bears to the total cost responsibility of all customers served by the system. The sum of all functional costs attributable to a customer group is the total cost of service to be recovered from that group.

The base, the extra capacity, the customer, and the hydrant costs, when summarized by customer groups, define the total cost of service to be recovered from each customer group. This summation also provides identity of the responsibility of each customer group for each of the functional costs which together constitute the total cost of service.

#### COST OF SERVICE ALLOCATION

The allocation of the cost of service of the Borough of Quakertown - Outside Borough Customers to the previously defined functional cost components is set forth on a series of ten schedules (identified as Schedules A through J) which are included herewith. Descriptions of the individual schedules are given herein.

Schedule A presents the details, in tabular form, of the allocation for the Borough of Quakertown - Outside Borough Customers of the pro forma original cost of plant in

service and measures of value at December 31, 2011 to the previously defined cost functions. The left-most column of Schedule A sets forth a description of the item being allocated, while the second column from the left gives the total cost of the item being allocated. The allocations to the several cost functions are shown in Columns 3 through 9, while the right-most column, headed "AC", indicates an allocation code for the specific allocation factor used to assign each cost element to the cost functions. The allocations to the cost functions were made in accordance with the concepts underlying the Base-Extra Capacity Method that were previously discussed. The allocations set forth on Schedule A utilize the pro forma utility plant in service and other measures of value data that are set forth in the Supporting Data for Tariff - Water Pa. P.U.C. No. 2.

Schedule B is constructed in a format which is similar to that of Schedule A. Schedule B, however, sets forth the details of the allocation of pro forma operation and maintenance expenses, the annual accrual for depreciation, and net operating revenue. The data utilized on Schedule B are pro forma for the twelve months ending December 31, 2011.

The allocation codes mentioned in the above descriptions are simply reference numbers which designate groups of percentages which are used to allocate the total amount of any given cost element to the several cost functions. For example, the base cost portion of the various expense cost categories (indicated by the allocation code 20 on Schedule B) is allocated 100 percent to Base Cost.

The allocation codes are identified and explained on Schedule C. Schedule C contains a written description of the allocation bases and a list of the allocation codes and factors used to allocate cost elements to the cost functions. Further, the development of

several of the factors used in the allocation of cost elements to the cost functions is set forth at the bottom of Page 1 of Schedule C.

Schedule D presents the details of the allocations of the functional costs, as developed on Schedule B, to the customer groups. The far left column of this schedule describes the cost elements which were developed on Schedule B, while the next column shows the total cost of the items being allocated. The allocations to the several customer groups are illustrated in columns 3 through 6, while the far right column indicates the allocation codes for the specific allocation factors used in the allocation of the cost elements to the customer groups.

The allocation codes referred to in the above paragraph are simply reference numbers which designate groups of percentages which are used to allocate the total amount of any given cost element to the several customer groups. For example, the base cost portion of the various expense cost categories (indicated by the allocation code 60 on Schedule D) is allocated on the basis of the volume of water used annually by the several customer groups. The allocation codes are identified and explained in schedule E which contains a written description of the allocation bases and a list of the allocation codes and factors used to allocate the functional costs to the customer groups.

The development of the factors used in the allocation of the functional costs to the customer groups is set forth on Schedule F. Page 1 of this schedule illustrates the estimated consumption as well as the non-coincident maximum day and maximum hour usage by customer group. The consumption data is based on the projected year 2011 class consumption levels, together with an approximate one percent allowance for fire protection usage. Maximum daily and maximum hourly totals for customer groups are



based on the application of customer group demand factors to the average consumption. These demand factors are conservative estimates based on a review of the system characteristics coupled with available information, experience of other studies, and professional judgment.

The maximum day and the maximum hour demands experienced by a water utility system are a result of the interaction of the individual demands of each customer using the system at that time. The total of the estimated demands represents the non-coincident demand. That is, due to diversity between groups, the sum of the individual customer groups' coincidental peak requirements, which are non-coincident to the system, exceeds the coincidental peak of the system. The estimated demand factors used in these studies are considered reasonable for cost allocation purposes.

Page 2 of Schedule F illustrates the development of the factors used to allocate the Customer Cost - Commercial, Customer Cost - Meters, and Customer Cost - Services functional costs to the customer groups. These factors are based on the number of bills projected to be issued during the twelve months ending December 31, 2011 and the number of equivalent meters and services estimated to be in use during that time period.

Page 3 of Schedule F illustrates the detailed development of the factors used to allocate the Customer Cost - Meters and the Customer Cost - Service functional costs to the customer groups. The Customer Cost - Meters allocation factors are based on the number of equivalent 5/8" meters while the Customer Cost - Service allocation factors are based on the number of equivalent services.

The meter ratios used to determine equivalent 5/8" meters are based on the relative capacity of meters by size, as recommended by the American Water Works Association.

No meter cost allocations are made to the fire protection class, since it is reported that the Borough of Quakertown has no fire meters. Equivalent service ratios are related to service line diameter and were developed by determining the minimum service line diameter required to maintain AWWA flow criteria for different meter sizes. Equivalent services are developed by applying this size ratio to the various meter sizes. For fire services, the size ratio is applied to the size of the fire service line.

### OTHER REVENUE

In addition to the revenues received from rates and charges for general water service and for fire protection service, the Borough of Quakertown also receives other revenue in the form of customer penalties and miscellaneous revenue. The total amount of other revenue is \$13,154 for Outside Borough Customers.

Schedule G illustrates the effect that consideration of other revenue has on the cost of service allocations. Page 1 of Schedule G deducts other revenue from the functional cost elements. Essentially, other revenue is credited to each functional cost in the same percentage as the total revenue requirement. Similarly, Page 2 of Schedule G deducts *other revenue from the customer group allocations*. Essentially, *other revenue is credited to each customer group in the same percentage as the total revenue requirement*.

As shown on Schedule G, the inclusion of other revenue reduces the \$596,226 total revenue requirement to a net revenue requirement of \$583,072.

### COST OF SERVICE ALLOCATION RESULTS

A comparison of present rate revenue with the net cost of service indications by customer group is set forth on Schedule H. As shown thereon by the class revenue percentages, the residential, the commercial, and the industrial customer classes are, to

varying degrees, providing more than their allocated shares of the net revenue requirement. Conversely, the fire protection customer group is providing less than its respective allocated share of the net revenue requirement. That is, the general water customers are subsidizing fire protection. This is not unusual for municipal water utilities in Pennsylvania.

### RATE AND TARIFF DESIGN

As set forth in Sections 1 and 2 of the Supporting Data, anticipated revenue under present rates for the twelve months ending December 31, 2011 totals \$317,372. General water sales and fire protection service represent \$304,218, while the balance includes other revenues of \$13,154. A revenue increase of \$278,854 is being requested; this amount is equivalent to a 87.9 percent increase when compared to the revenues from general water sales and fire protection service (i.e.,  $\$278,854 \div \$317,372 = 87.9\%$ ).

Schedule I compares the present rate revenue with the proposed rate revenue and the cost of service indications by customer group. As shown thereon, proposed class revenues on a percentage basis are, for all intents and purposes, the same as present class revenues on a percentage basis.

The proposed tariff rates are set forth in the Supporting Data while the determination of the revenues generated from the application of the proposed rates to the going level bill analysis is shown on Schedule J.

**Borough of Quakertown**  
**Outside Borough Customers**

Allocation To Cost Functions

Pro Forma Utility Plant in Service and Measures of Value 12-31-04

	Total	Base	Extra Capacity		Customer Cost				AC
	Cost	Cost	Max Day	Max Hr	Commer'l	Meters	Services	Hydrants	
	\$	\$	\$	\$	\$	\$	\$	\$	
<b>UTILITY PLANT IN SERVICE</b>									
Source of Supply Land	2,840	2,840	0	0	0	0	0	0	20
Rights of Way	177	131	46	0	0	0	0	0	21
Res. & Standpipe Land	260	137	48	75	0	0	0	0	41
Wells & Springs	1,073,376	795,050	278,326	0	0	0	0	0	21
Power & Pumping Structures	47,394	24,943	8,730	13,721	0	0	0	0	41
Purification Structures	82,053	60,777	21,276	0	0	0	0	0	21
Distribution Res. & Standpipes	307,974	15,399	30,797	261,778	0	0	0	0	44
Electric Pumping Equipment	85,079	44,777	15,672	24,630	0	0	0	0	41
Purification System	139,723	103,493	36,230	0	0	0	0	0	21
Mains & Accessories	1,177,794	619,873	216,950	340,971	0	0	0	0	41
Services	16,993	0	0	0	0	0	16,993	0	25
Meters	87,641	0	0	0	0	87,641	0	0	24
Fire Hydrants	32,100	0	0	0	0	0	0	32,100	26
Office Buildings	10,201	5,571	2,031	2,142	0	293	57	107	57
Stores, Shop & Garage Bldgs	9,884	5,398	1,968	2,076	0	284	55	103	57
Office Furniture	214	117	43	45	0	6	1	2	57
Office Equipment	304	166	61	64	0	9	2	2	57
Office Computers	636	347	127	134	0	18	4	6	57
Transportation Equipment	28,672	15,658	5,709	6,021	0	823	161	300	57
Shop Equipment	853	466	170	179	0	24	5	9	57
Tools & Work Equipment	15,750	8,601	3,136	3,308	0	452	88	165	57
Communication Equipment	1,177	643	234	247	0	34	7	12	57
<b>Total Utility Plant in Service</b>	<b>3,121,095</b>	<b>1,704,387</b>	<b>621,554</b>	<b>655,391</b>	<b>0</b>	<b>89,584</b>	<b>17,373</b>	<b>32,806</b>	
(Allocation Code 57)	100.00%	54.61%	19.91%	21.00%	0.00%	2.87%	0.56%	1.05%	
<b>DEPRECIATION RESERVE</b>									
Wells & Springs	328,501	243,321	85,180	0	0	0	0	0	21
Power & Pumping Structures	25,362	13,348	4,672	7,342	0	0	0	0	41
Purification Structures	46,606	34,521	12,085	0	0	0	0	0	21
Distribution Res. & Standpipes	197,026	9,851	19,703	167,472	0	0	0	0	44
Electric Pumping Equipment	79,866	42,034	14,711	23,121	0	0	0	0	41
Purification System	95,808	70,965	24,843	0	0	0	0	0	21
Mains & Accessories	50,390	26,520	9,282	14,588	0	0	0	0	41
Services	11,632	0	0	0	0	0	11,632	0	25
Meters	55,519	0	0	0	0	55,519	0	0	24
Fire Hydrants	20,635	0	0	0	0	0	0	20,635	26
Office Buildings	3,196	1,745	636	671	0	92	18	34	57
Stores, Shop & Garage Bldgs	1,770	967	352	372	0	51	10	18	57
Office Furniture	121	66	24	25	0	3	1	2	57
Office Equipment	307	168	61	64	0	9	2	3	57
Office Computers	643	351	128	135	0	18	4	7	57
Transportation Equipment	23,290	12,719	4,637	4,891	0	668	130	245	57
Shop Equipment	845	461	168	177	0	24	5	10	57
Tools & Work Equipment	15,919	8,693	3,169	3,343	0	457	89	168	57
Communication Equipment	1,189	649	237	250	0	34	7	12	57
<b>Total Depreciation Reserve</b>	<b>958,625</b>	<b>466,379</b>	<b>179,888</b>	<b>222,451</b>	<b>0</b>	<b>56,875</b>	<b>11,898</b>	<b>21,134</b>	
	100.00%	48.65%	18.77%	23.21%	0.00%	5.93%	1.24%	2.20%	

**Borough of Quakertown**  
**Outside Borough Customers**

Allocation To Cost Functions

Pro Forma Utility Plant in Service and Measures of Value 12-31-04

	Total Cost \$	Base Cost \$	Extra Capacity Max Day \$    Max Hr \$		Customer Cost Commer'l \$    Meters \$    Services \$    Hydrants \$				AC
UTILITY PLANT IN SERVICE (Cont'd)									
Net Depreciated Plant	2,162,470	1,238,008	441,666	432,940	0	32,709	5,475	11,672	
	100.00%	57.25%	20.43%	20.02%	0.00%	1.51%	0.25%	0.54%	
MATERIALS & SUPPLIES	21,625	11,809	4,306	4,541	0	621	121	227	57
CASH WORKING CAPITAL	47,819	23,890	5,164	2,702	5,753	10,310	0	0	51
Total Measures of Value	2,231,914	1,273,707	451,136	440,183	5,753	43,640	5,596	11,899	
(Allocation Code 93)	100.00%	57.07%	20.21%	19.72%	0.26%	1.96%	0.25%	0.53%	

**Borough of Quakertown  
Outside Borough Customers**

Allocation To Cost Functions

Estimated Operating Expenses and Other Revenue Requirements 12-31-11

	Total Cost \$	Base Cost \$	Extra Capacity Max Day \$	Max Hr \$	Commer'l \$	Customer Cost Meters \$	Services \$	Hydrants \$	AC
<b>OPERATING EXPENSES</b>									
<b>Salaries &amp; Wages</b>									
Production/Treatment	28,674	21,239	7,435	0	0	0	0	0	21
Distribution	20,187	10,625	3,718	5,844	0	0	0	0	41
Clerical	11,451	0	0	0	0	11,451	0	0	24
Meter Maintenance	11,236	0	0	0	0	11,236	0	0	24
Meter Reading	6,199	0	0	0	0	6,199	0	0	24
<b>Subtotal Salaries &amp; Wages</b>	<b>77,747</b>	<b>31,864</b>	<b>11,153</b>	<b>5,844</b>	<b>0</b>	<b>28,886</b>	<b>0</b>	<b>0</b>	
(Allocation Code 91)	100.00%	40.98%	14.35%	7.52%	0.00%	37.15%	0.00%	0.00%	
Administrative	14,881	6,099	2,135	1,119	0	5,528	0	0	91
<b>Total Salaries &amp; Wages</b>	<b>92,628</b>	<b>37,963</b>	<b>13,288</b>	<b>6,963</b>	<b>0</b>	<b>34,414</b>	<b>0</b>	<b>0</b>	
	100.00%	40.98%	14.35%	7.52%	0.00%	37.15%	0.00%	0.00%	
<b>Employee Related Expenses</b>									
Payroll Taxes	7,170	2,938	1,029	539	0	2,664	0	0	91
Employee Benefits	38,399	15,736	5,510	2,888	0	14,265	0	0	91
Uniforms	234	95	34	18	0	87	0	0	91
<b>Total Employee Expenses</b>	<b>45,803</b>	<b>18,769</b>	<b>6,573</b>	<b>3,445</b>	<b>0</b>	<b>17,016</b>	<b>0</b>	<b>0</b>	
	100.00%	40.98%	14.35%	7.52%	0.00%	37.15%	0.00%	0.00%	
<b>Purchased Services &amp; Utilities</b>									
Purchased Power	66,869	56,839	6,687	3,343	0	0	0	0	43
Chemicals	18,604	18,604	0	0	0	0	0	0	20
Sewer Charges	8,723	8,723	0	0	0	0	0	0	20
Lab Testing	2,304	2,304	0	0	0	0	0	0	20
<b>Total Services &amp; Utilities</b>	<b>96,500</b>	<b>86,470</b>	<b>6,687</b>	<b>3,343</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
	100.00%	89.61%	6.93%	3.46%	0.00%	0.00%	0.00%	0.00%	
<b>Maintenance Expenses</b>									
Wells	8,580	6,355	2,225	0	0	0	0	0	21
Lines	6,560	3,453	1,208	1,899	0	0	0	0	41
Meters	4,524	0	0	0	0	4,524	0	0	24
<b>Subtotal Maintenance Expenses</b>	<b>19,664</b>	<b>9,808</b>	<b>3,433</b>	<b>1,899</b>	<b>0</b>	<b>4,524</b>	<b>0</b>	<b>0</b>	
(Allocation Code 50)	100.00%	49.87%	17.46%	9.66%	0.00%	23.01%	0.00%	0.00%	
Materials & Supplies	208	104	36	20	0	48	0	0	50
Vehicle Repair & Fuel	3,962	1,975	692	383	0	912	0	0	50
<b>Total Maintenance Expenses</b>	<b>23,834</b>	<b>11,887</b>	<b>4,161</b>	<b>2,302</b>	<b>0</b>	<b>5,484</b>	<b>0</b>	<b>0</b>	
	100.00%	49.87%	17.46%	9.66%	0.00%	23.01%	0.00%	0.00%	

**Borough of Quakertown  
Outside Borough Customers**

Allocation To Cost Functions

Estimated Operating Expenses and Other Revenue Requirements 12-31-11

	Total Cost \$	Base Cost \$	Extra Capacity Max Day \$	Max Hr \$	Commer'l \$	Customer Cost Meters \$	Services \$	Hydrants \$	AC
<b>OPERATING EXPENSES (Cont,d)</b>									
Subtotal Operating Expenses Without General Expenses	258,765	155,089	30,709	16,053	0	56,914	0	0	
	100.00%	59.93%	11.87%	6.20%	0.00%	22.00%	0.00%	0.00%	
<b>General Expense:</b>									
Transfer to General Fund	51,557	21,129	7,398	3,877	0	19,153	0	0	91
Office Materials & Supplies	785	393	65	44	94	169	0	0	51
Office Expense - Postage, etc.	2,435	0	0	0	2,435	0	0	0	23
Telephone	2,328	1,163	251	132	280	502	0	0	51
Group Insurance	9,233	4,612	997	522	1,111	1,991	0	0	51
Legal & Professional	15,836	7,912	1,710	895	1,905	3,414	0	0	51
Rate Case Costs - Norm'zation	40,000	0	0	0	40,000	0	0	0	23
Bad Debt Expense	2,451	1,225	265	138	295	528	0	0	51
Other Expenses	1,611	805	174	91	194	347	0	0	51
Total General Expenses	126,236	37,239	10,880	5,699	46,314	26,104	0	0	
	100.00%	29.50%	8.62%	4.51%	36.69%	20.68%	0.00%	0.00%	
Total Operating Expenses	385,001	192,328	41,589	21,752	46,314	83,018	0	0	
(Allocation Code 51)	100.00%	49.96%	10.80%	5.65%	12.03%	21.56%	0.00%	0.00%	
<b>DEPRECIATION EXPENSE</b>									
Wells & Springs	21,038	15,583	5,455	0	0	0	0	0	21
Power & Pumping Structures	948	499	175	274	0	0	0	0	41
Purification Structures	1,649	1,221	428	0	0	0	0	0	21
Distribution Res. & Standpipes	11,857	593	1,186	10,078	0	0	0	0	44
Electric Pumping Equipment	3,599	1,894	663	1,042	0	0	0	0	41
Purification System	4,010	2,970	1,040	0	0	0	0	0	21
Mains & Accessories	13,545	7,129	2,495	3,921	0	0	0	0	41
Services	304	0	0	0	0	0	304	0	25
Meters	2,296	0	0	0	0	2,296	0	0	24
Fire Hydrants	510	0	0	0	0	0	0	510	26
Office Buildings	204	111	41	43	0	6	1	2	57
Stores, Shop & Garage Bldgs	254	139	51	53	0	7	1	3	57
Office Furniture	5	3	1	1	0	0	0	0	57
Office Equipment	0	0	0	0	0	0	0	0	57
Office Computers	0	0	0	0	0	0	0	0	57
Transportation Equipment	2,995	1,636	596	629	0	86	17	31	57
Shop Equipment	35	19	7	7	0	1	0	1	57
Tools & Work Equipment	0	0	0	0	0	0	0	0	57
Communication Equipment	0	0	0	0	0	0	0	0	57
Total Depreciation Expense	63,249	31,797	12,138	16,048	0	2,396	323	547	
	100.00%	50.27%	19.19%	25.37%	0.00%	3.79%	0.51%	0.87%	

**Borough of Quakertown**  
**Outside Borough Customers**

Allocation To Cost Functions

Estimated Operating Expenses and Other Revenue Requirements 12-31-11

	Total Cost \$	Base Cost \$	Extra Capacity		Customer Cost				AC
			Max Day \$	Max Hr \$	Commer'l \$	Meters \$	Services \$	Hydrants \$	
<b>REVENUE REQUIREMENT SUMMARY</b>									
OPERATING EXPENSES	385,001	192,328	41,589	21,752	46,314	83,018	0	0	
DEPRECIATION EXPENSE	63,249	31,797	12,138	16,048	0	2,396	323	547	
NET OPERATING REVENUE	147,976	84,450	29,906	29,181	385	2,900	370	784	93
TOTAL OPERATING REVENUE REQUIREMENT	596,226	308,575	83,633	66,981	46,699	88,314	693	1,331	
	100.00%	51.76%	14.03%	11.23%	7.83%	14.81%	0.12%	0.22%	



**Borough of Quakertown  
Outside Borough Customers**

Allocation To Cost Functions

Alloc. Code Description	Base Cost	Extra Capacity		Customer Cost				Check Total
		Max Day	Max Hr	Commer'l	Meters	Services	Hydrants	
20 Base Cost	100.00							100.00 %
21 Maximum Day	74.07	25.93						100.00 %
22 Maximum Hour	52.63		47.37					100.00 %
23 Customer Costs - Commer'l				100.00				100.00 %
24 Customer Costs - Meters					100.00			100.00 %
25 Customer Costs - Services						100.00		100.00 %
26 Hydrants							100.00	100.00 %
41 Base/Max Day/Max Hour	52.63	18.42	28.95					100.00 %
42 Max Hour Only			100.00					100.00 %
43 Purchased Power	85.00	10.00	5.00					100.00 %
44 Distribution Storage	5.00	10.00	85.00					100.00 %
50 Maintenance Expenses	49.87	17.46	9.66	0.00	23.01	0.00	0.00	100.00 %
51 Total Operating Expenses	49.96	10.80	5.65	12.03	21.56	0.00	0.00	100.00 %
57 Utility Plant in Service	54.61	19.91	21.00	0.00	2.87	0.56	1.05	100.00 %
91 Labor Expenses	40.98	14.35	7.52	0.00	37.15	0.00	0.00	100.00 %
93 Measures of Value	57.07	20.21	19.72	0.26	1.96	0.25	0.53	100.00 %

Development of Factors:

Allocation Code 21

	Ratio to Base	%
Base Cost	1.00	74.07
Max Day Extra Capacity	0.35	25.93
Maximum Day	1.35	100.00

Allocation Code 22

	Ratio to Base	%
Base Cost	1.00	52.63
Max Hour Extra Capacity	0.90	47.37
Maximum Hour	1.90	100.00

Allocation Code 41

	Ratio to Base	%
Base Cost	1.00	52.63
Max Day Extra Capacity	0.35	18.42
Max Hour Extra Capacity	0.55	28.95
Total	1.90	100.00

**Borough of Quakertown**  
**Outside Borough Customers**

Explanation of Factors Used in the Allocations to Cost Functions

<u>Allocation Code</u>	<u>Description</u>
20	This code allocates items 100 percent to Base Cost.
21	This code allocates items to Base Cost and Extra Capacity Cost - Maximum Day in accordance with the ratio of the average annual system production per day to the maximum daily system production.
22	This code allocates items to Base Cost and Extra Capacity Cost - Maximum Hour in accordance with the ratio of the average annual system delivery per day to the maximum hourly system delivery.
23	This code allocates items 100 percent to Customer Cost - Commercial.
24	This code allocates items 100 percent to Customer Cost - Meters.
25	This code allocates items 100 percent to Customer Cost - Services.
26	This code allocates items 100 percent to Hydrant Cost.
41	This code allocates items to Base Cost, Extra Capacity Cost - Maximum Day, and Extra Capacity Cost - Maximum Hour. It is used to recognize the pumping requirements of the system. It is also used to recognize the functionality of mains.
42	This code allocates items 100 percent to Extra Capacity Cost - Maximum Hour.
43	This code is used to allocate purchased power expenses to Base Cost, Extra Capacity Cost - Maximum Day, and Extra Capacity Cost - Maximum Hour. It gives recognition to the demand element in purchased power costs.
44	This code is used to allocate distribution storage costs to Base Cost, Extra Capacity Cost - Maximum Day, and Extra Capacity Cost - Maximum Hour. It gives recognition to the functionality of distribution storage.

**Borough of Quakertown  
Outside Borough Customers**

Explanation of Factors Used in the Allocations to Cost Functions

<u>Allocation Code</u>	<u>Description</u>
50	This code allocates items to the cost functions in accordance with the composite allocation of maintenance expense.
51	This code allocates items to the cost functions in accordance with the composite allocation of the total operating expenses.
57	<i>This code allocates items to the cost functions in accordance with the composite allocation of the total utility plant in service.</i>
91	This code allocates items to the cost functions in accordance with the composite allocation of the total labor expenses.
93	This code allocates items to the cost functions in accordance with the composite allocation of the total measures of value.

**Borough of Quakertown**  
**Outside Borough Customers**

Allocation To Customer Groups

	Cost of Service					AC
	Total Cost \$	Residential \$	Commercial \$	Industrial \$	Fire Protection \$	
<b>OPERATING EXPENSES:</b>						
Base Cost	192,328	145,515	30,369	13,925	2,519	60
Extra Capacity - Max Day	41,589	20,853	2,895	724	17,117	61
Extra Capacity - Max Hr	21,752	2,090	352	61	19,249	62
Customer Cost - Comm'l	46,314	41,247	4,266	667	134	63
Customer Cost - Meters	83,018	62,894	13,549	6,575	0	64
Customer Cost - Services	0	0	0	0	0	65
Hydrants	0	0	0	0	0	70
<b>TOTAL OPERATING EXPENSES</b>	<b>385,001</b>	<b>272,599</b>	<b>51,431</b>	<b>21,952</b>	<b>39,019</b>	
	100.00%	70.81%	13.36%	5.70%	10.13%	
<b>DEPRECIATION EXPENSE:</b>						
Base Cost	31,797	24,058	5,021	2,302	416	60
Extra Capacity - Max Day	12,138	6,086	845	211	4,996	61
Extra Capacity - Max Hr	16,048	1,542	260	45	14,201	62
Customer Cost - Comm'l	0	0	0	0	0	63
Customer Cost - Meters	2,396	1,815	391	190	0	64
Customer Cost - Services	323	224	34	11	54	65
Hydrants	547	0	0	0	547	70
<b>TOTAL DEPRECIATION EXPENSE</b>	<b>63,249</b>	<b>33,725</b>	<b>6,551</b>	<b>2,759</b>	<b>20,214</b>	
	100.00%	53.32%	10.36%	4.36%	31.96%	
<b>NET OPERATING REVENUE</b>						
Base Cost	84,450	63,895	13,335	6,114	1,106	60
Extra Capacity - Max Day	29,906	14,995	2,081	520	12,310	61
Extra Capacity - Max Hr	29,181	2,804	473	82	25,822	62
Customer Cost - Comm'l	385	343	35	6	1	63
Customer Cost - Meters	2,900	2,197	473	230	0	64
Customer Cost - Services	370	256	39	13	62	65
Hydrants	784	0	0	0	784	70
<b>TOTAL NET OPERATING REVENUE</b>	<b>147,976</b>	<b>84,490</b>	<b>16,436</b>	<b>6,965</b>	<b>40,085</b>	
	100.00%	57.10%	11.11%	4.70%	27.09%	

**Borough of Quakertown  
Outside Borough Customers**

Allocation To Customer Groups

Cost of Service

	Total Cost \$	Residential \$	Commercial \$	Industrial \$	Fire Protection \$	AC
<b>TOTAL COST OF SERVICE</b>	596,226 100.00%	390,814 65.55%	74,418 12.48%	31,676 5.31%	99,318 16.66%	
<b>Total Base Cost</b>	308,575 100.00%	233,468 75.66%	48,725 15.79%	22,341 7.24%	4,041 1.31%	
<b>Total Extra Capacity - Maximum Day</b>	83,633 100.00%	41,934 50.14%	5,821 6.96%	1,455 1.74%	34,423 41.16%	
<b>Total Extra Capacity - Maximum Hour</b>	66,981 100.00%	6,436 9.61%	1,085 1.62%	188 0.28%	59,272 88.49%	
<b>Total Customer Cost - Commercial</b>	46,699 100.00%	41,590 89.06%	4,301 9.21%	673 1.44%	135 0.29%	
<b>Total Customer Cost - Meters</b>	88,314 100.00%	66,906 75.76%	14,413 16.32%	6,995 7.92%	0 0.00%	
<b>Total Customer Cost - Services</b>	693 100.00%	480 69.27%	73 10.53%	24 3.46%	116 16.74%	
<b>Total Hydrant Cost</b>	1,331 100.00%	0 0.00%	0 0.00%	0 0.00%	1,331 100.00%	

**Borough of Quakertown**  
**Outside Borough Customers**

Allocation Codes For Customer Groups

Alloc. Code Description	Residential	Commercial	Industrial	Fire Protection	Check Total
60 Base Cost	75.66	15.79	7.24	1.31	100.00 %
61 Maximum Day	50.14	6.96	1.74	41.16	100.00 %
62 Maximum Hour	9.61	1.62	0.28	88.49	100.00 %
63 Customer Costs - Commer'l	89.06	9.21	1.44	0.29	100.00 %
64 Customer Costs - Meters	75.76	16.32	7.92	0.00	100.00 %
65 Customer Costs - Services	69.22	10.52	3.45	16.81	100.00 %
70 Hydrants				100.00	100.00 %

**Borough of Quakertown**  
***Outside Borough Customers***

Explanation of Factors Used in the Allocations to Customer Groups

<u>Allocation Code</u>	<u>Description</u>
60	This code allocates Base Cost to the Customer Groups in accordance with the percentage of water used by each individual customer group.
61	This code allocates Extra Capacity Cost - Maximum Day to the Customer Groups in accordance with the ratio of the excess maximum day demand of each individual customer group to the total non-coincident excess daily demand for all customer groups.
62	This code allocates Extra Capacity Cost - Maximum Hour to the Customer Groups in accordance with the ratio of the excess maximum hour demand of each individual customer group to the total non-coincident excess hourly demand for all customer groups.
63	This code allocates Customer Cost to the Customer Groups in accordance with the percentage of bills issued to each individual customer group.
64	This code allocates Customer Cost to the Customer Groups in accordance with the percentage of equivalent meters of each individual customer group.
65	This code allocates Customer Cost to the Customer Groups in accordance with the percentage of equivalent services of each individual customer group.
70	This code allocates items 100 percent to Fire Protection.

**Borough of Quakertown  
Outside Borough Customers**

Development of Allocation Factors to Customer Groups

Customer Group	Annual Consumption			% of Average	Maximum Day			% of Average	Maximum Hour		
	1000 Gal.	MGD	%		Amount	Excess	%		Amount	Excess	%
Residential	42,133	0.115	75.66	250	0.288	0.173	50.14	400	0.460	0.172	9.61
Commercial	8,718	0.024	15.79	200	0.048	0.024	6.96	320	0.077	0.029	1.62
Industrial	3,994	0.011	7.24	150	0.017	0.006	1.74	200	0.022	0.005	0.28
Total Without Fire Protection	54,845	0.150	98.69		0.353	0.203	58.84		0.559	0.206	11.51
Fire Protection	<u>554</u>	<u>0.002</u>	<u>1.31</u>		<u>0.144</u>	<u>0.142</u>	<u>41.16</u>		<u>1.728</u>	<u>1.584</u>	<u>88.49</u>
Grand Total	55,399	0.152	100.00		0.497	0.345	100.00		2.287	1.790	100.00
Allocation Code			60				61				62

Note: Fire Protection = 1.0 % of total water consumption.  
 Fire Demand = 1,200 gpm for 2 hours.  
 Maximum Hour Excess = Maximum Hour Amount - Maximum Day Amount



**Borough of Quakertown**  
**Outside Borough Customers**

Development of the Equivalent Meters and Services Factors  
and the Factor Based on the Number of Bills

<u>Customer Group</u>	<u>Number of Bills</u>	<u>%</u>	<u>Equiv. Meters</u>	<u>%</u>	<u>Equiv. Services</u>	<u>%</u>
Residential	9,636	89.06	803	75.76	803	69.22
Commercial	996	9.21	173	16.32	122	10.52
Industrial	156	1.44	84	7.92	40	3.45
Fire Protection	31	0.29	0	0.00	195	16.81
Total	10,819	100.00	1,060	100.00	1,160	100.00
Allocation Code		63		64		65

**Borough of Quakertown  
Outside Borough Customers**

Development of Equivalent Meters and Services

<u>Customer Group</u>	<u>Meter Size</u>	<u>Number of Meters</u>	<u>Eq. Meter Ratio</u>	<u>Equiv. Meters</u>	<u>Percent</u>	<u>Eq. Svc. Ratio</u>	<u>Equiv. Services</u>	<u>Percent</u>
Residential	5/8" & 3/4"	803	1.0	803		1.0	803	
		<u>803</u>		<u>803</u>	75.76 %		<u>803</u>	69.22 %
Commercial	5/8" & 3/4"	59	1.0	59		1.0	59	
	1"	9	2.5	23		2.0	18	
	1 1/4"	7	5.0	35		2.7	19	
	1 1/2"	5	5.0	25		2.7	14	
	2"	2	8.0	16		4.0	8	
	3"	1	15.0	15		4.0	4	
		<u>83</u>		<u>173</u>	16.32 %		<u>122</u>	10.52 %
Industrial	5/8" & 3/4"	1	1.0	1		1.0	1	
	1"	1	2.5	3		2.0	2	
	1 1/4"	2	5.0	10		2.7	5	
	1 1/2"	3	5.0	15		2.7	8	
	2"	5	8.0	40		4.0	20	
	3"	1	15.0	15		4.0	4	
		<u>13</u>		<u>84</u>	7.92 %		<u>40</u>	3.45 %
Fire Protection	4"	3				5.3	16	
	6"	9				8.0	72	
	8"	10				10.7	107	
		<u>22</u>		<u>0</u>	0.00 %		<u>195</u>	16.81 %
Grand Total		<u>921</u>		<u>1,060</u>	100.00 %		<u>1,160</u>	100.00 %

**Borough of Quakertown  
Outside Borough Customers**

Summary - Allocation to Cost Functions  
Fiscal Year 2011

	<u>Total Cost of Service</u>	<u>Base Cost</u>	<u>Extra Capacity</u>		<u>Customer Costs</u>			<u>Hydrant Cost</u>
			<u>Maximum Day</u>	<u>Maximum Hour</u>	<u>Commercial</u>	<u>Meters</u>	<u>Services</u>	
Operating Expenses	\$ 385,001	\$ 192,328	\$ 41,589	\$ 21,752	\$ 46,314	\$ 83,018	\$ 0	\$ 0
Depreciation Expense	63,249	31,797	12,138	16,048	0	2,396	323	547
Net Operating Revenue	<u>147,976</u>	<u>84,450</u>	<u>29,906</u>	<u>29,181</u>	<u>385</u>	<u>2,900</u>	<u>370</u>	<u>784</u>
Total Revenue Requirement	\$ 596,226	\$ 308,575	\$ 83,633	\$ 66,981	\$ 46,699	\$ 88,314	\$ 693	\$ 1,331
Deduct Other Revenue	\$ <u>13,154</u>	\$ <u>6,809</u>	\$ <u>1,845</u>	\$ <u>1,478</u>	\$ <u>1,030</u>	\$ <u>1,948</u>	\$ <u>15</u>	\$ <u>29</u>
Net Revenue Requirement	\$ 583,072	\$ 301,766	\$ 81,788	\$ 65,503	\$ 45,669	\$ 86,366	\$ 678	\$ 1,302

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**Borough of Quakertown**  
**Outside Borough Customers**

Development of Net Revenue Requirement by Customer Group  
Fiscal Year 2011

<u>Customer Group</u>		<u>Allocated Cost of Service</u>		<u>Other Operating Revenue</u>		<u>Net Revenue Requirement</u>	<u>Percent</u>
Residential	\$	390,814	\$	8,622	\$	382,192	65.55 %
Commercial		74,418		1,642		72,776	12.48 %
Industrial		31,676		699		30,977	5.31 %
Fire Protection		99,318		2,191		97,127	16.66 %
Total	\$	596,226	\$	13,154	\$	583,072	100.00 %

**Borough of Quakertown**  
***Outside Borough Customers***

Comparison of Present Rate Revenue with Cost of Service Indications

<u>Customer Group</u>	<u>Revenue Under Present Rates</u>		<u>Cost of Service Indications - Net</u>	
	<u>\$ Amount</u>	<u>Percent</u>	<u>\$ Amount</u>	<u>Percent</u>
Residential	207,617	68.25 %	382,192	65.55 %
Commercial	45,509	14.96 %	72,776	12.48 %
Industrial	18,825	6.19 %	30,977	5.31 %
Fire Protection	32,267	10.60 %	97,127	16.66 %
Total	\$304,218	100.00 %	583,072	100.00 %

Note: Net Cost of Service Indications are developed by deducting Customers' Penalties and Misc. Operating Revenue from the Allocated Cost of Service.

**Borough of Quakertown  
Outside Borough Customers**

Comparison of Present Rate Revenue with Proposed Rate Revenue and Cost of Service Indications

<u>Customer Group</u>	<u>Revenue Under Present Rates</u>		<u>Revenue Under Proposed Rates</u>		<u>Cost of Service Indications - Net</u>	
	<u>\$ Amount</u>	<u>Percent</u>	<u>\$ Amount</u>	<u>Percent</u>	<u>\$ Amount</u>	<u>Percent</u>
Residential	207,617	68.25 %	396,417	67.99 %	382,192	65.55 %
Commercial	45,509	14.96 %	84,184	14.44 %	72,776	12.48 %
Industrial	18,825	6.19 %	35,894	6.15 %	30,977	5.31 %
Fire Protection	32,267	10.60 %	66,577	11.42 %	97,127	16.66 %
Total	304,218	100.00 %	583,072	100.00 %	583,072	100.00 %

**Borough of Quakertown**

Operating Revenues Under Proposed Rates

**Outside Borough Customers**

<b><u>Residential - Outside:</u></b>			
	Number		
Minimum Charges:	<u>of Bills</u>	<u>Rate</u>	<u>Revenue</u>
5/8" & 3/4"	9,636	\$23.20	\$223,555.20
Total Minimum Charges			\$223,555.20
<b><u>Consumption Charges:</u></b>			
	<u>Thousand Gallons</u>	<u>Rate</u>	
Minimum	19,586		
Step 1	21,627	\$7.71	\$166,744.17
Step 2	920	\$6.65	6,118.00
Total Consumption Charges			\$172,862.17
Total Residential - Outside			\$396,417.37
<b><u>Commercial - Outside:</u></b>			
	Number		
Minimum Charges:	<u>of Bills</u>	<u>Rate</u>	
5/8" & 3/4"	708	\$23.20	\$16,425.60
1"	108	\$51.55	5,567.40
1 1/4"	84	\$77.33	6,495.72
1 1/2"	60	\$103.10	6,186.00
2"	24	\$128.88	3,093.12
3"	12	\$191.89	2,302.68
Total Minimum Charges			\$40,070.52
<b><u>Consumption Charges:</u></b>			
	<u>Thousand Gallons</u>	<u>Rate</u>	
Minimum	2,533		
Step 1	2,814	\$7.71	\$21,695.94
Step 2	3,371	\$6.65	22,417.15
Total Consumption Charges			\$44,113.09
Total Commercial - Outside			\$84,183.61
<b><u>Industrial - Outside:</u></b>			
	Number		
Minimum Charges:	<u>of Bills</u>	<u>Rate</u>	<u>Revenue</u>
5/8" & 3/4"	12	\$23.20	\$278.40
1"	12	\$51.55	618.60
1 1/4"	24	\$77.33	1,855.92
1 1/2"	36	\$103.10	3,711.60
2"	60	\$128.88	7,732.80
3"	12	\$191.89	2,302.68
Total Minimum Charges			\$16,500.00
<b><u>Consumption Charges:</u></b>			
	<u>Thousand Gallons</u>	<u>Rate</u>	
Minimum	1,136		
Step 1	366	\$7.71	\$2,821.86
Step 2	2,492	\$6.65	16,571.80
Total Consumption Charges			\$19,393.66
Total Industrial - Outside			\$35,893.66

**Borough of Quakertown**

Operating Revenues Under Proposed Rates

**Outside Borough Customers (Continued)**

<u>Fire Protection - Outside:</u>	No. of <u>Units</u>	Annual <u>Rate</u>	
Public Fire Hydrants	64	\$515.76	\$33,008.64
Private Fire Hydrants	7	\$292.92	2,050.44
4" Fire Connection	3	\$734.64	2,203.92
6" Fire Connection	9	\$1,221.36	10,992.24
8" Fire Connection	10	\$1,832.16	18,321.60
			-----
Total Fire Protection - Outside			\$66,576.84
Customers' Penalties			\$4,268.00
Miscellaneous Operating Revenue			8,886.00
			-----
Total Outside Borough Revenue			\$596,225.48
			=====



**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served a true and correct copy of the foregoing document upon the persons listed below, in accordance with the requirements of 52 Pa. Code 1.54 (relating to service by a party).

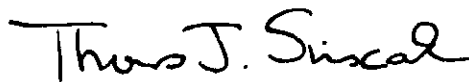
Service Via First Class Mail

Pennsylvania Office of Consumer Advocate  
555 Walnut Street  
Forum Place, 5<sup>th</sup> Floor  
Harrisburg, PA 17101-1921

Pennsylvania Office of Small Business Advocate  
Suite 1102, Commerce Building  
300 North 2nd Street  
Harrisburg, PA 17101

Bureau of Investigation and Enforcement  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street, 2<sup>nd</sup> Floor  
P. O. Box 3265  
Harrisburg, PA 17105-3265

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Thomas J. Sniscak  
Steven K. Haas  
*Counsel to Borough of Quakertown*

Dated this 30<sup>th</sup> day of November, 2011