T-8
TIDEWATER UTILITIES, INC.
PSC DOCKET NO.
WITNESS: GARY D. SHAMBAUGH
DATE SUBMITTED:

BEFORE THE
DELAWARE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

GARY D. SHAMBAUGH, PRINCIPAL & DIRECTOR
AUS CONSULTANTS

ON BEHALF OF

TIDEWATER UTILITIES, INC.

CONCERNING

COST OF SERVICE ALLOCATIONS
AND RATE DESIGN

NOVEMBER 2013

Q. Please state your name, occupation and business address.

A. My name is Gary D. Shambaugh. I am employed in the position of Principal & Director with AUS Consultants which specializes in rate filings, various financial studies including valuation, depreciation, and cost of service studies. AUS Consultants is located at 275 Grandview Avenue, Suite 100, Camp Hill, Pennsylvania, 17011.

Q. Please describe your professional qualifications.

A. I have an associate in arts degree in accounting from the Harrisburg Area Community College and further studies in cost of service, customer tariff design, and depreciation. I have over 40 years' experience in preparing various financial studies, including rate studies; for electric, gas, water, wastewater, steam heat, chilled water, and telephone utilities. I have provided service to and have testified before regulatory agencies regarding both municipal and investor-owned utilities in many jurisdictions including commonwealth courts, county courts, and federal bankruptcy courts. I have been qualified as an expert and have provided expert testimony relative to utility financial matters in, but not limited to, Connecticut, Florida, Louisiana, Pennsylvania, Massachusetts, Michigan, Mississippi, New Jersey, North Carolina, Rhode Island, South Carolina, Tennessee and West Virginia. I have also provided consulting services to utilities in other states, including, California, Hawaii, Illinois, Indiana, Kentucky, Maryland, New York, New Mexico, Ohio, and Virginia, AUS Consultants is currently under contract to provide

advisory services to the Regulatory Commission of Alaska (RCA). I have provided utility financial services to the RCA under that contract. Over the years, I have presented numerous papers relating to utility management for various industry trade associations and the University of Maine's Margaret Chase Smith Center for Public Policy. I also teach the advanced regulatory training in financial planning, strategies and accounting issues for water and wastewater systems for the New Mexico State University's Center for Public Utilities.

Q. Have you submitted testimony previously before the Delaware Public Service Commission?

A. No. I have not previously testified before the Delaware Public Service Commission.

Q. What is the nature of your assignment in the present proceeding?

A. Tidewater Utilities, Inc. ("Company) requested that AUS Consultants develop a water cost of service allocation study reflecting the revenue requirement submitted in this proceeding and to design a schedule of rates and charges to recover that revenue requirement. This testimony will address and describe these studies.

Q. Please explain the purpose of a cost of service study.

A. A cost of service allocation study allocates the total revenue requirement among classes of customers in order to obtain an indication of the cost responsibilities of each class of customers. The data used in the studies discussed herein includes utility plant in service, depreciation reserve and expense, rate base, operations and maintenance expense, taxes, and operating income.

Q. Will you please explain the methodology and allocation bases utilized in a cost of service study?

A. Several bases or methods have evolved for use in the allocation of water utility costs. In most methods, the costs are allocated in two major steps: first to functional cost categories, and second to customer classes. The cost allocation process is based upon the "Base-Extra Capacity Method" as recognized by the American Water Works Association as set forth in its Water Rates Manual M1. This methodology identifies costs and allocates them to the functional cost categories of base cost, extra capacity cost, customer cost, and fire hydrant cost. Once the cost of service has been allocated to functional cost categories, the typical procedure is to then allocate such functional cost categories directly to the customer classes.

Q. Would you please describe the above listed functional cost categories?

A. The base cost category includes those costs which would typically 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 typically 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 an average rate of use. These costs have been sub-divided into costs pertaining to maximum day and maximum hour extra demand criteria in the water cost of service study.

The customer cost category includes those costs related 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 expenses. Customer costs have been sub-divided into costs related to commercial operations and costs related to meters and services in the study.

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

Q. How are the costs of the water utility assigned to the functional cost categories?

A. Allocation factors are developed for each item of capital investment, operating expense, and other costs to assign all or a portion of the cost to the appropriate functional cost. 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 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's maximum day consumption to the average annual rate of consumption. Therefore, 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 ÷ 15) to the base cost function and 33.3 percent (5 ÷ 15) to the extra capacity maximum day function. Costs related with facilities required to meet maximum hourly demands are allocated in a similar manner.

Q. Did you prepare an exhibit which sets forth the results of your study?

A. Yes, I did. The accompanying Exhibit sets forth schedules which illustrate the study developed for the Company. The entirety of Exhibit has been identified as T-6 in this proceeding; however, it is referred to as Exhibit in my testimony.

Q. Please describe what Schedule 1 shows?

A. Schedule 1 presents the details of the allocation for the Company of the pro forma rate base to the previously defined cost functions. The left-most column of Schedule 1 sets forth the plant account numbers. The next column is a description of the item being allocated and the third column from the left is the total cost of the item being allocated. The allocations to the cost functions are shown in Columns 4 through 10, while the right-most column indicates the allocation code for the specific allocation factor used to allocate each cost element to the cost functions.

Q. Please explain Schedule 2?

A. Schedule 2 is developed in a format which is similar to that of Schedule 1. Schedule 2 sets forth the details of the allocation of pro forma operation and maintenance expenses to the previously defined cost functions.

Q. Please describe Schedule 3?

A. Schedule 3 is similar in format to Schedule 2 and provides the details of the allocation of the pro forma depreciation expense to the cost functions.

Q. Please explain Schedule 4.

A. Schedule 4 completes the allocation of the pro forma revenue requirement to the cost functions. The operation and maintenance expense allocation and the depreciation expense allocation are summarized on this schedule. Taxes other than income taxes, state and federal income taxes, and utility operating income are allocated on this schedule. The total of these components comprise the allocation of the pro forma revenue requirement. Contract sales, connection fees, and other operating revenues are deducted on this schedule to calculate the net operating revenue required from rates.

Q. Can you please briefly explain the functional cost allocation codes?

A. An allocation code is a reference number that designates a group of percentages which are used to allocate the total amount of a cost element to the cost functions. Pages 1 and 2 of Schedule 5 of Exhibit No. T-8 contain a written description of the allocation bases. Page 3 of Schedule 5 sets forth a list of the allocation codes and factors used to allocate costs to the cost functions and illustrate the development of several of the factors used in the allocation of cost elements to the cost functions.

Q. How were the maximum day and maximum hour system factors at the bottom of page 3 of Schedule 5 determined?

A. The maximum day and maximum hour system demand factors used in the cost of service study are the same factors currently used as system design parameters by the Company.

Q. Please briefly explain the customer classifications?

A. Customer classifications are groupings of customers that are recognized to have reasonably similar characteristics. The customer classifications include general water service, private fire protection service, and public fire protection service.

Q. How are the costs and expenses of the Company allocated to the customer groups?

A. Each customer group is charged with a portion of the base cost, the extra capacity cost, the customer cost, and the fire hydrant cost. This is accomplished by developing allocation factors that relate the individual customer group cost responsibility to the total cost responsibility of all customers served. The total of all costs attributable to a customer group is the total indicated cost of service for that group.

Q. Please describe how each individual cost category is allocated to the customer groups?

A. Base costs are costs that would be incurred in supplying water at the annual average rate of usage exclusive of costs incurred in meeting peak demand requirements or water usage variations. Base costs are allocated to the customer groups in the same proportion that the total annual volume of water used by each customer group is to the total annual system water use.

Extra capacity costs are costs incurred in meeting peak rates of water usage in

excess of the average requirements. Extra capacity maximum day costs are allocated to the customer groups in accordance with the maximum day demand assigned to each customer group which is in excess of the average rate of consumption. For fire protection costs, demand estimates are calculated on the basis of system capacity and fire demand requirements. Extra capacity maximum hour costs are allocated on the same basis as the maximum day costs except that the maximum hour excess demand is utilized as the controlling factor.

Customer costs are allocated to the customer groups based on the total number of equivalent 5/8" meters, the total number of equivalent services, and the billing costs. Equivalent 5/8" meters are developed by utilizing ratios that are based on the relative capacity of each size of meter, as set forth in criteria published by the American Water Works Association, and applying this ratio to the number of meters of various sizes in each customer group. Similarly, equivalent services are developed by utilizing ratios related to the size of each service. Units based on equivalent 5/8" meters and equivalent services are utilized since customer costs generally vary and increase with the size of the individual customer's meter and service.

Customer group billing requirements are used to allocate the commercial customer costs (that is, the costs related to maintenance of customer records, billing, and collecting) to the various customer groups.

Fire hydrant functional costs are directly assigned to the public fire protection customer group.

1 Q. Have you prepared a schedule that reflects the customer class allocation in the exhibit
2 which you have prepared?
3
4 A. Yes, I have. The customer class allocations for the Company are contained on Schedules
5 6 through 8 of Exhibit No. T-8.
6
7 Q. Please explain Schedule 6?
8
9 A. Schedule 6 presents the details of the allocation of the revenue requirement functional
10 costs, as developed on Schedule 4, to the customer groups. The far left column of
11 Schedule 6 describes the cost elements which were developed on Schedule 4, while the
12 next column shows the total cost of the items being allocated. The allocations to the
13 customer groups are shown in columns 3 through 5. The right-most column indicates an
14 allocation code for the specific allocation factor utilized to assign each cost element to the
15 customer groups.
16
17 Q. Was a summary prepared that shows the development of the allocation codes used in
18 Schedule 6?
19
20 A. Yes. Schedule 7 contains a list of the codes and factors utilized in the customer group
21 allocations while Schedule 8 sets forth the details of the development of the factors
22 utilized in the customer group allocations.

Q. Please explain Schedule 7.

A. Page 1 of Schedule 7 provides narrative descriptions of the allocation codes used in the customer group allocations. Page 2 of Schedule 7 lists the allocation factors.

Q. Please describe Schedule 8?

A. Schedule 8 of Exhibit No. T-8 contains the development of the factors utilized in the allocations to the customer groups. Page 1 of this schedule reflects the pro forma annual consumption and the non-coincident maximum day and maximum hour demands by customer group. The consumption data are based on metered sales and in the case of fire protection, an estimated usage. Maximum daily and maximum hourly totals for customer groups are based on the application of customer group demand factors to the average consumption. Page 1 of Schedule 8 also develops the customer group allocation factors related to the functional customer costs. The number of bills, the number of equivalent meters, and the number of equivalent services are shown by customer group on this schedule. Page 2 of Schedule 8 reflects the detailed development of the equivalent meters and the equivalent services. Page 3 of Schedule 8 shows the development of the private and public fire protection allocation factors.

Q. How were the results of the cost of service study utilized in the development of proposed rates?

A. The results of the cost of service study were used as a general guide in the development of the proposed rate schedule for the Company. It is very unusual for water utility rates to be in exact agreement with all aspects of a cost of service study. Typically, minor differences will exist just as a matter of normal circumstances. Cost of service allocations are the products of analyses based in part on judgment and experience and their results provide a substantial aid in the design of rates. Actual tariff design, in addition to relying on the results of cost of service study, should include consideration of policy matters, impact on rate changes, future planning, special customer characteristics, and other requirements.

Q. Please discuss the development of the proposed rates and charges?

A. The cost of service study was developed based upon a total revenue requirement of $30,978,874 which is an increase of $3,903,337 (or about 14.42%) above the $27,075,537 pro forma present rate revenues. The revenues received from present rates can be compared with the cost of service indications as follows:

Class	Present Rate Revenue	Cost of Service Indications
General Water	$21,086,327	$24,451,533
Public Fire	1,863,736	2,203,383
Private Fire	976,304	755,756
Subtotal	$23,926,367	$27,410,672
Contract Sales	$1,261,118	$1,449,693
Connection Fees	1,541,077	1,771,520
Other Revenue	346,975	346,975
Grand Total	$27,075,537	$30,978,860

The cost of service indications for the contract sales and the connection fee components were developed by applying an approximate 14.95% increase to these categories. This increase is approximate to the overall requested increase when other revenue is not considered. The cost of service indication for other revenue is based on a detailed analysis as set forth on Minimum Filing Requirements (MFR) Schedule 3A. Based on the above comparisons, general water service would require about a 15.95% increase to meet its cost of service indications; public fire would require about an 18.26% increase to meet its cost of service indications; and private fire would require about a 22.59% decrease to meet its cost of service indications.

I would suggest increasing public fire by about 18.26% (or about 1.14 times the 15.96% overall increase to general metered service. I would suggest decreasing private fire by 22.59% as calculated on Schedule 10. This is consistent with cost of service principals when trying to move customer tariff rate designs in line with the cost of providing service. The remaining revenues would be obtained from general water service.

Q. Please explain what rates would result from the above suggestions?

A. The quarterly charge for public fire protection would be $17.84 to those customers who have access to public fire service while the charge for a 6" private fire service would be $736.09 per quarter.

Q. What rates have you developed for general water service?

A. Prior to discussing the development of rates for general water service, I would like to note that in this case, I believe that other costs in addition to the functional customer costs should be included in the development of the facilities charges. This is appropriate due to the number of seasonal customers who only use water during part of a year but have water service available throughout the entire year.

The inclusion of other costs in addition to the functional customer costs in customer (facilities) charges is recognized in the AWWA Water Rates Manual M1 which states that "The service charge is designed to recover customer-related costs and possibly some capacity-related costs associated with readiness to serve…" (Fourth Edition, page 34). Also, AWWA Water Rates Manual M1 notes that "a portion of distribution-main costs as well as a portion of demand-related costs are sometimes included in the determination of service charges." (Fourth Edition, page 39).

In addition to the above examples, further support for the inclusion of other items in the customer charge may be obtained from Publication NRRI 93-13 of the National Regulatory Research Institute. That publication, entitled "Meeting Water Utility Revenue Requirements: Financing and Ratemaking Alternatives", states on page 70 that "common (overhead) costs include those costs (for example, administrative and general) that are generally independent of the number of customers, maximum demand, average demand, and volume of usage. Common costs can be recovered via a periodic service charge."

The majority of a water utility's costs are fixed and would be incurred regardless of the amount of water produced. Very few of a water utility's costs vary with water production. Typically, the costs of purchased water, purchased power, and treatment

chemicals will change as water production changes and the majority of the other costs will remain unchanged as water production changes.

Q. Please continue with your discussion related to the development of the general water rates and charges?

A. The development of the facilities charges is set forth on Schedule 9 of Exhibit No. T-8. As reflected on this schedule, rather than using all of the extra capacity costs, I have included 78% of the general water maximum day functional costs as a measure of capacity to be included in the facilities charges. This approach is conservative. The proposed facilities charges are about 15.70% higher than the present facilities charges.

Q. How were the volumetric water usage charges developed for general water service?

A. Once the facilities charges, the public fire protection charges, and the private fire protection charges have been developed, the volumetric water usage charge can be developed. In order to achieve the proposed revenue of $30,978,874, the volumetric rates for general water service will need to produce revenue of $14,821,304. This results in an overall increase of $2,058,363 or 16.13%.

The current apartment and commercial customers' volumetric water usage charge of $8.1519 per thousand gallons was increased by 14.95% to $9.3709. The residential customer's test period consumption was blocked to the three (3) rate blocks detailed above. The rates were then developed to achieve the overall requested total revenue of

$30,978,874.

Schedule 11 shows the revenues that are developed from the proposed rates. The proposed revenue totals $30,978,860 which is about $14 less than the requested total revenue requirement of $30,978,874. This difference is considered negligible and acceptable for rate design purposes.

Q. Have you prepared a schedule that presents the amounts charged and billed to customers under the proposed rates with the amounts charged and billed under present rates?

A. Yes. This comparison is shown for a number of meter sizes and water usage levels on Schedules 12 and 13 of Exhibit No. T-8.

Q. Are there additional areas you wish to address?

A. Yes. The following section of my testimony will address wholesale rates.

Q. Does the Company presently have any customers being served under wholesale rates?

A. Yes. At this time, the company provides wholesale service under contract to the Dover Air Force Base off-base housing, Southern Shores Water Company, and the Town of Ocean View.

Q. Did you prepare any analyses with respect to wholesale rates?

A. Yes.

Q. Please describe these analyses.

A. These analyses are shown on Schedules 14, 15, and 16 of Exhibit No. T-8. Three separate analyses are reflected on Schedule 14, namely the development of a unit variable cost, a unit base cost, and a unit O&M cost.

As shown on Schedule 14, the unit variable cost is $0.6796 per thousand gallons. Variable costs are costs that will change as the volume of water production changes. Variable costs include purchased water, purchased power, and chemicals. A wholesale rate more than the unit variable cost assures that the utility will recover the additional costs related to serving wholesale customers.

As reflected on Schedule 14, the unit base cost is $3.0727 per thousand gallons. The unit base cost is sometimes considered as the lowest price for water sales. Also reflected on this schedule is the development of a unit O&M cost which includes the non-customer accounting and the non-general and administrative costs of the utility. The unit O&M cost is $3.2557per thousand gallons.

Q. Did you prepare any other analyses related to wholesale rates?

A. Yes. Schedules 15 and 16 of Exhibit No. T-8 set forth a modified production cost study.

A production cost study typically considers only supply, pumping, and treatment costs. The study on Schedules 15 and 16 is modified in that in addition to the above costs, it also includes 15% of the transmission and distribution costs included in this rate proceeding. Schedule 15 sets forth a rate base development while Schedule 16 sets forth a revenue requirement development. Schedules 15 and 16 utilize base cost and extra capacity cost data that were developed on Schedules 1 through 4 of Exhibit No. T-8 with adjustments as noted in the footnotes of Schedules 15 and 16. A wholesale rate based on this production cost is developed at the bottom of page 3 of Schedule 16. The developed wholesale rate is $5.6980 per thousand gallons. It is noted that all but one (Ocean View) of the proposed contract rates (as set forth on Page 2 of Schedule 11) are more than the wholesale rate developed and explained on Schedule 16.

Q. Is this the extent of your testimony in this proceeding at this time?

A. Yes, it is.

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Table of Contents
to Exhibit No. T-8
of Gary D. Shambaugh

Tidewater Utilities, Inc.

Test Period Ending June 30, 2014
Allocation of Pro Forma Rate Base

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Allocation Code
	Pro Forma Utility Plant in Service									
310	Land and Land Rights	$365,228	$146,091	$219,137	$0	$0	$0	$0	$0	21
314	Wells & Springs	4,006,999	1,602,800	2,404,199	0	0	0	0	0	21
316	Supply Mains	25,383	10,153	15,230	0	0	0	0	0	21
320	Land and Land Rights	70,485	9,396	14,097	46,992	0	0	0	0	41
321	Structures and Improvements	8,749,083	1,166,253	1,749,817	5,833,013	0	0	0	0	41
323	Other Power Prod. Equip.	639,656	85,266	127,931	426,459	0	0	0	0	41
325	Electric Pumping Equipment	17,969,705	2,395,362	3,593,941	11,980,402	0	0	0	0	41
326	Diesel Pumping Equipment	3,000	400	600	2,000	0	0	0	0	41
331	Structures and Improvements	268,070	107,228	160,842	0	0	0	0	0	21
332	Water Treatment Eq.	7,588,257	3,035,303	4,552,954	0	0	0	0	0	21
340	Land and Land Rights	2,119	212	318	1,589	0	0	0	0	45
342	Dist. Reservoirs & Standpipes	13,277,015	1,327,702	1,991,552	9,957,761	0	0	0	0	45
343	Trans. & Dist. Mains	82,880,508	11,047,972	16,576,102	55,256,434	0	0	0	0	44
345	Services	17,206,899	0	0	0	0	0	17,206,899	0	25
346	Meters	4,553,934	0	0	0	0	4,553,934	0	0	24
347	Meter Installations	440,680	0	0	0	0	440,680	0	0	24
348	Hydrants	7,913,481	0	0	0	0	0	0	7,913,481	26
395	Laboratory Equipment	71,338	71,338	0	0	0	0	0	0	20
	Subtotal All Above	$166,031,840	$21,005,476	$31,406,720	$83,504,650	$0	$4,994,614	$17,206,899	$7,913,481	
	Subtotal % (Percent Code 29)	100.00 %	12.65 %	18.92 %	50.29 %	0.00 %	3.01 %	10.36 %	4.77 %	
301	Organization	$9,079	$1,148	$1,718	$4,566	$0	$273	$941	$433	29
302	Franchises & Consents	695,322	87,958	131,555	349,677	0	20,929	72,035	33,168	29
303	Misc. Intangible Plant	6,958	880	1,316	3,499	0	209	721	333	29
389	Land and Land Rights	38,684	4,894	7,319	19,454	0	1,164	4,008	1,845	29
390	Structures and Improvements	233,041	29,480	44,091	117,196	0	7,015	24,143	11,116	29
391	Office Furniture & Equipment	2,754,692	348,469	521,188	1,385,335	0	82,916	285,386	131,398	29
392	Transportation Equipment	2,188,709	276,872	414,104	1,100,702	0	65,880	226,750	104,401	29
394	Tools, Shop, and Garage Equip.	676,408	85,566	127,976	340,166	0	20,360	70,076	32,264	29
396	Power Operated Equipment	279,917	35,410	52,960	140,770	0	8,426	28,999	13,352	29
397	Communication Equipment	276,083	34,924	52,235	138,842	0	8,310	28,602	13,170	29
398	Other Tangible Equipment	342,963	43,385	64,889	172,476	0	10,323	35,531	16,359	29
	Total Plant in Service	$173,533,696	$21,954,462	$32,826,071	$87,277,333	$0	$5,220,419	$17,984,091	$8,271,320	
	(Percent Code 29)	100.00 %	12.65 %	18.92 %	50.29 %	0.00 %	3.01 %	10.36 %	4.77 %	
	Pro Forma Depreciation Reserve									
314	Wells & Springs	($384,848)	($153,939)	($230,909)	$0	$0	$0	$0	$0	21
316	Supply Mains	31,141	12,456	18,685	0	0	0	0	0	21
321	Structures and Improvements	(1,838,706)	(245,100)	(367,741)	(1,225,865)	0	0	0	0	41
323	Other Power Prod. Equip.	(266,923)	(35,581)	(53,385)	(177,957)	0	0	0	0	41
325	Electric Pumping Equipment	(3,249,295)	(433,131)	(649,859)	(2,166,305)	0	0	0	0	41
326	Diesel Pumping Equipment	(1,867)	(249)	(373)	(1,245)	0	0	0	0	41
331	Structures and Improvements	(75,698)	(30,279)	(45,419)	0	0	0	0	0	21
332	Water Treatment Eq.	(1,488,675)	(595,470)	(893,205)	0	0	0	0	0	21
342	Dist. Reservoirs & Standpipes	(1,728,411)	(172,841)	(259,262)	(1,296,308)	0	0	0	0	45
343	Trans. & Dist. Mains	(5,154,964)	(687,157)	(1,030,993)	(3,436,814)	0	0	0	0	44
345	Services	(2,737,635)	0	0	0	0	0	(2,737,635)	0	25
346	Meters	(1,597,501)	0	0	0	0	(1,597,501)	0	0	24
347	Meter Installations	(172,014)	0	0	0	0	(172,014)	0	0	24
348	Hydrants	(806,410)	0	0	0	0	0	0	(806,410)	26
395	Laboratory Equipment	(36,859)	(36,859)	0	0	0	0	0	0	20
390	Structures and Improvements	(50,209)	(6,351)	(9,500)	(25,250)	0	(1,511)	(5,202)	(2,395)	29
391	Office Furniture & Equipment	(1,705,930)	(215,800)	(322,762)	(857,912)	0	(51,348)	(176,734)	(81,374)	29
392	Transportation Equipment	(1,598,846)	(202,254)	(302,502)	(804,060)	0	(48,125)	(165,640)	(76,265)	29
394	Tools, Shop, and Garage Equip.	(289,505)	(36,622)	(54,774)	(145,592)	0	(8,714)	(29,993)	(13,810)	29
396	Power Operated Equipment	(285,727)	(36,144)	(54,060)	(143,692)	0	(8,600)	(29,601)	(13,630)	29
397	Communication Equipment	(227,808)	(28,818)	(43,101)	(114,565)	0	(6,857)	(23,601)	(10,866)	29
398	Other Tangible Equipment	(261,481)	(33,077)	(49,472)	(131,499)	0	(7,871)	(27,089)	(12,473)	29
	Total Pro Forma Depr. Reserve	($23,928,171)	($2,937,216)	($4,348,632)	($10,527,064)	$0	($1,902,541)	($3,195,495)	($1,017,223)	
	Total Depreciation Reserve %	100.00 %	12.28 %	18.17 %	43.99 %	0.00 %	7.95 %	13.36 %	4.25 %	
	Depreciated Plant	$149,605,524	$19,017,246	$28,477,439	$76,750,269	$0	$3,317,878	$14,788,596	$7,254,097	
	(Percent Code 27)	100.00 %	12.71 %	19.03 %	51.3 %	0.00 %	2.22 %	9.89 %	4.85 %	

Tidewater Utilities, Inc.

Test Period Ending June 30, 2014
Allocation of Pro Forma Rate Base

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Allocation Code
	Rate Base Additions									
	Materials and Supplies	$130,758	$16,541	$24,739	$65,758	$0	$3,936	$13,547	$6,237	29
	Cash Working Capital	3,098,480	578,176	593,669	1,128,776	437,815	206,049	111,855	42,140	46
	Deferred FIT	(7,907,296)	(1,000,273)	(1,496,060)	(3,976,579)	0	(238,010)	(819,196)	(377,178)	29
	Total Additions	($4,678,058)	($405,556)	($877,652)	($2,782,045)	$437,815	($28,025)	($693,794)	($328,801)	
	Rate Base Deductions									
	CAC & CIAC:									
314	Wells & Springs	($53,532)	($21,413)	($32,119)	$0	$0	$0	$0	$0	21
321	Structures and Improvements	(5,057)	(674)	(1,011)	(3,372)	0	0	0	0	41
332	Water Treatment Eq.	(60,200)	(24,080)	(36,120)	0	0	0	0	0	21
342	Dist. Reservoirs & Standpipes	(31,184)	(3,118)	(4,678)	(23,388)	0	0	0	0	45
343	Trans. & Dist. Mains	(41,663,460)	(5,553,739)	(8,332,692)	(27,777,029)	0	0	0	0	44
345	Services	(247,487)	0	0	0	0	0	(247,487)	0	25
348	Hydrants	(2,976,911)	0	0	0	0	0	0	(2,976,911)	26
	Total CAC & CIAC	($45,037,831)	($5,603,024)	($8,406,620)	($27,803,789)	$0	$0	($247,487)	($2,976,911)	
	Customer Deposits	(294,781)	0	0	0	(294,781)	0	0	0	23
	Total Deductions	($45,332,612)	($5,603,024)	($8,406,620)	($27,803,789)	($294,781)	$0	($247,487)	($2,976,911)	
	Total Pro Forma Rate Base	$99,594,854	$13,008,666	$19,193,167	$46,164,435	$143,034	$3,289,853	$13,847,315	$3,948,385	
	Rate Base % (Percent Code 33)	99.99 %	13.06 %	19.27 %	46.35 %	0.14 %	3.31 %	13.90 %	3.96 %	

Tidewater Utilities, Inc.

Test Period Ending June 30, 2014
Allocation of Pro Forma Operation and Maintenance Expense

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Allocation Code
	Pro Forma O&M Expense									
	Source of Supply									
600	Oper. Super. & Eng. - Labor	$0	$0	$0	$0	$0	$0	$0	$0	21
600	Oper. Super. & Eng. - Other	0	0	0	0	0	0	0	0	21
601	Operation Labor	0	0	0	0	0	0	0	0	21
601	Operation Expenses	77	31	46	0	0	0	0	0	21
602	Purchased Water	139,297	55,719	83,578	0	0	0	0	0	21
603	Miscellaneous Expenses	1,500	600	900	0	0	0	0	0	21
610	Maint. Super. & Eng. - Labor	0	0	0	0	0	0	0	0	21
610	Maint. Super. & Eng. - Other	0	0	0	0	0	0	0	0	21
611	Maint. Of Structures. - Labor	0	0	0	0	0	0	0	0	21
611	Maint. Of Structures. - Other	0	0	0	0	0	0	0	0	21
614	Maint. of Wells & Sp'gs - Labor	8,714	3,486	5,228	0	0	0	0	0	21
614	Maint. of Wells & Sp'gs - Other	7,861	3,144	4,717	0	0	0	0	0	21
616	Maint. Of Supply Mains - Labor	0	0	0	0	0	0	0	0	21
616	Maint. Of Supply Mains - Other	0	0	0	0	0	0	0	0	21
	Total Source of Supply	$157,449	$62,980	$94,469	$0	$0	$0	$0	$0	
	Pumping									
620	Oper. Super. & Eng. - Labor	$0	$0	$0	$0	$0	$0	$0	$0	41
620	Oper. Super. & Eng. - Other	0	0	0	0	0	0	0	0	41
622	Power Production Labor	0	0	0	0	0	0	0	0	41
622	Power Production Expenses	157	21	31	105	0	0	0	0	41
623	Purchased Power	506,631	430,636	50,663	25,332	0	0	0	0	43
624	Pumping Labor	1,265,967	168,753	253,193	844,021	0	0	0	0	41
624	Pumping Expense	157,305	20,969	31,461	104,875	0	0	0	0	41
626	Pumping Misc. Labor	8,364	1,115	1,673	5,576	0	0	0	0	41
626	Pumping Misc. Expense	195,524	26,063	39,105	130,356	0	0	0	0	41
630	Maint. Super. & Eng. - Labor	0	0	0	0	0	0	0	0	41
630	Maint. Super. & Eng. - Other	0	0	0	0	0	0	0	0	41
631	Maint. Of Structures. - Labor	287,340	38,302	57,468	191,570	0	0	0	0	41
631	Maint. Of Structures. - Other	(14,073)	(1,876)	(2,815)	(9,382)	0	0	0	0	41
632	Maint. Of Power Prod. Eq. - Labor	9,877	1,317	1,975	6,585	0	0	0	0	41
632	Maint. Of Power Prod. Eq. - Other	29,743	3,965	5,949	19,829	0	0	0	0	41
633	Maint. Of Pumping Eq. - Labor	139,909	18,650	27,982	93,277	0	0	0	0	41
633	Maint. Of Pumping Eq. - Other	91,193	12,156	18,239	60,798	0	0	0	0	41
	Total Pumping	$2,677,937	$720,071	$484,924	$1,472,942	$0	$0	$0	$0	
	Water Treatment									
640	Oper. Super. & Eng. - Labor	$2,119	$848	$1,271	$0	$0	$0	$0	$0	21
640	Oper. Super. & Eng. - Other	0	0	0	0	0	0	0	0	21
641	Chemicals - Water Treatment	432,410	432,410	0	0	0	0	0	0	20
642	Treatment Exp. - Labor	332,019	132,808	199,211	0	0	0	0	0	21
642	Treatment Exp. - Other	315,583	126,233	189,350	0	0	0	0	0	21
643	Treatment Misc. Exp.	13,000	5,200	7,800	0	0	0	0	0	21
650	Maint. Super. & Eng. - Labor	0	0	0	0	0	0	0	0	21
650	Maint. Super. & Eng. - Other	0	0	0	0	0	0	0	0	21
651	Maint. Of Structures. - Labor	850	340	510	0	0	0	0	0	21
651	Maint. Of Structures. - Other	5,445	2,178	3,267	0	0	0	0	0	21
652	Maint. Of Treatment Eq. - Labor	14,540	5,816	8,724	0	0	0	0	0	21
652	Maint. Of Treatment Eq. - Other	38,100	15,240	22,860	0	0	0	0	0	21
	Total Water Treatment	$1,154,066	$721,073	$432,993	$0	$0	$0	$0	$0	
	Transmission and Distribution - Operation									
661	Storage Facilities Labor	$0	$0	$0	$0	$0	$0	$0	$0	45
661	Storage Facilities Expense	0	0	0	0	0	0	0	0	45
662	Trans. & Dist. Labor	581,677	77,538	116,335	387,804	0	0	0	0	44
662	Trans. & Dist. Expenses	15,211	2,028	3,042	10,141	0	0	0	0	44
663	Meter Labor	9,534	0	0	0	0	9,534	0	0	24
663	Meter Expenses	27,447	0	0	0	0	27,447	0	0	24
	Subtotal T & D Operation	$633,869	$79,566	$119,377	$397,945	$0	$36,981	$0	$0	
	Subtotal T & D Operation % (Percent Code 37)	100.00 %	12.55 %	18.83 %	62.78 %	0.00 %	5.84 %	0.00 %	0.00 %	
660	Oper. Super. & Eng. - Labor	$81,251	$10,197	$15,300	$51,009	$0	$4,745	$0	$0	37
660	Oper. Super. & Eng. - Other	18,382	2,307	3,461	11,540	0	1,074	0	0	37
665	Misc. T&D Labor	763	96	144	478	0	45	0	0	37
665	Misc. T&D Expense	0	0	0	0	0	0	0	0	37
	Total T & D Operation	$734,265	$92,166	$138,282	$460,972	$0	$42,845	$0	$0	
	Total T & D Operation %	100.00 %	12.55 %	18.83 %	62.78 %	0.00 %	5.84 %	0.00 %	0.00 %	

Tidewater Utilities, Inc.

Test Period Ending June 30, 2014
Allocation of Pro Forma Operation and Maintenance Expense

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Allocation Code
	Pro Forma O&M Expense (continued)									
	Transmission and Distribution - Maintenance									
671	Maint. Of Structures. - Labor	$1,455	$194	$291	$970	$0	$0	$0	$0	44
671	Maint. Of Structures. - Other	644	86	129	429	0	0	0	0	44
672	Maint. Of Dist. Res. & S.P. - Labor	855	86	128	641	0	0	0	0	45
672	Maint. Of Dist. Res. & S.P. - Other	14,521	1,452	2,178	10,891	0	0	0	0	45
673	Maint. Of Mains - Labor	45,691	6,091	9,138	30,462	0	0	0	0	44
673	Maint. Of Mains - Other	52,238	6,963	10,448	34,827	0	0	0	0	44
675	Maint. Of Services - Labor	88,197	0	0	0	0	0	88,197	0	25
675	Maint. Of Services - Other	90,585	0	0	0	0	0	90,585	0	25
676	Maint. Of Meters - Labor	0	0	0	0	0	0	0	0	24
676	Maint. Of Meters - Other	0	0	0	0	0	0	0	0	24
677	Maint. Of Hydrants - Labor	47,464	0	0	0	0	0	0	47,464	26
677	Maint. Of Hydrants - Other	15,942	0	0	0	0	0	0	15,942	26
	Subtotal T & D Maintenance	$357,592	$14,872	$22,312	$78,220	$0	$0	$178,782	$63,406	
	Subtotal T & D Maintenance % (Percent Code 38)	100.00 %	4.16 %	6.24 %	21.87 %	0.00 %	0.00 %	50.00 %	17.73 %	
670	Maint. Super. & Eng. - Labor	$0	$0	$0	$0	$0	$0	$0	$0	38
670	Maint. Super. & Eng. - Other	76,870	3,198	4,797	16,811	0	0	38,435	13,629	38
678	Misc. Maint. Expense	7,771	323	485	1,700	0	0	3,886	1,377	38
	Total T & D Maintenance	$442,233	$18,393	$27,594	$96,731	$0	$0	$221,103	$78,412	
	Total T & D Maintenance %	100.00 %	4.16 %	6.24 %	21.87 %	0.00 %	0.00 %	50.00 %	17.73 %	
	Total Trans. and Dist. O&M	$1,176,498	$110,559	$165,876	$557,703	$0	$42,845	$221,103	$78,412	
	Total Trans. and Dist. O&M %	100.00 %	9.40 %	14.10 %	47.40 %	0.00 %	3.64 %	18.79 %	6.67 %	
	Customer Accounting									
901	Cust. Acctg. - Supervision - Labor	$0	$0	$0	$0	$0	$0	$0	$0	23
901	Cust. Acctg. - Supervision - Other	96,258	0	0	0	96,258	0	0	0	23
902	Cust. Acctg. - Meter Reading Labor	284,670	0	0	0	0	284,670	0	0	24
902	Cust. Acctg. - Meter Reading Exp.	41,856	0	0	0	0	41,856	0	0	24
903	Cust. Acctg. - Collection Labor	0	0	0	0	0	0	0	0	23
903	Cust. Acctg. - Collection Expense	528,712	0	0	0	528,712	0	0	0	23
904	Uncollectibles	357,505	0	0	0	357,505	0	0	0	23
	Total Customer Accounting	$1,309,001	$0	$0	$0	$982,475	$326,526	$0	$0	
	Subtotal, Operation & Maintenance Without Power, Chemicals, & Purchased Water	$5,396,613	$695,918	$1,044,021	$2,005,313	$982,475	$369,371	$221,103	$78,412	
	Subtotal O&M % (Percent Code 47)	100.00 %	12.90 %	19.35 %	37.16 %	18.20 %	6.84 %	4.10 %	1.45 %	
	Administrative and General									
920	A & G Salaries	$1,040,620	$134,240	$201,360	$386,694	$189,393	$71,178	$42,665	$15,090	47
920	A & G Expenses	153,470	19,798	29,696	57,029	27,932	10,497	6,292	2,226	47
921	Office Supplies and Other Exp.	613,692	79,166	118,749	228,048	111,692	41,977	25,161	8,899	47
923	Outside Services	1,899,204	244,997	367,496	705,744	345,655	129,906	77,867	27,539	47
928	Regulatory Commission Expense	326,129	42,071	63,106	121,190	59,355	22,307	13,371	4,729	47
930	A & G Miscellaneous Expense	67,097	8,656	12,983	24,933	12,212	4,589	2,751	973	47
931	Rents	357,504	46,118	69,177	132,848	65,066	24,453	14,658	5,184	47
932	Maint. of General Plant - Labor	16,464	2,124	3,186	6,118	2,996	1,126	675	239	47
932	Maint. of General Plant - Other	94,926	12,245	18,368	35,275	17,277	6,493	3,892	1,376	47
924	Property Insurance	60,927	7,744	11,594	31,256	0	1,353	6,026	2,954	27
925	Liability and Other Insurance	239,531	30,899	46,349	89,010	43,595	16,384	9,821	3,473	47
925	Workers Compensation	157,651	22,229	33,359	74,064	7,110	13,716	4,856	2,317	48
926	Employee Pensions & Ben. - Labor	0	0	0	0	0	0	0	0	48
926	Employee Pensions & Ben. - Other	2,563,917	361,512	542,525	1,204,528	115,633	223,061	78,969	37,689	48
	Total Admin. and General	$7,591,132	$1,011,799	$1,517,948	$3,096,737	$997,916	$567,040	$287,004	$112,688	
	Interest on Customer Deposits	9,187	0	0	0	9,187	0	0	0	23
	Total Pro Forma O&M Expense	$14,075,270	$2,626,482	$2,696,210	$5,127,382	$1,989,578	$936,411	$508,107	$191,100	
	Total Pro Forma O&M Expense % (Percent Code 46)	100.00 %	18.66 %	19.16 %	36.43 %	14.13 %	6.65 %	3.61 %	1.36 %	
	Allocation of ERP	789,426	147,307	151,254	287,588	111,546	52,497	28,498	10,736	46
	Total Pro Forma O&M Expense w/ ERI	$14,864,696	$2,773,789	$2,847,464	$5,414,970	$2,101,124	$988,908	$536,605	$201,836	
	Total Labor Expense	$4,268,340	$602,001	$903,117	$2,005,205	$192,389	$371,298	$131,537	$62,793	
	Total Labor Expense %	100.00 %	14.10 %	21.16 %	46.98 %	4.51 %	8.70 %	3.08 %	1.47 %	

Tidewater Utilities, Inc.

Test Period Ending June 30, 2014
Allocation of Pro Forma Depreciation Expense

Acct. No.	Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Allocation Code
	Pro Forma Depreciation Expense									
314	Wells & Springs	$93,697	$37,479	$56,218	$0	$0	$0	$0	$0	21
316	Supply Mains	353	141	212	0	0	0	0	0	21
321	Structures and Improvements	272,814	36,366	54,563	181,885	0	0	0	0	41
323	Other Power Prod. Equip.	21,492	2,865	4,298	14,329	0	0	0	0	41
325	Electric Pumping Equipment	569,640	75,933	113,928	379,779	0	0	0	0	41
326	Diesel Pumping Equipment	162	22	32	108	0	0	0	0	41
331	Structures and Improvements	7,747	3,099	4,648	0	0	0	0	0	21
332	Water Treatment Eq.	217,561	87,024	130,537	0	0	0	0	0	21
342	Dist. Reservoirs & Standpipes	213,257	21,326	31,989	159,942	0	0	0	0	45
343	Trans. & Dist. Mains	589,404	78,568	117,881	392,955	0	0	0	0	44
345	Services	359,540	0	0	0	0	0	359,540	0	25
346	Meters	210,847	0	0	0	0	210,847	0	0	24
347	Meter Installations	15,380	0	0	0	0	15,380	0	0	24
348	Hydrants	104,655	0	0	0	0	0	0	104,655	26
395	Laboratory Equipment	4,822	4,822	0	0	0	0	0	0	20
390	Structures and Improvements	6,176	781	1,168	3,106	0	186	640	295	29
391	Office Furniture & Equipment	359,212	45,440	67,963	180,648	0	10,812	37,214	17,135	29
392	Transportation Equipment	284,313	35,966	53,792	142,981	0	8,558	29,455	13,561	29
394	Tools, Shop, and Garage Equip.	48,498	6,135	9,176	24,390	0	1,460	5,024	2,313	29
396	Power Operated Equipment	28,524	3,608	5,397	14,345	0	859	2,955	1,360	29
397	Communication Equipment	33,544	4,243	6,347	16,869	0	1,010	3,475	1,600	29
398	Other Tangible Equipment	31,175	3,944	5,898	15,678	0	938	3,230	1,487	29
	Pro Forma Depreciation Exp.	$3,472,813	$447,762	$664,047	$1,527,015	$0	$250,050	$441,533	$142,406	
391	Allocation of ERP	0	0	0	0	0	0	0	0	29
	Pro Forma Depr. Exp. w/ ERP	$3,472,813	$447,762	$664,047	$1,527,015	$0	$250,050	$441,533	$142,406	
	Depreciation Exp. %	100.00 %	12.89 %	19.12 %	43.97 %	0.00 %	7.20 %	12.72 %	4.10 %	

Tidewater Utilities, Inc.

Test Period Ending June 30, 2014
Allocation of Pro Forma Revenue Requirement

Description	Total Cost	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Allocation Code
Pro Forma Revenue Requirement									
Operation & Maintenance Expenses	$14,864,696	$2,773,789	$2,847,464	$5,414,970	$2,101,124	$988,908	$536,605	$201,836	
Depeciation & Amortization Expenses	3,472,813	447,762	664,047	1,527,015	0	250,050	441,533	142,406	
Taxes Other Than Income Taxes									
Payroll Taxes	377,294	53,198	79,835	177,253	17,016	32,825	11,621	5,546	48 27
Real Estate Taxes	282,906	35,957	53,837	145,131	0	6,281	27,979	13,721	33
Other Taxes	1,570	205	303	728	2	52	218	62	33
PSC Assessment	92,937	12,138	17,909	43,076	130	3,076	12,918	3,690	
Total Operating Expenses Before Income Taxes	$19,092,216	$3,323,049	$3,663,395	$7,308,173	$2,118,272	$1,281,192	$1,030,874	$367,261	
State Income Taxes	742,378	96,955	143,056	344,092	1,039	24,573	103,191	29,472	33
Federal Income Taxes	2,648,838	345,938	510,431	1,227,736	3,708	87,677	368,188	105,160	33
Utility Operating Income	$8,495,441	$1,109,505	$1,637,071	$3,937,637	$11,894	$281,199	$1,180,866	$337,269	33
Total Revenue Requirement	$30,978,874	$4,875,447	$5,953,953	$12,817,638	$2,134,913	$1,674,641	$2,683,119	$839,162	
Total Revenue Requirement %	100.00 %	15.73 %	19.22 %	41.38 %	6.89 %	5.41 %	8.66 %	2.71 %	
Less Contract Sales	(1,449,693)	(228,037)	(278,631)	(599,883)	(99,884)	(78,428)	(125,543)	(39,287)	
Less Connection Fees	(1,771,520)	(278,660)	(340,486)	(733,055)	(122,058)	(95,839)	(153,414)	(48,008)	
Less Other Operating Revenues	(346,975)	(54,579)	(66,689)	(143,578)	(23,907)	(18,771)	(30,048)	(9,403)	
Net Revenue Required From Rates	$27,410,686	$4,314,171	$5,268,147	$11,341,122	$1,889,064	$1,481,603	$2,374,114	$742,464	
Net Revenue Requirement %	100.00 %	15.74 %	19.22 %	41.37 %	6.89 %	5.41 %	8.66 %	2.71 %	

TIDEWATER UTILITIES, INC.
Explanation of Factors Used in the Allocation to Cost Functions

Allocation Code	Description
20	This code allocates items 100 percent to Base Cost. Base Costs are costs which tend to vary with the quantity of water used and do not contain elements necessary to meet variations in demand.
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. Extra capacity costs are those costs associated with meeting rate of use requirements in excess of the average.
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. Costs allocated by this code are commercial costs associated with serving customers irrespective of the amount of water used or the maximum demand. They include billing, customer accounting, and collection expenses.
24	This code allocates items 100 percent to Customer Cost - Meters. Items allocated by this code are associated with the maintenance and capital charges for customer meters.
25	This code allocates items 100 percent to Customer Cost - Services. Items allocated by this code are associated with the maintenance and capital charges for customer water services.
26	This code allocates items 100 percent to Fire Hydrant Cost.
27	This code allocates items to the Cost Functions in accordance with the composite allocation of the depreciated cost of plant in service.
29	This code allocates items to the Cost Functions in accordance with the composite allocation of the original cost of non-general utility plant. It is used to allocate general plant items.

TIDEWATER UTILITIES, INC.
Explanation of Factors Used in the Allocation to Cost Functions

Allocation Code	Description
33	This code allocates items to the Cost Functions in accordance with the composite allocation of all rate base items.
37	This code allocates items to the Cost Functions in accordance with the composite allocation of transmission and distribution operation expenses.
38	This code allocates items to the Cost Functions in accordance with the composite allocation of transmission and distribution maintenance expenses.
41	This code allocates items to Base Cost, Extra Capacity Cost - Maximum Day, and Extra Capacity Cost - Maximum Hour to recognize the pumping requirements of the system.
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 allocates transmission and distribution mains costs to Base Cost, Extra Capacity Cost - Maximum Day, and Extra Capacity Cost - Maximum Hour functions.
45	This code allocates distribution storage costs to Base Cost, Extra Capacity Cost - Maximum Day, and Extra Capacity Cost - Maximum Hour.
46	This code allocates items to the Cost Functions in accordance with the composite allocation of the total pro forma operation and maintenance expenses.
47	This code allocates certain administrative and general expenses based on the composite allocation of previously allocated functional expenses.
48	This code allocates items to the Cost Functions in accordance with the composite allocation of the total labor expenses

Tidewater Utilities, Inc.

Summary of Functional Cost Allocation Factors

Allocation Code	Description	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Customer Commercial	Customer Meters	Customer Services	Fire Hydrants	Check Total
20	Base Cost	100.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
21	Base/Ex C - Max Day	40.00 %	60.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
22	Base/Ex C - Max Hour	13.33 %	0.00 %	86.67 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
23	Commercial	0.00 %	0.00 %	0.00 %	100.00 %	0.00 %	0.00 %	0.00 %	100.00 %
24	Meters	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %	0.00 %	0.00 %	100.00 %
25	Services	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %	0.00 %	100.00 %
26	Fire Hydrants	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %	100.00 %
27	Depreciated Plant	12.71 %	19.03 %	51.30 %	0.00 %	2.22 %	9.89 %	4.85 %	100.00 %
29	Total Plant in Service	12.65 %	18.92 %	50.29 %	0.00 %	3.01 %	10.36 %	4.77 %	100.00 %
33	Total Rate Base	13.06 %	19.27 %	46.35 %	0.14 %	3.31 %	13.90 %	3.96 %	99.99 %
37	T&D Operation	12.55 %	18.83 %	62.78 %	0.00 %	5.84 %	0.00 %	0.00 %	100.00 %
38	T&D Maintenance	4.16 %	6.24 %	21.87 %	0.00 %	0.00 %	50.00 %	17.73 %	100.00 %
41	Pumping	13.33 %	20.00 %	66.67 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
43	Purchased Power	85.00 %	10.00 %	5.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
44	T&D Mains	13.33 %	20.00 %	66.67 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
45	Distribution Storage	10.00 %	15.00 %	75.00 %	0.00 %	0.00 %	0.00 %	0.00 %	100.00 %
46	Total O&M Expense	18.66 %	19.16 %	36.43 %	14.13 %	6.65 %	3.61 %	1.36 %	100.00 %
47	Admin. & Gen'l Expense	12.90 %	19.35 %	37.16 %	18.20 %	6.84 %	4.10 %	1.45 %	100.00 %
48	Labor Benefits	14.10 %	21.16 %	46.98 %	4.51 %	8.70 %	3.08 %	1.47 %	100.00 %

System Factors:		Base	Max Day	Max Hour
Max Day - Average Day	250 %	40.00 %	60.00 %	
Max Hour - Average Day	750 %	13.33 %		86.67 %
Pumping and T&D Mains	750 %	13.33 %	20.00 %	66.67 %

Tidewater Utilities, Inc.

Customer Class Allocation
Pro Forma Net Revenue Requirement

	Total	General Water	Public Fire	Private Fire	Allocation Code
Base Cost	$4,314,171	$4,271,029	$37,102	$6,040	60
Maximum Day	5,268,147	5,171,739	80,603	15,804	61
Maximum Hour	11,341,122	10,461,051	736,039	144,032	62
Bills/Comm'l	1,889,064	1,870,173	0	18,891	63
Meters	1,481,603	1,481,603	0	0	64
Services	2,374,114	2,244,250	0	129,864	65
Hydrants	742,464.00	0	742,464.00	0	70
Total	$27,410,685	$25,499,845	$1,596,208	$314,631	
	100.00 %	93.03 %	5.82 %	1.15 %	

TIDEWATER UTILITIES, INC.
Explanation of Factors Used in the Allocation to Customer Groups

Allocation Code	Description
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 - Commercial to the customer groups in accordance with the percentage of bills issued to each individual customer group.
64	This code allocates Customer Cost - Meters to the customer groups in accordance with the ratio of the number of equivalent meters in each individual customer group to the total number of equivalent meters for all customer groups.
65	This code allocates Customer Cost - Services to the customer groups on a basis similar to that for the allocation of Customer Cost - Meters.
70	This code allocates items entirely to the public fire service class.

Tidewater Utilities, Inc.

Summary of Customer Class Allocation Factors

Allocation Code	Description	General Water	Public Fire	Private Fire	Check Total
60	Base Cost	99.00 %	0.86 %	0.14 %	100.00 %
61	Maximum Day	98.17 %	1.53 %	0.30 %	100.00 %
62	Maximum Hour	92.24 %	6.49 %	1.27 %	100.00 %
63	Bills/Comm'l	99.00 %	0.00 %	1.00 %	100.00 %
64	Meters	100.00 %	0.00 %	0.00 %	100.00 %
65	Services	94.53 %	0.00 %	5.47 %	100.00 %
70	Hydrants	0.00 %	100.00 %	0.00 %	100.00 %

Tidewater Utilities, Inc.

Customer Class Allocation Factors

	Annual Consumption			Maximum Day				Maximum Hour				Customer Costs		Meters		Services	
Customer Class	(1) Thousand Gallons	(2) MGD	(3) %	(4) % of AvDay	(5) Amount MGD	(6) Excess (5)-(2)	(7) %	(8) % of AvDay	(9) Amount MGD	(10) Excess (9)-(5)	(11) %	(12) Bills	(13) %	(14) Equiv Units	(15) %	(16) Equiv Units	(17) %
General Water	1,719,104	4.710	99.00	250	11.775	7.065	98.17	750	35.325	23.550	92.24	142,388	99.00	43,464.5	100.00	39,794.1	94.53
Public Fire	14,908	0.041	0.86		0.151	0.110	1.53		1.808	1.657	6.49	0	0.00	0.0	0.00	0.0	0.00
Private Fire	2,457	0.007	0.14		0.029	0.022	0.30		0.352	0.323	1.27	1,444	1.00	0.0	0.00	2,300.8	5.47
Grand Total	1,736,469	4.758	100.00		11.955	7.197	100.00		37.485	25.530	100.00	143,832	100.00	43,464.5	100.00	42,094.9	100.00
Allocation Code			60				61				62		63		64		65

Fire Requirements: 1.0% of total water consumption
Fire Demand 1,500 gpm for 2 hours
Fire Requirements split 85.85% Public and 14.15% Private

Tidewater Utilities, Inc.

Development of Equivalent Meters and Equivalent Services

General Water Service:

Meter Size	Number of Meters	Eq. Meter Ratio	Equiv. Meters	Eq. Svc Ratio	Equiv. Services	Number of Bills
5/8"	32,140	1.0	32,140.0	1.0	32,140.0	128,560
3/4"	90	1.5	135.0	1.3	117.0	360
1"	2,921	2.5	7,302.5	2.0	5,842.0	11,684
1 1/2"	95	5.0	475.0	2.7	256.5	380
2"	309	8.0	2,472.0	4.0	1,236.0	1,236
3"	32	15.0	480.0	4.0	128.0	128
4"	4	25.0	100.0	5.3	21.2	16
6"	4	50.0	200.0	8.0	32.0	16
8"	2	80.0	160.0	10.7	21.4	8
Total	35,597		43,464.5		39,794.1	142,388

Private Fire Service:

Service Size	Number of Services	Eq. Meter Ratio	Equiv. Meters	Eq. Svc Ratio	Equiv. Services	Number of Bills
1"	1			1.3	1.3	4
2"	54			2.7	145.8	216
3"	0			4.0	0.0	
4"	132			5.3	699.6	528
6"	151			8.0	1,208.0	604
8"	23			10.7	246.1	92
Total	361				2,300.8	1,444
Grand Totals	35,958		43,464.5		42,094.9	143,832

Tidewater Utilities, Inc.

Fire Service Capacity Units

	Number	Capacity Ratio	Capacity Units	%
Public Hydrants	3,114	1.000	3,114.000	85.85
Private Services				
1"	1	0.056	0.056	
2"	54	0.222	11.988	
3"	0	0.500	0.000	
4"	132	0.888	117.216	
6"	151	2.000	302.000	
8"	23	3.556	81.788	
Total Private	361		513.048	14.15
Grand Total	3,475		3,627.048	100.00

Note:
Capacity ratios are based on the cross-sectional area of public hydrant branches and private fire service connections. The cross-sectional area of a 6" branch is taken as unity. All hydrant branches are considered as 6". Private fire service connections have been given a weighting of twice the public hydrant branches based on the relative fire demands of commercial/industrial/institutional areas as compared to the relative fire demands of residential areas.

Capacity costs include the following functional costs:
Base Costs, Extra Capacity Costs - Maximum Day, and Extra Capacity Costs - Maximum Hour.

Tidewater Utilities, Inc.

Development of Facilities Charges

General Water Functional Costs:

Bills/Commercial	$1,870,173
Meters	1,481,603
Services	2,244,250
Total	$5,596,026
Add as measure of capacity:	
78% of GWS Max Day Costs	
5,171,739 x 0.78 =	4,033,956
Total for Facilities Charge	$9,629,982
Revenues From Present Facilities Charges	$8,323,386
Increase Required ($)	$1,306,596
Increase Required (%)	15.70 %

Quarterly Facilities Charges:

Meter Size	Present Charge	Proposed Charge
5/8"	$52.86	$61.16
3/4"	52.86	61.16
1"	88.11	101.94
1 1/2"	158.64	183.54
2"	246.75	285.48
3"	475.89	550.59
4"	740.28	856.49
6"	1,445.28	1,672.16
8"	2,256.06	2,610.21

Tidewater Utilities, Inc.

Development of Private Protection Fire Charges

Private Fire (Pro Forma Net Revenue Requirement)	$314,631	(1)
Private Fire (at Present Rates)	976,304	
Difference	($661,673)	
Reduction Factor	x 1/3	
Proposed Reduction ($)	($220,558)	
Proposed Reduction (%)	-22.59%	

Private Fire Protection Charges:

Meter Size	Present Charge	Proposed Charge
1"	$28.67	$22.19
2"	$100.35	77.68
4"	$425.28	329.21
6"	$950.90	736.09
8"	$1,691.55	1,309.43

Notes:
(1) Refer to Schedule 6.

Tidewater Utilities, Inc.

Revenues Under Present and Proposed Rates

General Metered Service:
Facilities Charges:

Meter Size	Number of Bills	Present Tariff Rate	Present Revenue	Proposed Tariff Rate	Proposed Revenue	Increase
5/8"	128,560	$52.86	$6,795,682	$61.16	$7,862,729.60	15.702 %
3/4"	360	52.86	19,029.60	61.16	22,017.60	15.702 %
1"	11,684	88.11	1,029,477.24	101.94	1,191,066.96	15.696 %
1 1/2"	380	158.64	60,283.20	183.54	69,745.20	15.696 %
2"	1,236	246.75	304,983.00	285.48	352,853.28	15.696 %
3"	128	475.89	60,913.92	550.59	70,475.52	15.697 %
4"	16	740.28	11,844.48	856.49	13,703.84	15.698 %
6"	16	1,445.28	23,124.48	1,672.16	26,754.56	15.698 %
8"	8	2,256.06	18,048.48	2,610.21	20,881.68	15.698 %
Total	142,388		$8,323,386.00		$9,630,228.24	15.701 %
Water Usage Charges:						
Residential Customers:						
0 - 5 Thousand Gallons	520,819	$7.9469	$4,138,896.51	$9.1389	$4,759,712.76	15.000 %
5.1 - 20 ThousandGallons	633,807	8.0493	5,101,702.69	9.3790	5,944,475.85	16.519 %
All Over 20 Thousand Gallons	267,178	8.1517	2,177,954.90	9.6254	2,571,695.12	18.078 %
Total Residential	1,421,804		$11,418,554.10		$13,275,883.73	16.266 %
Apartments & Commercial:						
All Consumption	164,917	$8.1519	$1,344,386.89	$9.3709	$1,545,420.72	14.954 %
Total Water Usage Charges			$12,762,940.99		$14,821,304.45	16.128 %
Total General Metered Service			$21,086,326.99		$24,451,532.69	15.959 %

Public Fire Protection:

	Number of Bills	Present Tariff Rate	Present Revenue	Proposed Tariff Rate	Proposed Revenue	Increase
	123,508	$15.09	$1,863,735.72	$17.84	$2,203,382.72	18.255 %

Tidewater Utilities, Inc.

Revenues Under Present and Proposed Rates

Private Fire Protection:

Service Size	Number of Bills	Present Tariff Rate	Present Revenue	Proposed Tariff Rate	Proposed Revenue	Increase
1"	4	$28.67	$114.68	$22.19	$88.76	-22.602 %
2"	216	100.35	21,675.60	77.68	16,778.88	-22.591 %
4"	528	425.28	224,547.84	329.21	173,822.88	-22.590 %
6"	604	950.90	574,343.60	736.09	444,598.36	-22.590 %
8"	92	1,691.55	155,622.60	1,309.43	120,467.56	-22.590 %
Total	1,444		$976,304.32		$755,756.44	-22.590 %

Connection Fees:

Meter Size	Number of Bills	Present Tariff Rate	Present Revenue	Proposed Tariff Rate	Proposed Revenue	Increase
5/8" & 3/4"	1,043	$956.45	$997,577.35	$1,099.47	$1,146,747.21	14.953 %
1"	375	1,350.98	506,617.50	1,553.00	582,375.00	14.954 %
1 1/2"	2	2,379.19	4,758.38	2,734.96	5,469.92	14.953 %
2"	1	2,690.03	2,690.03	3,092.28	3,092.28	14.953 %
3"	0	8,608.10	0.00	9,895.31	0.00	
4"	0	10,126.47	0.00	11,640.73	0.00	
6"	2	14,716.93	29,433.86	16,917.63	33,835.26	14.954 %
8"	0	22,335.03	0.00	25,674.90	0.00	
Total	1,423		$1,541,077.12		$1,771,519.67	14.953 %

Other Revenue:			$346,975.00		$346,975.00	0.000 %

Contract Sales

Entity	Thousand Gallons	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Increase
Dover AFB	87,261	$11.8718	$1,035,945.14	$13.6470	$1,190,850.87	14.953 %
So. Shores	19,598	5.4335	106,485.73	6.2460	122,409.11	14.954 %
Oceanview	25,524	4.6500	118,686.60	5.3453	136,433.44	14.953 %
Total	132,383		$1,261,117.47		$1,449,693.41	14.953 %

Grand Total Revenue			$27,075,536.62		$30,978,859.93	14.416 %
Total Requested Revenue					$30,978,874.00	
Difference					($14.07)	

Tidewater Utilities, Inc.

Comparison of Charges Under Present and Proposed Rates
Residential Customers

5/8" and 3/4" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 52.86	$ 61.16	$ 8.30	15.7
1	60.81	70.30	9.49	15.6
2	68.75	79.44	10.69	15.5
3	76.70	88.58	11.88	15.5
4	84.65	97.72	13.07	15.4
5	92.59	106.85	14.26	15.4
6	100.64	116.23	15.59	15.5
7	108.69	125.61	16.92	15.6
8	116.74	134.99	18.25	15.6
9	124.79	144.37	19.58	15.7
10	132.84	153.75	20.91	15.7
11	140.89	163.12	22.23	15.8
12	148.94	172.50	23.56	15.8
13	156.98	181.88	24.90	15.9
14	165.03	191.26	26.23	15.9
15	173.08	200.64	27.56	15.9
16	181.13	210.02	28.89	15.9
17	189.18	219.40	30.22	16.0
18	197.23	228.78	31.55	16.0
19	205.28	238.16	32.88	16.0
20	213.33	247.54	34.21	16.0
21	221.48	257.17	35.69	16.1
22	229.63	266.79	37.16	16.2
23	237.79	276.42	38.63	16.2
24	245.94	286.04	40.10	16.3
25	254.09	295.67	41.58	16.4
26	262.24	305.29	43.05	16.4
27	270.39	314.92	44.53	16.5
28	278.54	324.54	46.00	16.5
29	286.70	334.17	47.47	16.6
30	294.85	343.79	48.94	16.6
31	303.00	353.42	50.42	16.6
32	311.15	363.04	51.89	16.7
33	319.30	372.67	53.37	16.7
34	327.45	382.30	54.85	16.7
35	335.61	391.92	56.31	16.8
36	343.76	401.55	57.79	16.8
37	351.91	411.17	59.26	16.8
38	360.06	420.80	60.74	16.9
39	368.21	430.42	62.21	16.9
40	376.36	440.05	63.69	16.9
41	384.52	449.67	65.15	16.9
42	392.67	459.30	66.63	17.0
43	400.82	468.92	68.10	17.0
44	408.97	478.55	69.58	17.0
45	417.12	488.18	71.06	17.0
46	425.27	497.80	72.53	17.1
47	433.43	507.43	74.00	17.1
48	441.58	517.05	75.47	17.1
49	449.73	526.68	76.95	17.1
50	457.88	536.30	78.42	17.1
51	466.03	545.93	79.90	17.1
52	474.18	555.55	81.37	17.2
53	482.34	565.18	82.84	17.2
54	490.49	574.80	84.31	17.2
55	498.64	584.43	85.79	17.2
56	506.79	594.05	87.26	17.2
57	514.94	603.68	88.74	17.2
58	523.09	613.31	90.22	17.2
59	531.25	622.93	91.68	17.3
60	539.40	632.56	93.16	17.3
70	620.92	728.81	107.89	17.4
80	702.43	825.06	122.63	17.5
90	783.95	921.32	137.37	17.5
100	865.47	1,017.57	152.10	17.6

1" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 88.11	$ 101.94	$ 13.83	15.7
1	96.06	111.08	15.02	15.6
2	104.00	120.22	16.22	15.6
3	111.95	129.36	17.41	15.6
4	119.90	138.50	18.60	15.5
5	127.84	147.63	19.79	15.5
6	135.89	157.01	21.12	15.5
7	143.94	166.39	22.45	15.6
8	151.99	175.77	23.78	15.6
9	160.04	185.15	25.11	15.7
10	168.09	194.53	26.44	15.7
11	176.14	203.90	27.76	15.8
12	184.19	213.28	29.09	15.8
13	192.23	222.66	30.43	15.8
14	200.28	232.04	31.76	15.9
15	208.33	241.42	33.09	15.9
16	216.38	250.80	34.42	15.9
17	224.43	260.18	35.75	15.9
18	232.48	269.56	37.08	15.9
19	240.53	278.94	38.41	16.0
20	248.58	288.32	39.74	16.0
21	256.73	297.95	41.22	16.1
22	264.88	307.57	42.69	16.1
23	273.04	317.20	44.16	16.2
24	281.19	326.82	45.63	16.2
25	289.34	336.45	47.11	16.3
26	297.49	346.07	48.58	16.3
27	305.64	355.70	50.06	16.4
28	313.79	365.32	51.53	16.4
29	321.95	374.95	53.00	16.5
30	330.10	384.57	54.47	16.5
31	338.25	394.20	55.95	16.5
32	346.40	403.82	57.42	16.6
33	354.55	413.45	58.90	16.6
34	362.70	423.08	60.38	16.6
35	370.86	432.70	61.84	16.7
36	379.01	442.33	63.32	16.7
37	387.16	451.95	64.79	16.7
38	395.31	461.58	66.27	16.8
39	403.46	471.20	67.74	16.8
40	411.61	480.83	69.22	16.8
41	419.77	490.45	70.68	16.8
42	427.92	500.08	72.16	16.9
43	436.07	509.70	73.63	16.9
44	444.22	519.33	75.11	16.9
45	452.37	528.96	76.59	16.9
46	460.52	538.58	78.06	16.9
47	468.68	548.21	79.53	17.0
48	476.83	557.83	81.00	17.0
49	484.98	567.46	82.48	17.0
50	493.13	577.08	83.95	17.0
55	533.89	625.21	91.32	17.1
60	574.65	673.34	98.69	17.2
65	615.41	721.46	106.05	17.2
70	656.17	769.59	113.42	17.3
75	696.92	817.72	120.80	17.3
80	737.68	865.84	128.16	17.4
85	778.44	913.97	135.53	17.4
90	819.20	962.10	142.90	17.4
95	859.96	1,010.23	150.27	17.5
100	900.72	1,058.35	157.63	17.5
110	982.23	1,154.61	172.38	17.5
120	1,063.75	1,250.86	187.11	17.6
130	1,145.27	1,347.11	201.84	17.6
140	1,226.78	1,443.37	216.59	17.7

Tidewater Utilities, Inc.
Comparison of Charges Under Present and Proposed Rates
Residential Customers

1 1/2" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 158.64	$ 183.54	$ 24.90	15.7
1	166.79	192.91	26.12	15.7
2	174.94	202.28	27.34	15.6
3	183.10	211.65	28.55	15.6
4	191.25	221.02	29.77	15.6
5	199.40	230.39	30.99	15.5
6	207.55	239.77	32.22	15.5
7	215.70	249.14	33.44	15.5
8	223.86	258.51	34.65	15.5
9	232.01	267.88	35.87	15.5
10	240.16	277.25	37.09	15.4
11	248.31	286.62	38.31	15.4
12	256.46	295.99	39.53	15.4
13	264.61	305.36	40.75	15.4
14	272.77	314.73	41.96	15.4
15	280.92	324.10	43.18	15.4
16	289.07	333.47	44.40	15.4
17	297.22	342.85	45.63	15.4
18	305.37	352.22	46.85	15.3
19	313.53	361.59	48.06	15.3
20	321.68	370.96	49.28	15.3
25	362.44	417.81	55.37	15.3
30	403.20	464.67	61.47	15.2
35	443.96	511.52	67.56	15.2
40	484.72	558.38	73.66	15.2
45	525.48	605.23	79.75	15.2
50	566.24	652.09	85.85	15.2
55	606.99	698.94	91.95	15.1
60	647.75	745.79	98.04	15.1
65	688.51	792.65	104.14	15.1
70	729.27	839.50	110.23	15.1
75	770.03	886.36	116.33	15.1
80	810.79	933.21	122.42	15.1
85	851.55	980.07	128.52	15.1
90	892.31	1,026.92	134.61	15.1
95	933.07	1,073.78	140.71	15.1
100	973.83	1,120.63	146.80	15.1
110	1,055.35	1,214.34	158.99	15.1
120	1,136.87	1,308.05	171.18	15.1
130	1,218.39	1,401.76	183.37	15.1
140	1,299.91	1,495.47	195.56	15.0
150	1,381.43	1,589.18	207.75	15.0
160	1,462.94	1,682.88	219.94	15.0
170	1,544.46	1,776.59	232.13	15.0
180	1,625.98	1,870.30	244.32	15.0
190	1,707.50	1,964.01	256.51	15.0
200	1,789.02	2,057.72	268.70	15.0
210	1,870.54	2,151.43	280.89	15.0
220	1,952.06	2,245.14	293.08	15.0
230	2,033.58	2,338.85	305.27	15.0
240	2,115.10	2,432.56	317.46	15.0
250	2,196.62	2,526.27	329.65	15.0
260	2,278.13	2,619.97	341.84	15.0
270	2,359.65	2,713.68	354.03	15.0
280	2,441.17	2,807.39	366.22	15.0
290	2,522.69	2,901.10	378.41	15.0
300	2,604.21	2,994.81	390.60	15.0
350	3,011.81	3,463.36	451.55	15.0
400	3,419.40	3,931.90	512.50	15.0
450	3,827.00	4,400.45	573.45	15.0
500	4,234.59	4,868.99	634.40	15.0
550	4,642.19	5,337.54	695.35	15.0
600	5,049.78	5,806.08	756.30	15.0
650	5,457.38	6,274.63	817.25	15.0
700	5,864.97	6,743.17	878.20	15.0

2" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 246.75	$ 285.48	$ 38.73	15.7
1	254.90	294.85	39.95	15.7
2	263.05	304.22	41.17	15.7
3	271.21	313.59	42.38	15.6
4	279.36	322.96	43.60	15.6
5	287.51	332.33	44.82	15.6
6	295.66	341.71	46.05	15.6
7	303.81	351.08	47.27	15.6
8	311.97	360.45	48.48	15.5
9	320.12	369.82	49.70	15.5
10	328.27	379.19	50.92	15.5
11	336.42	388.56	52.14	15.5
12	344.57	397.93	53.36	15.5
13	352.72	407.30	54.58	15.5
14	360.88	416.67	55.79	15.5
15	369.03	426.04	57.01	15.4
16	377.18	435.41	58.23	15.4
17	385.33	444.79	59.46	15.4
18	393.48	454.16	60.68	15.4
19	401.64	463.53	61.89	15.4
20	409.79	472.90	63.11	15.4
25	450.55	519.75	69.20	15.4
30	491.31	566.61	75.30	15.3
35	532.07	613.46	81.39	15.3
40	572.83	660.32	87.49	15.3
45	613.59	707.17	93.58	15.3
50	654.35	754.03	99.68	15.2
55	695.10	800.88	105.78	15.2
60	735.86	847.73	111.87	15.2
65	776.62	894.59	117.97	15.2
70	817.38	941.44	124.06	15.2
75	858.14	988.30	130.16	15.2
80	898.90	1,035.15	136.25	15.2
85	939.66	1,082.01	142.35	15.1
90	980.42	1,128.86	148.44	15.1
95	1,021.18	1,175.72	154.54	15.1
100	1,061.94	1,222.57	160.63	15.1
110	1,143.46	1,316.28	172.82	15.1
120	1,224.98	1,409.99	185.01	15.1
130	1,306.50	1,503.70	197.20	15.1
140	1,388.02	1,597.41	209.39	15.1
150	1,469.54	1,691.12	221.58	15.1
160	1,551.05	1,784.82	233.77	15.1
170	1,632.57	1,878.53	245.96	15.1
180	1,714.09	1,972.24	258.15	15.1
190	1,795.61	2,065.95	270.34	15.1
200	1,877.13	2,159.66	282.53	15.1
210	1,958.65	2,253.37	294.72	15.0
220	2,040.17	2,347.08	306.91	15.0
230	2,121.69	2,440.79	319.10	15.0
240	2,203.21	2,534.50	331.29	15.0
250	2,284.73	2,628.21	343.48	15.0
260	2,366.24	2,721.91	355.67	15.0
270	2,447.76	2,815.62	367.86	15.0
280	2,529.28	2,909.33	380.05	15.0
290	2,610.80	3,003.04	392.24	15.0
300	2,692.32	3,096.75	404.43	15.0
350	3,099.92	3,565.30	465.38	15.0
400	3,507.51	4,033.84	526.33	15.0
450	3,915.11	4,502.39	587.28	15.0
500	4,322.70	4,970.93	648.23	15.0
550	4,730.30	5,439.48	709.18	15.0
600	5,137.89	5,908.02	770.13	15.0
650	5,545.49	6,376.57	831.08	15.0
700	5,953.08	6,845.11	892.03	15.0

Tidewater Utilities, Inc.
Comparison of Charges Under Present and Proposed Rates
Residential Customers

3" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 475.89	$ 550.59	$ 74.70	15.7
1	484.04	559.96	75.92	15.7
2	492.19	569.33	77.14	15.7
3	500.35	578.70	78.35	15.7
4	508.50	588.07	79.57	15.6
5	516.65	597.44	80.79	15.6
6	524.80	606.82	82.02	15.6
7	532.95	616.19	83.24	15.6
8	541.11	625.56	84.45	15.6
9	549.26	634.93	85.67	15.6
10	557.41	644.30	86.89	15.6
20	638.93	738.01	99.08	15.5
30	720.45	831.72	111.27	15.4
40	801.97	925.43	123.46	15.4
50	883.49	1,019.14	135.65	15.4
60	965.00	1,112.84	147.84	15.3
70	1,046.52	1,206.55	160.03	15.3
80	1,128.04	1,300.26	172.22	15.3
90	1,209.56	1,393.97	184.41	15.2
100	1,291.08	1,487.68	196.60	15.2
125	1,494.88	1,721.95	227.07	15.2
150	1,698.68	1,956.23	257.55	15.2
175	1,902.47	2,190.50	288.03	15.1
200	2,106.27	2,424.77	318.50	15.1
225	2,310.07	2,659.04	348.97	15.1
250	2,513.87	2,893.32	379.45	15.1
275	2,717.66	3,127.59	409.93	15.1
300	2,921.46	3,361.86	440.40	15.1
325	3,125.26	3,596.13	470.87	15.1
350	3,329.06	3,830.41	501.35	15.1
375	3,532.85	4,064.68	531.83	15.1
400	3,736.65	4,298.95	562.30	15.0
425	3,940.45	4,533.22	592.77	15.0
450	4,144.25	4,767.50	623.25	15.0
475	4,348.04	5,001.77	653.73	15.0
500	4,551.84	5,236.04	684.20	15.0
550	4,959.44	5,704.59	745.15	15.0
600	5,367.03	6,173.13	806.10	15.0
650	5,774.63	6,641.68	867.05	15.0
700	6,182.22	7,110.22	928.00	15.0
750	6,589.82	7,578.77	988.95	15.0
800	6,997.41	8,047.31	1,049.90	15.0
850	7,405.01	8,515.86	1,110.85	15.0
900	7,812.60	8,984.40	1,171.80	15.0
950	8,220.20	9,452.95	1,232.75	15.0
1000	8,627.79	9,921.49	1,293.70	15.0
1100	9,442.98	10,858.58	1,415.60	15.0
1200	10,258.17	11,795.67	1,537.50	15.0
1300	11,073.36	12,732.76	1,659.40	15.0
1400	11,888.55	13,669.85	1,781.30	15.0
1500	12,703.74	14,606.94	1,903.20	15.0
1600	13,518.93	15,544.03	2,025.10	15.0
1700	14,334.12	16,481.12	2,147.00	15.0
1800	15,149.31	17,418.21	2,268.90	15.0
1900	15,964.50	18,355.30	2,390.80	15.0
2000	16,779.69	19,292.39	2,512.70	15.0
2100	17,594.88	20,229.48	2,634.60	15.0
2200	18,410.07	21,166.57	2,756.50	15.0
2300	19,225.26	22,103.66	2,878.40	15.0
2400	20,040.45	23,040.75	3,000.30	15.0
2500	20,855.64	23,977.84	3,122.20	15.0
2600	21,670.83	24,914.93	3,244.10	15.0
2700	22,486.02	25,852.02	3,366.00	15.0
2800	23,301.21	26,789.11	3,487.90	15.0
2900	24,116.40	27,726.20	3,609.80	15.0

4" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 740.28	$ 856.49	$ 116.21	15.7
1	748.43	865.86	117.43	15.7
2	756.58	875.23	118.65	15.7
3	764.74	884.60	119.86	15.7
4	772.89	893.97	121.08	15.7
5	781.04	903.34	122.30	15.7
6	789.19	912.72	123.53	15.7
7	797.34	922.09	124.75	15.6
8	805.50	931.46	125.96	15.6
9	813.65	940.83	127.18	15.6
10	821.80	950.20	128.40	15.6
20	903.32	1,043.91	140.59	15.6
30	984.84	1,137.62	152.78	15.5
40	1,066.36	1,231.33	164.97	15.5
50	1,147.88	1,325.04	177.16	15.4
60	1,229.39	1,418.74	189.35	15.4
70	1,310.91	1,512.45	201.54	15.4
80	1,392.43	1,606.16	213.73	15.3
90	1,473.95	1,699.87	225.92	15.3
100	1,555.47	1,793.58	238.11	15.3
125	1,759.27	2,027.85	268.58	15.3
150	1,963.07	2,262.13	299.06	15.2
175	2,166.86	2,496.40	329.54	15.2
200	2,370.66	2,730.67	360.01	15.2
225	2,574.46	2,964.94	390.48	15.2
250	2,778.26	3,199.22	420.96	15.2
275	2,982.05	3,433.49	451.44	15.1
300	3,185.85	3,667.76	481.91	15.1
325	3,389.65	3,902.03	512.38	15.1
350	3,593.45	4,136.31	542.86	15.1
375	3,797.24	4,370.58	573.34	15.1
400	4,001.04	4,604.85	603.81	15.1
425	4,204.84	4,839.12	634.28	15.1
450	4,408.64	5,073.40	664.76	15.1
475	4,612.43	5,307.67	695.24	15.1
500	4,816.23	5,541.94	725.71	15.1
550	5,223.83	6,010.49	786.66	15.1
600	5,631.42	6,479.03	847.61	15.1
650	6,039.02	6,947.58	908.56	15.0
700	6,446.61	7,416.12	969.51	15.0
750	6,854.21	7,884.67	1,030.46	15.0
800	7,261.80	8,353.21	1,091.41	15.0
850	7,669.40	8,821.76	1,152.36	15.0
900	8,076.99	9,290.30	1,213.31	15.0
950	8,484.59	9,758.85	1,274.26	15.0
1000	8,892.18	10,227.39	1,335.21	15.0
1100	9,707.37	11,164.48	1,457.11	15.0
1200	10,522.56	12,101.57	1,579.01	15.0
1300	11,337.75	13,038.66	1,700.91	15.0
1400	12,152.94	13,975.75	1,822.81	15.0
1500	12,968.13	14,912.84	1,944.71	15.0
1600	13,783.32	15,849.93	2,066.61	15.0
1700	14,598.51	16,787.02	2,188.51	15.0
1800	15,413.70	17,724.11	2,310.41	15.0
1900	16,228.89	18,661.20	2,432.31	15.0
2000	17,044.08	19,598.29	2,554.21	15.0
2100	17,859.27	20,535.38	2,676.11	15.0
2200	18,674.46	21,472.47	2,798.01	15.0
2300	19,489.65	22,409.56	2,919.91	15.0
2400	20,304.84	23,346.65	3,041.81	15.0
2500	21,120.03	24,283.74	3,163.71	15.0
2600	21,935.22	25,220.83	3,285.61	15.0
2700	22,750.41	26,157.92	3,407.51	15.0
2800	23,565.60	27,095.01	3,529.41	15.0
2900	24,380.79	28,032.10	3,651.31	15.0

Tidewater Utilities, Inc.

Comparison of Charges Under Present and Proposed Rates
Apartment & Commercial Customers

5/8" and 3/4" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 52.86	$ 61.16	$ 8.30	15.7
1	61.01	70.53	9.52	15.6
2	69.16	79.90	10.74	15.5
3	77.32	89.27	11.95	15.5
4	85.47	98.64	13.17	15.4
5	93.62	108.01	14.39	15.4
6	101.77	117.39	15.62	15.3
7	109.92	126.76	16.84	15.3
8	118.08	136.13	18.05	15.3
9	126.23	145.50	19.27	15.3
10	134.38	154.87	20.49	15.2
11	142.53	164.24	21.71	15.2
12	150.68	173.61	22.93	15.2
13	158.83	182.98	24.15	15.2
14	166.99	192.35	25.36	15.2
15	175.14	201.72	26.58	15.2
16	183.29	211.09	27.80	15.2
17	191.44	220.47	29.03	15.2
18	199.59	229.84	30.25	15.2
19	207.75	239.21	31.46	15.1
20	215.90	248.58	32.68	15.1
21	224.05	257.95	33.90	15.1
22	232.20	267.32	35.12	15.1
23	240.35	276.69	36.34	15.1
24	248.51	286.06	37.55	15.1
25	256.66	295.43	38.77	15.1
26	264.81	304.80	39.99	15.1
27	272.96	314.17	41.21	15.1
28	281.11	323.55	42.44	15.1
29	289.27	332.92	43.65	15.1
30	297.42	342.29	44.87	15.1
31	305.57	351.66	46.09	15.1
32	313.72	361.03	47.31	15.1
33	321.87	370.40	48.53	15.1
34	330.02	379.77	49.75	15.1
35	338.18	389.14	50.96	15.1
36	346.33	398.51	52.18	15.1
37	354.48	407.88	53.40	15.1
38	362.63	417.25	54.62	15.1
39	370.78	426.63	55.85	15.1
40	378.94	436.00	57.06	15.1
41	387.09	445.37	58.28	15.1
42	395.24	454.74	59.50	15.1
43	403.39	464.11	60.72	15.1
44	411.54	473.48	61.94	15.1
45	419.70	482.85	63.15	15.0
46	427.85	492.22	64.37	15.0
47	436.00	501.59	65.59	15.0
48	444.15	510.96	66.81	15.0
49	452.30	520.33	68.03	15.0
50	460.46	529.71	69.25	15.0
51	468.61	539.08	70.47	15.0
52	476.76	548.45	71.69	15.0
53	484.91	557.82	72.91	15.0
54	493.06	567.19	74.13	15.0
55	501.21	576.56	75.35	15.0
56	509.37	585.93	76.56	15.0
57	517.52	595.30	77.78	15.0
58	525.67	604.67	79.00	15.0
59	533.82	614.04	80.22	15.0
60	541.97	623.41	81.44	15.0
70	623.49	717.12	93.63	15.0
80	705.01	810.83	105.82	15.0
90	786.53	904.54	118.01	15.0
100	868.05	998.25	130.20	15.0

1" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 88.11	$ 101.94	$ 13.83	15.7
1	96.26	111.31	15.05	15.6
2	104.41	120.68	16.27	15.6
3	112.57	130.05	17.48	15.5
4	120.72	139.42	18.70	15.5
5	128.87	148.79	19.92	15.5
6	137.02	158.17	21.15	15.4
7	145.17	167.54	22.37	15.4
8	153.33	176.91	23.58	15.4
9	161.48	186.28	24.80	15.4
10	169.63	195.65	26.02	15.3
11	177.78	205.02	27.24	15.3
12	185.93	214.39	28.46	15.3
13	194.08	223.76	29.68	15.3
14	202.24	233.13	30.89	15.3
15	210.39	242.50	32.11	15.3
16	218.54	251.87	33.33	15.3
17	226.69	261.25	34.56	15.2
18	234.84	270.62	35.78	15.2
19	243.00	279.99	36.99	15.2
20	251.15	289.36	38.21	15.2
21	259.30	298.73	39.43	15.2
22	267.45	308.10	40.65	15.2
23	275.60	317.47	41.87	15.2
24	283.76	326.84	43.08	15.2
25	291.91	336.21	44.30	15.2
26	300.06	345.58	45.52	15.2
27	308.21	354.95	46.74	15.2
28	316.36	364.33	47.97	15.2
29	324.52	373.70	49.18	15.2
30	332.67	383.07	50.40	15.2
31	340.82	392.44	51.62	15.1
32	348.97	401.81	52.84	15.1
33	357.12	411.18	54.06	15.1
34	365.27	420.55	55.28	15.1
35	373.43	429.92	56.49	15.1
36	381.58	439.29	57.71	15.1
37	389.73	448.66	58.93	15.1
38	397.88	458.03	60.15	15.1
39	406.03	467.41	61.38	15.1
40	414.19	476.78	62.59	15.1
41	422.34	486.15	63.81	15.1
42	430.49	495.52	65.03	15.1
43	438.64	504.89	66.25	15.1
44	446.79	514.26	67.47	15.1
45	454.95	523.63	68.68	15.1
46	463.10	533.00	69.90	15.1
47	471.25	542.37	71.12	15.1
48	479.40	551.74	72.34	15.1
49	487.55	561.11	73.56	15.1
50	495.71	570.49	74.78	15.1
55	536.46	617.34	80.88	15.1
60	577.22	664.19	86.97	15.1
65	617.98	711.05	93.07	15.1
70	658.74	757.90	99.16	15.1
75	699.50	804.76	105.26	15.0
80	740.26	851.61	111.35	15.0
85	781.02	898.47	117.45	15.0
90	821.78	945.32	123.54	15.0
95	862.54	992.18	129.64	15.0
100	903.30	1,039.03	135.73	15.0
110	984.82	1,132.74	147.92	15.0
120	1,066.34	1,226.45	160.11	15.0
130	1,147.86	1,320.16	172.30	15.0
140	1,229.38	1,413.87	184.49	15.0

Tidewater Utilities, Inc.

Comparison of Charges Under Present and Proposed Rates
Apartment & Commercial Customers

1 1/2" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 158.64	$ 183.54	$ 24.90	15.7
1	166.79	192.91	26.12	15.7
2	174.94	202.28	27.34	15.6
3	183.10	211.65	28.55	15.6
4	191.25	221.02	29.77	15.6
5	199.40	230.39	30.99	15.5
6	207.55	239.77	32.22	15.5
7	215.70	249.14	33.44	15.5
8	223.86	258.51	34.65	15.5
9	232.01	267.88	35.87	15.5
10	240.16	277.25	37.09	15.4
11	248.31	286.62	38.31	15.4
12	256.46	295.99	39.53	15.4
13	264.61	305.36	40.75	15.4
14	272.77	314.73	41.96	15.4
15	280.92	324.10	43.18	15.4
16	289.07	333.47	44.40	15.4
17	297.22	342.85	45.63	15.4
18	305.37	352.22	46.85	15.3
19	313.53	361.59	48.06	15.3
20	321.68	370.96	49.28	15.3
25	362.44	417.81	55.37	15.3
30	403.20	464.67	61.47	15.2
35	443.96	511.52	67.56	15.2
40	484.72	558.38	73.66	15.2
45	525.48	605.23	79.75	15.2
50	566.24	652.09	85.85	15.2
55	606.99	698.94	91.95	15.1
60	647.75	745.79	98.04	15.1
65	688.51	792.65	104.14	15.1
70	729.27	839.50	110.23	15.1
75	770.03	886.36	116.33	15.1
80	810.79	933.21	122.42	15.1
85	851.55	980.07	128.52	15.1
90	892.31	1,026.92	134.61	15.1
95	933.07	1,073.78	140.71	15.1
100	973.83	1,120.63	146.80	15.1
110	1,055.35	1,214.34	158.99	15.1
120	1,136.87	1,308.05	171.18	15.1
130	1,218.39	1,401.76	183.37	15.1
140	1,299.91	1,495.47	195.56	15.0
150	1,381.43	1,589.18	207.75	15.0
160	1,462.94	1,682.88	219.94	15.0
170	1,544.46	1,776.59	232.13	15.0
180	1,625.98	1,870.30	244.32	15.0
190	1,707.50	1,964.01	256.51	15.0
200	1,789.02	2,057.72	268.70	15.0
210	1,870.54	2,151.43	280.89	15.0
220	1,952.06	2,245.14	293.08	15.0
230	2,033.58	2,338.85	305.27	15.0
240	2,115.10	2,432.56	317.46	15.0
250	2,196.62	2,526.27	329.65	15.0
260	2,278.13	2,619.97	341.84	15.0
270	2,359.65	2,713.68	354.03	15.0
280	2,441.17	2,807.39	366.22	15.0
290	2,522.69	2,901.10	378.41	15.0
300	2,604.21	2,994.81	390.60	15.0
350	3,011.81	3,463.36	451.55	15.0
400	3,419.40	3,931.90	512.50	15.0
450	3,827.00	4,400.45	573.45	15.0
500	4,234.59	4,868.99	634.40	15.0
550	4,642.19	5,337.54	695.35	15.0
600	5,049.78	5,806.08	756.30	15.0
650	5,457.38	6,274.63	817.25	15.0
700	5,864.97	6,743.17	878.20	15.0

2" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 246.75	$ 285.48	$ 38.73	15.7
1	254.90	294.85	39.95	15.7
2	263.05	304.22	41.17	15.7
3	271.21	313.59	42.38	15.6
4	279.36	322.96	43.60	15.6
5	287.51	332.33	44.82	15.6
6	295.66	341.71	46.05	15.6
7	303.81	351.08	47.27	15.6
8	311.97	360.45	48.48	15.5
9	320.12	369.82	49.70	15.5
10	328.27	379.19	50.92	15.5
11	336.42	388.56	52.14	15.5
12	344.57	397.93	53.36	15.5
13	352.72	407.30	54.58	15.5
14	360.88	416.67	55.79	15.5
15	369.03	426.04	57.01	15.4
16	377.18	435.41	58.23	15.4
17	385.33	444.79	59.46	15.4
18	393.48	454.16	60.68	15.4
19	401.64	463.53	61.89	15.4
20	409.79	472.90	63.11	15.4
25	450.55	519.75	69.20	15.4
30	491.31	566.61	75.30	15.3
35	532.07	613.46	81.39	15.3
40	572.83	660.32	87.49	15.3
45	613.59	707.17	93.58	15.3
50	654.35	754.03	99.68	15.2
55	695.10	800.88	105.78	15.2
60	735.86	847.73	111.87	15.2
65	776.62	894.59	117.97	15.2
70	817.38	941.44	124.06	15.2
75	858.14	988.30	130.16	15.2
80	898.90	1,035.15	136.25	15.2
85	939.66	1,082.01	142.35	15.1
90	980.42	1,128.86	148.44	15.1
95	1,021.18	1,175.72	154.54	15.1
100	1,061.94	1,222.57	160.63	15.1
110	1,143.46	1,316.28	172.82	15.1
120	1,224.98	1,409.99	185.01	15.1
130	1,306.50	1,503.70	197.20	15.1
140	1,388.02	1,597.41	209.39	15.1
150	1,469.54	1,691.12	221.58	15.1
160	1,551.05	1,784.82	233.77	15.1
170	1,632.57	1,878.53	245.96	15.1
180	1,714.09	1,972.24	258.15	15.1
190	1,795.61	2,065.95	270.34	15.1
200	1,877.13	2,159.66	282.53	15.1
210	1,958.65	2,253.37	294.72	15.0
220	2,040.17	2,347.08	306.91	15.0
230	2,121.69	2,440.79	319.10	15.0
240	2,203.21	2,534.50	331.29	15.0
250	2,284.73	2,628.21	343.48	15.0
260	2,366.24	2,721.91	355.67	15.0
270	2,447.76	2,815.62	367.86	15.0
280	2,529.28	2,909.33	380.05	15.0
290	2,610.80	3,003.04	392.24	15.0
300	2,692.32	3,096.75	404.43	15.0
350	3,099.92	3,565.30	465.38	15.0
400	3,507.51	4,033.84	526.33	15.0
450	3,915.11	4,502.39	587.28	15.0
500	4,322.70	4,970.93	648.23	15.0
550	4,730.30	5,439.48	709.18	15.0
600	5,137.89	5,908.02	770.13	15.0
650	5,545.49	6,376.57	831.08	15.0
700	5,953.08	6,845.11	892.03	15.0

Tidewater Utilities, Inc.

Comparison of Charges Under Present and Proposed Rates
Apartment & Commercial Customers

3" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 475.89	$ 550.59	$ 74.70	15.7
1	484.04	559.96	75.92	15.7
2	492.19	569.33	77.14	15.7
3	500.35	578.70	78.35	15.7
4	508.50	588.07	79.57	15.6
5	516.65	597.44	80.79	15.6
6	524.80	606.82	82.02	15.6
7	532.95	616.19	83.24	15.6
8	541.11	625.56	84.45	15.6
9	549.26	634.93	85.67	15.6
10	557.41	644.30	86.89	15.6
20	638.93	738.01	99.08	15.5
30	720.45	831.72	111.27	15.4
40	801.97	925.43	123.46	15.4
50	883.49	1,019.14	135.65	15.4
60	965.00	1,112.84	147.84	15.3
70	1,046.52	1,206.55	160.03	15.3
80	1,128.04	1,300.26	172.22	15.3
90	1,209.56	1,393.97	184.41	15.2
100	1,291.08	1,487.68	196.60	15.2
125	1,494.88	1,721.95	227.07	15.2
150	1,698.68	1,956.23	257.55	15.2
175	1,902.47	2,190.50	288.03	15.1
200	2,106.27	2,424.77	318.50	15.1
225	2,310.07	2,659.04	348.97	15.1
250	2,513.87	2,893.32	379.45	15.1
275	2,717.66	3,127.59	409.93	15.1
300	2,921.46	3,361.86	440.40	15.1
325	3,125.26	3,596.13	470.87	15.1
350	3,329.06	3,830.41	501.35	15.1
375	3,532.85	4,064.68	531.83	15.1
400	3,736.65	4,298.95	562.30	15.0
425	3,940.45	4,533.22	592.77	15.0
450	4,144.25	4,767.50	623.25	15.0
475	4,348.04	5,001.77	653.73	15.0
500	4,551.84	5,236.04	684.20	15.0
550	4,959.44	5,704.59	745.15	15.0
600	5,367.03	6,173.13	806.10	15.0
650	5,774.63	6,641.68	867.05	15.0
700	6,182.22	7,110.22	928.00	15.0
750	6,589.82	7,578.77	988.95	15.0
800	6,997.41	8,047.31	1,049.90	15.0
850	7,405.01	8,515.86	1,110.85	15.0
900	7,812.60	8,984.40	1,171.80	15.0
950	8,220.20	9,452.95	1,232.75	15.0
1000	8,627.79	9,921.49	1,293.70	15.0
1100	9,442.98	10,858.58	1,415.60	15.0
1200	10,258.17	11,795.67	1,537.50	15.0
1300	11,073.36	12,732.76	1,659.40	15.0
1400	11,888.55	13,669.85	1,781.30	15.0
1500	12,703.74	14,606.94	1,903.20	15.0
1600	13,518.93	15,544.03	2,025.10	15.0
1700	14,334.12	16,481.12	2,147.00	15.0
1800	15,149.31	17,418.21	2,268.90	15.0
1900	15,964.50	18,355.30	2,390.80	15.0
2000	16,779.69	19,292.39	2,512.70	15.0
2100	17,594.88	20,229.48	2,634.60	15.0
2200	18,410.07	21,166.57	2,756.50	15.0
2300	19,225.26	22,103.66	2,878.40	15.0
2400	20,040.45	23,040.75	3,000.30	15.0
2500	20,855.64	23,977.84	3,122.20	15.0
2600	21,670.83	24,914.93	3,244.10	15.0
2700	22,486.02	25,852.02	3,366.00	15.0
2800	23,301.21	26,789.11	3,487.90	15.0
2900	24,116.40	27,726.20	3,609.80	15.0

4" Meters

Thousand Gallons per Qtr	Present Charge	Proposed Charge	Increase Amount	Increase %
0	$ 740.28	$ 856.49	$ 116.21	15.7
1	748.43	865.86	117.43	15.7
2	756.58	875.23	118.65	15.7
3	764.74	884.60	119.86	15.7
4	772.89	893.97	121.08	15.7
5	781.04	903.34	122.30	15.7
6	789.19	912.72	123.53	15.7
7	797.34	922.09	124.75	15.6
8	805.50	931.46	125.96	15.6
9	813.65	940.83	127.18	15.6
10	821.80	950.20	128.40	15.6
20	903.32	1,043.91	140.59	15.6
30	984.84	1,137.62	152.78	15.5
40	1,066.36	1,231.33	164.97	15.5
50	1,147.88	1,325.04	177.16	15.4
60	1,229.39	1,418.74	189.35	15.4
70	1,310.91	1,512.45	201.54	15.4
80	1,392.43	1,606.16	213.73	15.3
90	1,473.95	1,699.87	225.92	15.3
100	1,555.47	1,793.58	238.11	15.3
125	1,759.27	2,027.85	268.58	15.3
150	1,963.07	2,262.13	299.06	15.2
175	2,166.86	2,496.40	329.54	15.2
200	2,370.66	2,730.67	360.01	15.2
225	2,574.46	2,964.94	390.48	15.2
250	2,778.26	3,199.22	420.96	15.2
275	2,982.05	3,433.49	451.44	15.1
300	3,185.85	3,667.76	481.91	15.1
325	3,389.65	3,902.03	512.38	15.1
350	3,593.45	4,136.31	542.86	15.1
375	3,797.24	4,370.58	573.34	15.1
400	4,001.04	4,604.85	603.81	15.1
425	4,204.84	4,839.12	634.28	15.1
450	4,408.64	5,073.40	664.76	15.1
475	4,612.43	5,307.67	695.24	15.1
500	4,816.23	5,541.94	725.71	15.1
550	5,223.83	6,010.49	786.66	15.1
600	5,631.42	6,479.03	847.61	15.1
650	6,039.02	6,947.58	908.56	15.0
700	6,446.61	7,416.12	969.51	15.0
750	6,854.21	7,884.67	1,030.46	15.0
800	7,261.80	8,353.21	1,091.41	15.0
850	7,669.40	8,821.76	1,152.36	15.0
900	8,076.99	9,290.30	1,213.31	15.0
950	8,484.59	9,758.85	1,274.26	15.0
1000	8,892.18	10,227.39	1,335.21	15.0
1100	9,707.37	11,164.48	1,457.11	15.0
1200	10,522.56	12,101.57	1,579.01	15.0
1300	11,337.75	13,038.66	1,700.91	15.0
1400	12,152.94	13,975.75	1,822.81	15.0
1500	12,968.13	14,912.84	1,944.71	15.0
1600	13,783.32	15,849.93	2,066.61	15.0
1700	14,598.51	16,787.02	2,188.51	15.0
1800	15,413.70	17,724.11	2,310.41	15.0
1900	16,228.89	18,661.20	2,432.31	15.0
2000	17,044.08	19,598.29	2,554.21	15.0
2100	17,859.27	20,535.38	2,676.11	15.0
2200	18,674.46	21,472.47	2,798.01	15.0
2300	19,489.65	22,409.56	2,919.91	15.0
2400	20,304.84	23,346.65	3,041.81	15.0
2500	21,120.03	24,283.74	3,163.71	15.0
2600	21,935.22	25,220.83	3,285.61	15.0
2700	22,750.41	26,157.92	3,407.51	15.0
2800	23,565.60	27,095.01	3,529.41	15.0
2900	24,380.79	28,032.10	3,651.31	15.0

Tidewater Utilities, Inc.

Analysis For Wholesale Rates

Variable Costs:

Purchased Water	$	139,297
Purchased Power		506,631
Chemicals		432,410
Total	$	1,078,338
Volume in Thousand Gallons		1,586,721
Unit Variable Cost, $/1000 Gal	$	0.6796

Note: Variable Costs are as utilized in this filing.

Base Costs:

Total Base Costs	$	4,875,447
Volume in Thousand Gallons		1,586,721
Unit Base Cost, $/1000 Gal	$	3.0727

Note: Total Base Cost per Exhibit No. T-8, Schedule 4, prior to deducts for Other Revenue and Connection Fees.

O&M Expenses:

Source of Supply	$	157,449
Pumping		2,677,937
Water Treatment		1,154,066
Trans. And Dist.		1,176,498
Total	$	5,165,950
Volume in Thousand Gallons		1,586,721
Unit O&M Cost, $/1000 Gal	$	3.2557

Note: O&M Expenses per Exhibit No. T-8, Schedule 2.

Tidewater Utilities, Inc.

Analysis for Wholesale Rates
Pro Forma Rate Base

Acct. No.	Description	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Total
	Pro Forma Utility Plant in Service				
310	Land and Land Rights	$146,091	$219,137	$0	$365,228
314	Wells & Springs	1,602,800	2,404,199	0	4,006,999
316	Supply Mains	10,153	15,230	0	25,383
320	Land and Land Rights	9,396	14,097	46,992	70,485
321	Structures and Improvements	1,166,253	1,749,817	5,833,013	8,749,083
323	Other Power Prod. Equip.	85,266	127,931	426,459	639,656
325	Electric Pumping Equipment	2,395,362	3,593,941	11,980,402	17,969,705
326	Diesel Pumping Equipment	400	600	2,000	3,000
331	Structures and Improvements	107,228	160,842	0	268,070
332	Water Treatment Eq.	3,035,303	4,552,954	0	7,588,257
340	Land and Land Rights	32	48	238	318
342	Dist. Reservoirs & Standpipes	199,155	298,733	1,493,664	1,991,552
343	Trans. & Dist. Mains	1,657,196	2,486,415	8,288,465	12,432,076
	Total Above	$10,414,635	$15,623,944	$28,071,233	$54,109,812
	Total Plant In Service per Exhibit No. T-8, Schedule 1	$13,008,666	$19,193,167	$46,164,435	$78,366,268
	% to Total Plant (Factor A)	80.06 %	81.40 %	60.81 %	69.05 %
	Pro Forma Depreciation Reserve				
314	Wells & Springs	($153,939)	($230,909)	$0	($384,848)
316	Supply Mains	12,456	18,685	0	31,141
321	Structures and Improvements	(245,100)	(367,741)	(1,225,865)	(1,838,706)
323	Other Power Prod. Equip.	(35,581)	(53,385)	(177,957)	(266,923)
325	Electric Pumping Equipment	(433,131)	(649,859)	(2,166,305)	(3,249,295)
326	Diesel Pumping Equipment	(249)	(373)	(1,245)	(1,867)
331	Structures and Improvements	(30,279)	(45,419)	0	(75,698)
332	Water Treatment Eq.	(595,470)	(893,205)	0	(1,488,675)
342	Dist. Reservoirs & Standpipes	(25,926)	(38,889)	(194,446)	(259,261)
343	Trans. & Dist. Mains	(103,074)	(154,649)	(515,522)	(773,245)
	Total Above	($1,610,293)	($2,415,744)	($4,281,340)	($8,307,377)
	Depreciated Plant per Above	$8,804,342	$13,208,200	$23,789,893	$45,802,435
	Total Depreciated Plant per Exhibit No. T-8, Schedule 1	$19,017,246	$28,477,439	$76,750,269	$124,244,954
	% to Total Depreciated Plant (Factor B)	46.30 %	46.38 %	31.00 %	36.86 %
	Rate Base Additions				
	Materials and Supplies	$13,243	$20,138	$39,987	$73,368
	Cash Working Capital	334,764	228,384	342,696	905,844
	Deferred FIT	(800,819)	(1,217,793)	(2,418,158)	(4,436,770)
	Total Additions	($452,812)	($969,271)	($2,035,475)	($3,457,558)
	Rate Base Deductions				
314	Wells & Springs	($21,413)	($32,119)	$0	($53,532)
321	Structures and Improvements	(674)	(1,011)	(3,372)	(5,057)
332	Water Treatment Eq.	(24,080)	(36,120)	0	(60,200)
342	Dist. Reservoirs & Standpipes	(468)	(702)	(3,508)	(4,678)
343	Trans. & Dist. Mains	(833,061)	(1,249,904)	(4,166,554)	(6,249,519)
	Total Deductions	($879,696)	($1,319,856)	($4,173,434)	($6,372,986)
	Total Rate Base per this Schedule	$7,471,834	$10,919,073	$17,580,984	$35,971,891
	Total Pro Forma Rate Base per Exhibit No. T-8, Schedule 1	$13,008,666	$19,193,167	$46,164,435	$78,366,268
	% to Total Pro Forma Rate Base (Factor C)	57.44 %	56.89 %	38.08 %	45.90 %

Notes:
1) Factor A applied to Materials and Supplies and to Deferred FIT as developed on Exhibit No. T-8, Schedule 1.
2) Factor D applied to Cash Working Capital as developed on Exhibit No. T-8, Schedule 1.
3) A factor of 15 % was applied to the T&D Plant cost elements developed on Exhibit No. T-8, Schedule 1.

Tidewater Utilities, Inc.

Analysis for Wholesale Rates
Pro Forma Revenue Requirement

Acct. No.	Description	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Total
	Pro Forma O&M Expense				
	Source of Supply				
600	Oper. Super. & Eng. - Labor	$0	$0	$0	$0
600	Oper. Super. & Eng. - Other	0	0	0	0
601	Operation Labor	0	0	0	0
601	Operation Expenses	31	46	0	77
602	Purchased Water	55,719	83,578	0	139,297
603	Miscellaneous Expenses	600	900	0	1,500
610	Maint. Super. & Eng. - Labor	0	0	0	0
610	Maint. Super. & Eng. - Other	0	0	0	0
611	Maint. Of Structures. - Labor	0	0	0	0
611	Maint. Of Structures. - Other	0	0	0	0
614	Maint. of Wells & Sp'gs - Labor	3,486	5,228	0	8,714
614	Maint. of Wells & Sp'gs - Other	3,144	4,717	0	7,861
616	Maint. Of Supply Mains - Labor	0	0	0	0
616	Maint. Of Supply Mains - Other	0	0	0	0
	Total Source of Supply	$62,980	$94,469	$0	$157,449
	Pumping				
620	Oper. Super. & Eng. - Labor	$0	$0	$0	$0
620	Oper. Super. & Eng. - Other	0	0	0	0
622	Power Production Labor	0	0	0	0
622	Power Production Expenses	21	31	105	157
623	Purchased Power	430,636	50,663	25,332	506,631
624	Pumping Labor	168,753	253,193	844,021	1,265,967
624	Pumping Expense	20,969	31,461	104,875	157,305
626	Pumping Misc. Labor	1,115	1,673	5,576	8,364
626	Pumping Misc. Expense	26,063	39,105	130,356	195,524
630	Maint. Super. & Eng. - Labor	0	0	0	0
630	Maint. Super. & Eng. - Other	0	0	0	0
631	Maint. Of Structures. - Labor	38,302	57,468	191,570	287,340
631	Maint. Of Structures. - Other	(1,876)	(2,815)	(9,382)	(14,073)
632	Maint. Of Power Prod. Eq. - Labor	1,317	1,975	6,585	9,877
632	Maint. Of Power Prod. Eq. - Other	3,965	5,949	19,829	29,743
633	Maint. Of Pumping Eq. - Labor	18,650	27,982	93,277	139,909
633	Maint. Of Pumping Eq. - Other	12,156	18,239	60,798	91,193
	Total Pumping	$720,071	$484,924	$1,472,942	$2,677,937
	Water Treatment				
640	Oper. Super. & Eng. - Labor	$848	$1,271	$0	$2,119
640	Oper. Super. & Eng. - Other	0	0	0	0
641	Chemicals - Water Treatment	432,410	0	0	432,410
642	Treatment Exp. - Labor	132,808	199,211	0	332,019
642	Treatment Exp. - Other	126,233	189,350	0	315,583
643	Treatment Misc. Exp.	5,200	7,800	0	13,000
650	Maint. Super. & Eng. - Labor	0	0	0	0
650	Maint. Super. & Eng. - Other	0	0	0	0
651	Maint. Of Structures. - Labor	340	510	0	850
651	Maint. Of Structures. - Other	2,178	3,267	0	5,445
652	Maint. Of Treatment Eq. - Labor	5,816	8,724	0	14,540
652	Maint. Of Treatment Eq. - Other	15,240	22,860	0	38,100
	Total Water Treatment	$721,073	$432,993	$0	$1,154,066

Tidewater Utilities, Inc.

Analysis for Wholesale Rates
Pro Forma Revenue Requirement

Acct. No.	Description	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Total
	Transmission and Distribution				
661	Storage Facilities Labor	$0	$0	$0	$0
661	Storage Facilities Expense	0	0	0	0
662	Trans. & Dist. Labor	11,631	17,450	58,171	87,252
662	Trans. & Dist. Expenses	304	456	1,521	2,281
660	Oper. Super. & Eng. - Labor	1,530	2,295	7,651	11,476
660	Oper. Super. & Eng. - Other	346	519	1,731	2,596
665	Misc. T&D Labor	14	22	72	108
665	Misc. T&D Expense	0	0	0	0
671	Maint. Of Structures. - Labor	29	44	146	219
671	Maint. Of Structures. - Other	13	19	64	96
672	Maint. Of Dist. Res. & St'pipes - Labor	13	19	96	128
672	Maint. Of Dist. Res. & St'pipes - Other	218	327	1,634	2,179
673	Maint. Of Mains - Labor	914	1,371	4,569	6,854
673	Maint. Of Mains - Other	1,044	1,567	5,224	7,835
670	Maint. Super. & Eng. - Labor	0	0	0	0
670	Maint. Super. & Eng. - Other	480	720	2,522	3,722
678	Misc. Maint. Expense	48	73	255	376
	Total Trans. & Dist.	$16,584	$24,882	$83,656	$125,122
	Total Pro Forma O&M per Above	$1,520,708	$1,037,268	$1,556,598	$4,114,574
	Total Pro Forma O&M per Exhibit No. T-8, Schedule 2	$2,626,482	$2,696,210	$5,127,382	$10,450,074
	% to Total Pro Forma O&M (Factor D)	57.90 %	38.47 %	30.36 %	39.37 %
	Total Labor Expense per Above	$385,566	$578,436	$1,211,734	$2,175,736
	Total Labor Expense per Exhibit No. T-8, Schedule 2	$602,001	$903,117	$2,005,205	$3,510,323
	% to Total Labor Expense (Factor E)	64.05 %	64.05 %	60.43 %	61.98 %

Tidewater Utilities, Inc.

Analysis for Wholesale Rates
Pro Forma Revenue Requirement

Acct. No.	Description	Base Cost	Extra Cap Max Day	Extra Cap Max Hour	Total
	Pro Forma Depreciation Expense				
314	Wells & Springs	$37,479	$56,218	$0	$93,697
316	Supply Mains	141	212	0	353
321	Structures and Improvements	36,366	54,563	181,885	272,814
323	Other Power Prod. Equip.	2,865	4,298	14,329	21,492
325	Electric Pumping Equipment	75,933	113,928	379,779	569,640
326	Diesel Pumping Equipment	22	32	108	162
331	Structures and Improvements	3,099	4,648	0	7,747
332	Water Treatment Eq.	87,024	130,537	0	217,561
342	Dist. Reservoirs & Standpipes	3,199	4,798	23,991	31,988
343	Trans. & Dist. Mains	11,785	17,682	58,943	88,410
	Total Pro Forma Depreciation Expense	$257,913	$386,916	$659,035	$1,303,864
	Taxes Other Than Income Taxes				
	Payroll Taxes	$34,073	$51,134	$107,114	$192,321
	Property Taxes	16,648	24,970	44,991	86,609
	Other Taxes	118	172	277	567
	PSC Assessment	6,972	10,188	16,403	33,563
	Total Operating Expenses Before Income Taxes	$1,836,432	$1,510,648	$2,384,418	$5,731,498
	State Income Taxes	55,691	81,385	131,030	268,106
	Federal Income Taxes	198,707	290,384	467,522	956,613
	Utility Operating Income	$637,300	$931,330	$1,499,452	$3,068,082
	Total Revenue Requirement per Above	$2,728,130	$2,813,747	$4,482,422	$10,024,299
	Total Revenue Requirement per Exhibit No. T-8, Schedule 4	$4,875,447	$5,953,953	$12,817,638	$23,647,038
	% to Total Revenue Requirement (Factor F)	55.96 %	47.26 %	34.97 %	42.39 %
	Less Other Revenue	($127,610)	($131,681)	($209,779)	($469,070)
	Less Connection Fees	(30,542)	(31,517)	(50,209)	(112,268)
	Net Revenue Required From Rates	$2,569,978	$2,650,549	$4,222,434	$9,442,961

Notes:
1) Factor E applied to Payroll Taxes as developed on Exhibit No. T-8, Schedule 4
2) Factor B applied to Property Taxes as developed on Exhibit No. T-8, Schedule 4
3) Factor C applied to Other Taxes, State and Federal Income Taxes, and Utility Operating Income as developed on Exhibit No. T-8, Schedule 4.
4) Factor F applied to Other Revenue and Connection Fees as developed on Exhibit No. T-8, Schedule 4
5) A factor of 15 % was applied to the T&D expense cost elements developed on Exhibit No. T-8, Schedule 2

Development of Wholesale Rate:

Allocation Factors to General Water per Exhibit No. T-8, Schedule 7	99.00 %	98.17 %	92.24 %	
Apply to Above Net Revenue Requirement	$2,544,278	$2,602,044	$3,894,773	$9,041,095
Volume in Thousand Gallons	1,586,721	1,586,721	1,586,721	1,586,721
Unit Costs, $/1000 Gal	$1.6035	$1.6399	$2.4546	$5.6980

Exhibit No. T-7
Tidewater Utilities, Inc.
PSC Docket No. _____
Witness: Dylan W. D'Ascendis
Date Submitted:

BEFORE THE

DELAWARE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

DYLAN W. D'ASCENDIS, CRRA
PRINCIPAL
AUS CONSULTANTS

ON BEHALF OF

TIDEWATER UTILITIES, INC.

CONCERNING

CAPITAL STRUCTURE AND
LONG-TERM DEBT COST RATE

NOVEMBER 2013

TABLE OF CONTENTS

1 **Introduction and Purpose**

2 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.**

3 A. My name is Dylan W. D'Ascendis. I am a Principal of AUS Consultants, a full-service
4 utility consulting firm with expertise in all ratemaking disciplines. My business address
5 is 155 Gaither Drive, Suite A, Mt. Laurel, New Jersey 08054.

6 **Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND**
7 **EDUCATIONAL BACKGROUND.**

8 A. I offer expert testimony on behalf of investor-owned utilities on rate of return issues,
9 including but not limited to common equity cost rate, fair rate of return, capital structure
10 issues, credit quality issues, etc. I also assist in the preparation of rate filings, including
11 but not limited to revenue requirements, rate design, class cost of service, original cost
12 and lead/lag studies. I am a graduate of the University of Pennsylvania, where I received
13 a Bachelor of Arts degree in Economic History. I have also received a Master of
14 Business Administration with high honors and a concentration in finance and
15 international business from Rutgers University. My full professional qualifications are
16 provided in Appendix A.

17 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

18 A. The purpose is to provide testimony on behalf of Tidewater Utilities, Inc. (TUI or the
19 Company) relative to the appropriate capital structure including the long-term debt cost
20 rate to be used in calculating the overall rate of return. I have then incorporated the
21 recommended common equity cost rate of Company Witness Pauline M. Ahern into our
22 recommendation for the overall rate of return.

23 **Q. DO YOU HAVE AN EXHIBIT WHICH SUPPORTS YOUR DIRECT**

1 **TESTIMONY?**

2 A. Yes, I do. It is Exhibit T-7 consisting of Schedules 1 through 4.

3 **Capital Structure Ratios**

4 **Q. WHAT CAPITAL STRUCTURE RATIOS DO YOU RECOMMEND BE**

5 **EMPLOYED IN DEVELOPING AN OVERALL FAIR RATE OF RETURN**

6 **APPROPRIATE FOR THE COMPANY?**

7 A. I recommend that TUI's capital structure ratios estimated at June 30, 2014 be adopted for

8 ratemaking purposes to develop an overall rate of return applicable to the Company. The

9 capital structure and related ratios I employ represent the capital structure which is

10 expected to finance the Company's rate base. These ratios consist of 49.04% long-term

11 debt and 50.96% common equity detailed on Schedule 2 and summarized on Schedule 1.

12 **Q. ARE THE ESTIMATED CAPITAL STRUCTURE RATIOS AT JUNE 30, 2014**

13 **APPROPRIATE FOR COST OF CAPITAL PURPOSES?**

14 A. Yes, provided that the degree of financial risk contained in the estimated capital structure

15 ratios is properly reflected in the allowed common equity cost rate. The Company's

16 capital structure ratios estimated at June 30, 2014 are indicative of the ratios and

17 embedded cost rate of fixed capital which the Company will experience in the near-term

18 future, the period of time new rates are expected to be in effect. Since a utility has an

19 obligation to serve all of the time, it is incumbent upon the utility to maintain capital

20 structure ratios which should enable it to attract capital when required assuming a

21 sufficient level of earnings.

22 TUI's estimated June 30, 2014 capital structure upon which its requested overall rate of

23 return is based accomplishes this as it is accepted in the marketplace and is relatively

consistent with the capital structures maintained by other water utilities.

Q. HOW DOES THE COMPANY'S RATEMAKING COMMON EQUITY RATIO OF 50.96% ESTIMATED AT JUNE 30, 2014 COMPARE WITH THE COMMON EQUITY RATIOS MAINTAINED BY THE COMPANIES IN THE PROXY GROUP?

A. The Company's ratemaking common equity ratio of 50.96% estimated at June 30, 2014 is similar to the common equity ratios maintained on average by the companies in the proxy group of nine water companies. The common equity ratios of the nine water companies averaged 50.72% for the year 2012 and averaged 49.42% for the five years ended 2012 as shown on Schedule 3. Because the Company has no preferred stock outstanding, it is also appropriate to compare its ratemaking common equity ratio of 50.96% with the proxy group's average total equity ratio of 50.88% for the year 2012 (50.88% total equity = 50.72% common equity and 0.16% preferred stock). Hence, a 50.96% common equity ratio is suitable for ratemaking purposes in determining overall rate of return for TUI.

Q. WHAT IS YOUR CONCLUSION REGARDING THE COMPANY'S RATEMAKING CAPITAL STRUCTURE AND RELATED RATIOS?

A. In view of the foregoing, it is my opinion that a capital structure based upon the Company's estimated capital structure at June 30, 2014 comprised of 49.04% long-term debt and 50.96% common equity contains similar financial risk relative to the capital structure ratios maintained by the companies in the proxy group. Therefore, the Company's estimated capital structure is appropriate for ratemaking purposes for TUI.

<u>Long-Term Debt Cost Rate</u>

Q. WHAT COST RATE FOR LONG-TERM DEBT IS MOST APPROPRIATE FOR

1 **USE IN A COST OF CAPITAL DETERMINATION FOR THE COMPANY?**

2 A. A long-term debt cost rate of 6.01% estimated at June 30, 2014 is the most appropriate
3 and is derived from the Company's estimated long-term debt expected to be outstanding
4 at June 30, 2014. This cost rate is summarized on page 1 of Schedule 4.
5 The CoBank loan and State Revolving Trust Note cost rates are determined by employing
6 the cost rate to maturity method, i.e., yields to maturity, using as inputs the expected cash
7 flows, comprised of fund draw-downs, interest and principal repayments and the net
8 proceeds which reflect the necessary costs of each issuance. Once the cost rate to
9 maturity, i.e., effective cost rate, is determined for each issue, a composite cost rate can
10 be calculated based upon the total annualized long-term debt cost and total long-term debt
11 outstanding.

12 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

13 A. Yes.

APPENDIX A

PROFESSIONAL QUALIFICATIONS

OF

DYLAN W. D'ASCENDIS, CRRA
PRINCIPAL

AUS CONSULTANTS

PROFESSIONAL QUALIFICATIONS
OF
DYLAN W. D'ASCENDIS, CRRA
PRINCIPAL
AUS CONSULTANTS

PROFESSIONAL EXPERIENCE

2008-Present

I prepare fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. These supporting exhibits include the determination of an appropriate ratemaking capital structure and the development of embedded cost rates of senior capital. The exhibits also support the determination of a recommended return on common equity through the use of various market models, such as, but not limited to, Discounted Cash Flow analysis, Capital Asset Pricing Model and Risk Premium Methodology, as well as an assessment of the risk characteristics of the client utility. I also assist in the preparation of class cost of service, rate design, cash working capital, original cost and valuation studies. I prepare responses to interrogatories received regarding such testimonies filed on behalf of client utilities. Following the filing of fair rate of return testimonies, I evaluate opposition testimony in order to prepare interrogatory questions, areas of cross-examination, and rebuttal testimony. I also evaluate and assist in the preparation of briefs and exceptions following the hearing process.

I also evaluate the final orders and decisions of various commissions to determine whether further actions are warranted and to gain insight which may assist in the preparation of future rate of return studies.

In April 2011, I earned the Certified Rate of Return Analyst (CRRA) designation from the Society of Utility and Regulatory Financial Analysts (SURFA). This is based upon education, experience and the successful completion of a comprehensive examination.

As the Editor of AUS Utility Reports (formerly C. A. Turner Utility Reports), I am responsible for the data collection, distribution, marketing and billing of the AUS Monthly Utility Report, which provides comprehensive information on key ratios and industry rankings based upon financial statistics presented in the report for the electric, gas and water industries. I also assist in the calculation and production of the AGA Index, a market capitalization weighted index of the common stocks of the approximately 70 corporate members of the AGA.

I have filed testimony on cost of capital on behalf of the following:

Columbia Water Company
Louisiana Water Service, Inc.
Twin Lakes Utilities, Inc.
United Utility Services Company
Utility Services of South Carolina, Inc.

I have filed testimony on capital structure on behalf of the following clients:

Middlesex Water Company
Penn Estates Utilities, Inc.
Tega Cay Water Service, Inc.

I have assisted in the preparation of studies on behalf of the following clients:

The Regulatory Commission of Alaska
City of Allentown, PA
Alpena Power Company
Anadarko Petroleum Corporation
Apple Canyon Utility Company
Applied Wastewater
Aqua New Jersey, Inc.
Aqua North Carolina, Inc.
Aqua Ohio, Inc.
Aquarion Water Company of Connecticut
Aquarion Water Company of Massachusetts
Artesian Water Company
The Atlantic City Sewerage Company
Carolina Water Service of North Carolina
Carolina Water Service of South Carolina
The Columbia Water Company
The Connecticut Water Company
Corix Multi-Utility Inc.
Delmarva Power and Light Company
Equitable Gas Company
Illinois American Water Company
Interstate Power & Light Company

Iowa American Water Company
Jersey Central Power & Light Company
Lake Wildwood Utility Corporation
Long Island American Water Company
Massanutten Public Service Company
Middlesex Water Company
Missouri Gas Energy
Missouri-American Water Company
Mountaineer Gas Company
New England Gas Company
New Jersey-American Water Company
The Newtown Artesian Water Company
NRG Energy Center Harrisburg LLC
Ohio-American Water Company
Penn Estates Utilities
Peoples Water Service Company of Bastrop
Penn Estates Utilities Inc.
Philadelphia Gas Works
Piedmont Natural Gas Company
Pinelands Water Company
Pinelands Wastewater Company
The Village of Plandome
San Gabriel Water Company
San Jose Water Company
Southwest Gas Corporation
Spring Creek Utilities, Inc.
Suffolk County, NY
Tega Cay Water Service, Inc.
Tesoro Alaska Company
Tidewater Utilities, Inc.
Trigen – Philadelphia Energy Corporation
United Utility Companies
United Water Arkansas, Inc.
United Water Arlington Hills Sewerage, Inc.
United Water Connecticut, Inc.
United Water Delaware, Inc.
United Water Great Gorge, Inc.
United Water Idaho, Inc.
United Water New Jersey, Inc.
United Water New Rochelle, Inc.
United Water New York, Inc.
United Water Owego Nichols, Inc.
United Water Pennsylvania, Inc.
United Water Rhode Island, Inc.
United Water Toms River, Inc.
United Water Vernon Sewerage, Inc.
United Water West Milford, Inc.
United Water Westchester, Inc.
Utilities Inc. of Central Nevada
Utilities, Inc. of Florida
Utilities, Inc. of Louisiana
Utilities, Inc. of Nevada
Utilities, Inc. of Pennsylvania
Utilities, Inc. - Westgate
Utility Center, Inc.
Washington Gas Light Company
Water Service Company of Indiana
Water Services Corp. of Kentucky
Wisconsin Power and Light Company

EDUCATION:

University of Pennsylvania – B.A. –Economic History
Rutgers University – M.B.A. – Cum Laude (Concentration: Finance and International Business, including an independent study on public utility ratemaking)
New Mexico State University – Practical Training for the Electric Industry

PROFESSIONAL AFFILIATIONS:

Society of Utility and Regulatory Financial Analysts
National Association of Water Companies

SPEAKING ENGAGEMENTS:

"Regulatory Training in Financing, Planning, Strategies and Accounting Issues for Publicly- and Privately-Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, October 13-18, 2013, Instructor.

"Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN.

"Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Pauline M. Ahern, CRRA, AUS Consultants, Edison Electric Institute Cost of Capital Working Group, October 3, 2012, Webinar.

"Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Pauline M. Ahern, CRRA, AUS Consultants, Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Commissioners, September 10, 2012, St. Paul, MN.

Chair – "Cost of Capital" - Advanced Workshop in Regulation and Competition, 31st Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 18, 2012, Rutgers University, Shawnee on Delaware, PA.

PAPERS:

"Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Pauline M. Ahern, CRRA, Richard A. Michelfelder, Ph.D. of Rutgers University and Frank J. Hanley, The Electricity Journal, May 2013.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", co-authored by Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D., Rutgers University, The Journal of Regulatory Economics (December 2011), 40:261-278. (Research Assistant).

Exhibit No. T-7
Tidewater Utilities, Inc.
PSC Docket No. _____
Witness: Dylan W. D'Ascendis
Date Submitted:

BEFORE THE

DELAWARE PUBLIC SERVICE COMMISSION

EXHIBIT

TO ACCOMPANY THE

PREPARED DIRECT TESTIMONY

OF

DYLAN W. D'ASCENDIS, CRRA
PRINCIPAL
AUS CONSULTANTS

ON BEHALF OF

TIDEWATER UTILITIES, INC.

NOVEMBER 2013

Table of Contents
to Exhibit No. T-7
of Dylan W. D'Ascendis, CRRA

Tidewater Utilities, Inc.
Summary of Cost of Capital and Fair Rate of Return
Based upon its Estimated Capital Structure at June 30, 2014

Type of Capital	Ratios (1)	Cost Rate	Weighted Cost Rate
Long-Term Debt	49.04%	6.01% (2)	2.95%
Common Equity	50.96%	10.95% (3)	5.58%
Total	100.00%		8.53%

Notes:
(1) From Schedule 2.
(2) From Schedule 4.
(3) From Exhibit No. T-6, Schedule 1.

Tidewater Utilities, Inc.
Capitalization and Capital Structure Ratios
for Tidewater Utilities, Inc.
Based Upon Investor-Provided Capital
Actual at September 30, 2013 and Estimated at June 30, 2014

		September 30, 2013 (Actual)			June 30, 2014 (Estimated)		
			Ratios			Ratios	
Line No.	Capitalization	Amount Outstanding (1)	Excl. S-T Debt	Incl. S-T Debt	Amount Outstanding (1)	Excl. S-T Debt	Incl. S-T Debt
1	Long-Term Debt						
2	8.05% CoBank Secured Note	$ 2,047,251			$ 1,917,242		
3	6.25% CoBank Secured Note	6,160,000			5,845,000		
4	6.44% CoBank Secured Note	4,736,667			4,526,667		
5	6.46% CoBank Secured Note	5,016,667			4,806,667		
6	6.59% CoBank Secured Note	5,435,467			5,173,867		
7	7.05% CoBank Secured Note	4,083,333			3,895,834		
8	5.69% CoBank Secured Note	8,376,068			7,991,453		
9	Expected 5.75% CoBank Secured Note	-			12,000,000		
10	4.22% State Revolving Trust Note	485,864			443,314		
11	3.60% State Revolving Trust Note	2,746,047			2,559,404		
12	3.30% State Revolving Trust Note	541,428			523,756		
13	4.03% State Revolving Trust Note	763,352			719,812		
14	3.49% State Revolving Trust Note	569,356			552,667		
15	3.64% State Revolving Trust Note	339,022			321,676		
16	3.64% State Revolving Trust Note	112,888			106,854		
17	3.45% State Revolving Trust Note	409,689			966,431		
18	3.75% State Revolving Trust Note	2,565,393			2,463,365		
19	Notes Payable to Associated Company	1,375,000			-		
20	Total Long-Term Debt	$ 45,763,492	44.55 %	41.16 %	$ 54,814,009	49.04 %	49.04 %
21	Common Equity	56,961,119	55.45	51.24	56,961,119	50.96	50.96
22	Total Permanent Capital	$ 102,724,611	100.00 %	92.40 %	$ 111,775,128	100.00 %	100.00 %
	Short-Term Debt						
23	CoBank Line of Credit	8,450,000		7.60	-		-
24	Total Capital Employed	$ 111,174,611		100.00 %	$ 111,775,128		100.00 %

Notes: (1) Company-provided.

Exhibit No. T-7
Schedule 2

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Nine Water Companies
2008 - 2012, Inclusive

	2012	2011	2010	2009	2008	5 YEAR AVERAGE
American States Water Co.						
Long-Term Debt	42.49 %	45.46 %	44.30 %	46.95 %	46.25 %	45.09 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	57.51	54.54	55.70	53.05	53.75	54.91
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
American Water Works Co., Inc.						
Long-Term Debt	54.30 %	55.72 %	56.73 %	56.98 %	53.75 %	55.49 %
Preferred Stock	0.21	0.27	0.29	0.30	0.32	0.28
Common Equity	45.49	44.01	42.98	42.72	45.93	44.23
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Aqua America, Inc.						
Long-Term Debt	53.41 %	54.11 %	57.05 %	56.59 %	54.21 %	55.08 %
Preferred Stock	0.01	0.02	0.02	0.02	0.09	0.03
Common Equity	46.58	45.87	42.93	43.39	45.70	44.89
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Artesian Resources Corp.						
Long-Term Debt	47.60 %	48.93 %	52.84 %	54.12 %	59.57 %	52.61 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	52.40	51.07	47.16	45.88	40.43	47.39
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
California Water Service Group						
Long-Term Debt	50.39 %	52.04 %	52.51 %	47.93 %	41.88 %	48.95 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	49.61	47.96	47.49	52.07	58.12	51.05
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Connecticut Water Service, Inc.						
Long-Term Debt	49.03 %	53.05 %	49.32 %	50.59 %	46.94 %	49.79 %
Preferred Stock	0.21	0.30	0.34	0.35	0.39	0.32
Common Equity	50.76	46.65	50.34	49.06	52.67	49.89
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Middlesex Water Company						
Long-Term Debt	43.53 %	43.12 %	43.91 %	47.35 %	49.10 %	45.40 %
Preferred Stock	1.02	1.06	1.07	1.24	1.22	1.12
Common Equity	55.45	55.82	55.02	51.41	49.68	53.48
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
SJW Corporation						
Long-Term Debt	55.39 %	56.63 %	53.79 %	49.52 %	46.08 %	52.28 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	44.61	43.37	46.21	50.48	53.92	47.72
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
York Water Company						
Long-Term Debt	45.98 %	47.16 %	48.28 %	47.16 %	55.31 %	48.78 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	54.02	52.84	51.72	52.84	44.69	51.22
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Proxy Group of Nine Water Companies						
Long-Term Debt	49.12 %	50.69 %	50.97 %	50.80 %	50.35 %	50.39 %
Preferred Stock	0.16	0.18	0.19	0.21	0.22	0.19
Common Equity	50.72	49.13	48.84	48.99	49.43	49.42
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Source of Information
EDGAR Online's I-Metrix Database
Annual Forms 10-K

Tidewater Utilities, Inc.
Calculation of the Composite Cost Rate of Outstanding Long-Term Debt

Actual at September 30, 2013

Series	Amount Outstanding (1)	Effective Cost Rate (2)	Annualized Cost	Composite Interest Rate
8.05% CoBank Secured Note	$ 2,047,251	8.25 %	$ 168,957	
6.25% CoBank Secured Note	6,160,000	6.43	396,087	
6.44% CoBank Secured Note	4,736,667	6.57	311,370	
6.46% CoBank Secured Note	5,016,667	6.62	331,947	
6.59% CoBank Secured Note	5,435,467	6.70	364,370	
7.05% CoBank Secured Note	4,083,333	7.21	294,270	
5.69% CoBank Secured Note	8,376,068	5.76	482,879	
4.22% State Revolving Trust Note	485,864	5.22	25,347	
3.60% State Revolving Trust Note	2,746,047	4.12	113,146	
3.30% State Revolving Trust Note	541,428	3.75	20,279	
4.03% State Revolving Trust Note	763,352	4.32	32,962	
3.49% State Revolving Trust Note	569,356	3.94	22,454	
3.64% State Revolving Trust Note	339,022	4.64	15,724	
3.64% State Revolving Trust Note	112,888	4.19	4,727	
3.45% State Revolving Trust Note	409,689	3.96	16,244	
3.75% State Revolving Trust Note	2,565,393	3.75	96,202	
Notes Payable to Associated Company	1,375,000	7.00 (1)	96,250	
Total Long-Term Debt	$ 45,763,492		$ 2,793,215	6.10 %

Estimated at June 30, 2014

Series	Amount Outstanding (1)	Effective Cost Rate (2)	Annualized Cost	Composite Interest Rate
8.05% CoBank Secured Note	$ 1,917,242	8.25 %	$ 158,228	
6.25% CoBank Secured Note	5,845,000	6.43	375,832	
6.44% CoBank Secured Note	4,526,667	6.57	297,566	
6.46% CoBank Secured Note	4,806,667	6.62	318,051	
6.59% CoBank Secured Note	5,173,867	6.70	346,833	
7.05% CoBank Secured Note	3,895,834	7.21	280,757	
5.69% CoBank Secured Note	7,991,453	5.76	460,706	
Expected 5.75% CoBank Secured Note	12,000,000	5.91	709,054	
4.22% State Revolving Trust Note	443,314	5.22	23,127	
3.60% State Revolving Trust Note	2,559,404	4.12	105,455	
3.30% State Revolving Trust Note	523,756	3.75	19,617	
4.03% State Revolving Trust Note	719,812	4.32	31,082	
3.49% State Revolving Trust Note	552,667	3.94	21,796	
3.64% State Revolving Trust Note	321,676	4.64	14,919	
3.64% State Revolving Trust Note	106,854	4.19	4,474	
3.45% State Revolving Trust Note	966,431	3.71	35,855	
3.75% State Revolving Trust Note	2,463,365	3.75	92,376	
Notes Payable to Associated Company	-	7.00 (1)	-	
Total Long-Term Debt	$ 54,814,009		$ 3,295,728	6.01 %

Notes: (1) Company-provided.
(2) As developed on page 2 of this Schedule.

Source of Information: Company-provided data

Tidewater Utilities, Inc.
Calculation of the Effective Cost Rate of Long-Term Debt by Series for
Tidewater Utilities, Inc.

Series	Nominal Date of Issue	Date of Maturity	Principal Amount Issued	Issuance Expenses	Net Proceeds	Net Proceeds Ratio	Effective Cost Rate to Maturity (1)
8.05% CoBank Secured Note	10/27/1995	12/20/2021	$ 3,500,000	$ 45,970	$ 3,454,030	98.69 %	8.25 %
6.25% CoBank Secured Note	5/22/2003	5/22/2028	10,500,000	141,333	10,358,667	98.65	6.43
6.44% CoBank Secured Note	8/31/2005	8/25/2030	7,000,000	59,829	6,940,171	99.15	6.57
6.46% CoBank Secured Note	9/30/2005	9/19/2031	7,000,000	59,829	6,940,171	99.15	6.62
6.59% CoBank Secured Note	3/19/2009	4/20/2029	6,976,000	44,685	6,931,315	99.36	6.70
7.05% CoBank Secured Note	6/1/2009	1/20/2030	5,000,000	44,685	4,955,315	99.11	7.21
5.69% CoBank Secured Note	3/8/2010	1/20/2030	10,000,000	44,685	9,955,315	99.55	5.76
Expected 5.75% CoBank Secured Note	4/1/2014	3/31/2034	12,000,000	150,000	11,850,000	98.75	5.91
4.22% State Revolving Trust Note	7/30/2002	12/31/2022	784,000	50,457	733,543	93.56	5.22
3.60% State Revolving Trust Note	7/18/2003	5/1/2025	3,274,418	30,857	3,243,561	99.06	4.12
3.30% State Revolving Trust Note	8/27/2004	3/1/2026	882,535	30,857	851,678	96.50	3.75
4.03% State Revolving Trust Note	10/17/2006	12/1/2026	993,000	21,384	971,616	97.85	4.32
3.49% State Revolving Trust Note	11/9/2005	1/25/2027	2,000,000	29,235	1,970,765	98.54	3.94
3.64% State Revolving Trust Note	3/24/2008	1/1/2028	140,000	11,862	128,138	91.53	4.64
3.64% State Revolving Trust Note	6/2/2008	7/1/2028	940,000	11,862	928,138	98.74	4.19
3.45% State Revolving Trust Note	12/29/2010	8/1/2031	1,114,800	2,408	1,112,392	99.78	3.96
3.75% State Revolving Trust Note	6/2/2011	7/1/2031	2,785,740	3,625	2,782,115	99.87	3.75

Notes: (1) Determined by taking into account the effect of interest payments as well as principal repayments.

Source of Information: Company-provided data

Exhibit No. T-6
Tidewater Utilities, Inc.
PSC Docket No. _____
Witness: Pauline M. Ahern
Date Submitted:

BEFORE THE

DELAWARE PUBLIC SERVICE COMMISSION

PREPARED DIRECT TESTIMONY

OF

PAULINE M. AHERN, CRRA
PRINCIPAL
AUS CONSULTANTS

ON BEHALF OF

TIDEWATER UTILITIES, INC.

NOVEMBER 2013

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Introduction

Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

A. My name is Pauline M. Ahern. I am a Principal of AUS Consultants. My business address is 155 Gaither Drive, Suite A, Mt. Laurel, New Jersey 08054.

Q. PLEASE SUMMARIZE YOUR PROFESSIONAL EXPERIENCE AND EDUCATIONAL BACKGROUND.

A. I have offered expert testimony on behalf of investor-owned utilities before twenty-eight state regulatory commissions in the United States as well as one provincial regulatory commission in Canada on rate of return issues, including but not limited to common equity cost rate, fair rate of return, capital structure issues, and credit quality issues. I am a graduate of Clark University, Worcester, MA, where I received a Bachelor of Arts degree with honors in Economics. I have also received a Master of Business Administration with high honors and a concentration in finance from Rutgers University. The details of my educational background, expert witness appearances, presentations I have given and articles I have co-authored are shown in Appendix A supplementing this testimony.

On behalf of the American Gas Association ("A.G.A."), I calculate the A.G.A. Gas Index, which serves as the benchmark against which the performance of the American Gas Index Fund ("AGIF") is measured monthly. The A.G.A. Gas Index and AGIF are a market capitalization weighted index and mutual fund, respectively, comprised of the common stocks of the publicly traded corporate members of the A.G.A.

I am also the Publisher of AUS Utility Reports, responsible for supervising the production, publication, distribution and marketing of its reports. I am responsible for

overseeing the production of the annual Financial & Operating Statistics Report for the National Association of Water Companies ("NAWC").

I am a member of the Society of Utility and Regulatory Financial Analysts ("SURFA") where I serve on its Board of Directors, having served two terms as President, from 2006 – 2008 and 2008 – 2010. Previously, I held the position of Secretary/Treasurer from 2004 – 2006. In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" ("CRRA") by SURFA, which is based upon education, experience and the successful completion of a comprehensive written examination.

I am also an associate member of the National Association of Water Companies, serving on its Finance/Accounting/Taxation and Rates and Regulation Committees; a member of the Energy Association of Pennsylvania, formerly the Pennsylvania Gas Association; and a member of the American Finance, Financial Management and Energy Bar Associations. I am also a member of Edison Electric Institute's Cost of Capital Working Group, the Advisory Board of the Financial Research Institute of the University of Missouri and the Advisory Council of New Mexico State University's Center for Public Utilities.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose is to provide testimony on behalf of Tidewater Utilities, Inc. ("TUI" or "the Company") relative to the appropriate common equity cost rate which it should be afforded the opportunity to earn on its jurisdictional rate base.

Q. HAVE YOU PREPARED AN EXHIBIT WHICH SUPPORTS YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. Yes. It has been designated as Exhibit No. T-6 and contains Schedules 1 through 11.

Summary

Q. PLEASE SUMMARIZE YOUR RECOMMENDED COMMON EQUITY COST RATE.

A. My recommended common equity cost rate of 10.95% is summarized on Schedule 1. As a wholly-owned subsidiary of Middlesex Water Company ("MSEX" or "the Parent"), TUI's common stock is not publicly traded. Thus, a market-based common equity cost rate cannot be directly observed for the Company. Consequently, I have assessed the market-based common equity cost rates of companies of relatively similar, but not necessarily identical risk, i.e., a proxy group for insight into a recommended common equity cost rate applicable to TUI. Using companies of relatively comparable similar risk as proxies is consistent with the principles of fair rate of return established in the *Hope*[1] and *Bluefield*[2] cases, adding reliability to the informed expert judgment necessary to arrive at a recommended common equity cost rate. However, no proxy group can be selected to be identical in risk to TUI. Therefore, the proxy group's results must be adjusted, if necessary, to reflect the unique relative financial (credit) and/or business risks of the Company.

My recommendation results from the application of market-based cost of common equity models, the Discounted Cash Flow ("DCF") approach, the Risk Premium Model ("RPM") and the Capital Asset Pricing Model ("CAPM") to the market data of the proxy group of nine water companies whose selection will be discussed below. In addition, I

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1 Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944).
2 Bluefield Water Works Improvement Co. v. Public Serv. Comm'n, 262 U.S. 679 (1922).

also applied the DCF, RPM and CAPM to the market data of domestic, non-price regulated companies comparable in total risk to the nine water companies as also discussed below.

The results derived from each are as follows:

Table 2

	Proxy Group of Nine Water Companies
Discounted Cash Flow Model	8.72%
Risk Premium Model	11.24
Capital Asset Pricing Model	10.11
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	10.77
Indicated Common Equity Cost Rate	10.45%
Credit Risk Adjustment	0.04
Business Risk Adjustment	0.35
Flotation Cost Adjustment	0.13
Indicated Common Equity Cost Rate	10.97%
Recommended Common Equity Cost Rate	10.95%

After reviewing the cost rates based upon these models, I conclude that a common equity cost rate of 10.45% is indicated before any adjustment for TUI's greater credit and business risks relative to the proxy group of nine water companies as well as flotation costs, all of which will be discussed below. Thus, the indicated common equity cost rate based upon the nine water companies needs to be adjusted upward by 0.04% to reflect

TUI's greater credit risk and by 0.35% to reflect TUI's greater business risk, as well as by 0.13% for flotation costs, which will be discussed below. After adjustment, the financial risk, business risk and flotation cost-adjusted common equity cost rate is 10.97% which, when rounded to 10.95%, is my recommended common equity cost rate.

General Principles

Q. WHAT GENERAL PRINCIPLES HAVE YOU CONSIDERED IN ARRIVING AT YOUR RECOMMENDED COMMON EQUITY COST RATE OF 10.95%?

A. In unregulated industries, the competition of the marketplace is the principal determinant of the price of products or services. For regulated public utilities, regulation must act as a substitute for marketplace competition. Assuring that the utility can fulfill its obligations to the public while providing safe and reliable service at all times requires a level of earnings sufficient to maintain the integrity of presently invested capital as well as permitting the attraction of needed new capital at a reasonable cost in competition with other firms of comparable risk. This is consistent with the fair rate of return standards established by the U.S. Supreme Court in the *Hope* and *Bluefield* cases. Consequently, marketplace data must be relied upon in assessing a common equity cost rate appropriate for ratemaking purposes. Therefore, my recommended common equity cost rate is based upon marketplace data for a proxy group of utilities as similar in risk as possible to TUI, based upon selection criteria which will be discussed subsequently. Just as the use of the market data for the proxy group adds reliability to the informed expert judgment used in arriving at a recommended common equity cost rate, the use of multiple common equity cost rate models also adds reliability when arriving at a recommended common equity cost rate.

1 **Business Risk**

2 **Q. PLEASE DEFINE BUSINESS RISK AND EXPLAIN WHY IT IS IMPORTANT**

3 **TO THE DETERMINATION OF A FAIR RATE OF RETURN.**

4 A. Business risk is the riskiness of a company's common stock without the use of debt

5 and/or preferred capital. Examples of such general business risks to all utilities, i.e.,

6 electric, natural gas distribution and water, include the quality of management, the

7 regulatory environment, customer mix and concentration of customers, service territory

8 growth, capital intensity and size, which have a direct bearing on earnings.

9 Business risk is important to the determination of a fair rate of return because the

10 greater the level of risk, the greater the rate of return investors demand, consistent with

11 the basic financial principle of risk and return.

12 **Q. WHAT BUSINESS RISKS DOES THE WATER INDUSTRY IN GENERAL FACE**

13 **TODAY?**

14 A. Water is essential to life and unlike electricity or natural gas, water is the only utility

15 product which is intended for customers to ingest. Consequently, water quality is of

16 paramount importance to the health and well-being of customers and is therefore subject

17 to additional and increasingly strict health and safety regulations. Beyond health and

18 safety concerns, water utility customers also have significant aesthetic concerns regarding

19 the water delivered to them and regulators pay close attention to these concerns because

20 of the strong feelings they arouse in consumers. Also, unlike many electric and natural

21 gas utilities, water utilities serve a production function in addition to the delivery

22 functions served by electric and gas utilities.

23 Water utilities obtain supply from wells, aquifers, surface water reservoirs or

streams and rivers. Throughout the years, well supplies and aquifers have been environmentally threatened, with historically minor purification treatment giving way to major well rehabilitation, extensive treatment or replacement. Supply availability is also limited by drought, water source overuse, runoff, threatened species/habitat protection and other operational, political and environmental factors. In addition, the Environmental Protection Agency ("EPA"), as well as individual state and local environmental agencies, are continually monitoring potential contaminants in the water supply and promulgating regulations for containment, tightening current regulations when necessary. Increasingly stringent environmental standards necessitate additional capital investment in the distribution and treatment of water, exacerbating the pressure on free cashflows which arises from increased capital expenditures for infrastructure repair and replacement. In the course of procuring water supplies and treating water so that it complies with Safe Drinking Water Act ("SDWA") standards, water utilities have an ever-increasing responsibility to be stewards of the environment from which supplies are drawn, in order to preserve and protect their essential natural resources of the United States.

Water utilities are typically vertically engaged in the entire process of acquiring supply, production, treatment and distribution of water. In contrast, electric and natural gas companies, where transmission and distribution is often separate from generation do not produce the electricity or natural gas which they transmit and distribute. Hence, water utilities require significant capital investment in not only distribution and transmission systems but also in sources of supply and production (wells and treatment facilities) and storage facilities. The capital investment is necessary to both serve additional customers and to replace aging systems, creating a major risk facing the water and wastewater utility

industry.

Because the water and wastewater industry is more capital-intensive than the electric, combination electric and gas or natural gas utilities, the investment required to produce a dollar of revenue is greater. For example, as shown on page 1 of Schedule 2, it took $3.75 of net utility plant on average to produce $1.00 in operating revenues in 2012 for the water utility industry as a whole. For TUI, it took a much higher $5.47 of net utility plant to produce $1.00 of operating revenues. In contrast, for the electric, combination electric and gas and natural gas utility industries, on average it took only $2.56, $2.13 and $1.56, respectively, to produce $1.00 in operating revenues in 2012. The greater capital intensity of water utilities is not a new phenomenon, as water utilities have exhibited a consistently and significantly greater capital intensity relative to electric, combination electric and gas and natural gas utilities during the ten years ended 2012, as shown on page 2 of Schedule 2. As financing needs have increased over the last decade, the competition for capital from traditional sources has increased, making the need to maintain financial integrity and the ability to attract needed new capital increasingly important.

The National Association of Regulatory Commissioners ("NARUC") also highlighted the challenges facing the water and wastewater industry stemming from its capital intensity. NARUC's Board of Directors adopted the following resolution in July 2013:[3]

WHEREAS, There is both a constitutional basis and judicial precedent allowing investor owned public water and wastewater utilities the opportunity to earn a rate of

[3] "Resolution Supporting Consideration of Regulatory Policies Deemed as 'Best Practices'", Sponsored by the Committee on Water. Adopted by the NARUC Board of Directors, July 2013.

return that is reasonably sufficient to assure confidence in the financial soundness of the utility and its ability to provide quality service; *and*

WHEREAS, Through the *Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"* (2005), the National Association of Regulatory Utility Commissioners (NARUC) has previously recognized the role of innovative regulatory policies and mechanisms in the ability for public water and wastewater utilities to address significant infrastructure investment challenges facing water and wastewater system operators; *and*

* * *

WHEREAS, Recent analysis shows that as compared to other regulated utility sectors, significant and widespread discrepancies continue to be observed between commission authorized returns on equity and observed actual returns on equity among regulated water and wastewater utilities; *and*

WHEREAS, The extent of such discrepancies suggests the existence of challenges unique to the regulation of water and wastewater utilities; *and*

* * *

WHEREAS, Deficient returns present a clear challenge to the ability of the water and wastewater industry to attract the capital necessary to address future infrastructure investment requirements necessary to provide safe and reliable service, which could exceed one trillion dollars over a 20-year period; *and*

WHEREAS, The NARUC Committee on Water recognizes the critical role of the implementation and the effective use of sound regulatory practice [sic] and the innovative regulatory policies identified in the *Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"*; and

* * *

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners, convened at its 2013 Summer Meeting in Denver, Colorado, identifies the implementation and effective use of sound regulatory practice [sic] and the innovative regulatory policies identified in the *Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"* (2005) as a critical component of a water and/or wastewater utility's reasonable ability to earn its authorized return; and *be it further*

RESOLVED, That NARUC recommends that economic regulators carefully consider and implement appropriate ratemaking measures as needed so that water and

wastewater utilities have a reasonable opportunity to earn their authorized returns within their jurisdictions…

TUI itself is facing significant capital investment as it projects net capital expenditures of $36 M for 2014 through 2018, representing an increase of approximately 25% over 2012 net utility plant of $146 M.

Coupled with its capital intensive nature, the water utility industry also experiences lower relative depreciation rates as well. Lower depreciation rates, as one of the principal sources of internal cash flows for all utilities, mean that water utility depreciation as a source of internally-generated cash is far less than for electric, combination electric and gas or natural gas. Water utilities' assets have longer lives and, hence, longer capital recovery periods. As such, water utilities face greater risk due to inflation which results in a higher replacement cost per dollar of net plant than for other types of utilities. As shown on page 3 of Schedule 2, water utilities experienced an average depreciation rate of 3.1% for 2012 with TUI experiencing a significantly lower rate of 1.9%. In contrast, in 2012, the electric, combination electric and gas and natural gas utilities experienced average depreciation rates of 3.2%, 3.5% and 4.1%, respectively. As with capital intensity, the lower relative depreciation rates of water and wastewater utilities are not a new phenomenon, as shown on page 4 of Schedule 3. Low depreciation rates signify that the pressure on cash flows remains significantly greater for water utilities than for other types of utilities.

Not only is the water utility industry historically capital intensive, it is expected to incur significant capital expenditure needs over the next 20 years.

In 2011, the EPA stated the following[4]:

> The survey estimated a total national infrastructure need is $384.2 billion for the 20-year period from January 2011 through December 2030.
>
> * * *
>
> The large magnitude of the national need reflects the challenges confronting water systems as they deal with an infrastructure network that has aged considerably since these systems were constructed, in many cases, 50 to 100 years ago.
>
> * * *
>
> With $247.5 billion in needs over the next 20 years, transmission and distribution projects represent the largest category of need. This result is consistent with the fact that transmission and distribution mains account for most of the nation's water infrastructure. The other categories, in descending order of need are: treatment, storage, source and a miscellaneous category of needs called "other".

Water utility capital expenditures as large as those projected by the EPA will require significant financing. The three sources typically used for financing are debt, equity (common and preferred) and cash flow. All three are intricately linked to the opportunity to earn a sufficient rate of return as well as the ability to achieve that return. Consistent with *Hope* and *Bluefield*, the return must be sufficient enough to maintain credit quality as well as enable the attraction of necessary new capital, be it debt or equity capital. If it is unable to raise debt or equity capital, the utility must turn to either retained earnings or free cash flow (operating cash flow (funds from operations) minus capital expenditures), both of which are directly linked to earning a sufficient rate of return. The level of free cash flows represents the financial flexibility of a company or a company's

[4] "Fact Sheet: "EPA's 2011 Drinking Water Infrastructure Needs Survey and Assessment", United States Environmental Protection Agency, Office of Water, April 2013.

ability to meet the needs of its debt and equity holders. If either retained earnings or free cash flows is inadequate, it will be nearly impossible for the utility to attract the needed new capital to invest in needed new infrastructure. It is clear that an insufficient rate of return can be financially devastating for utilities and for their customers, the ratepayers. Page 5 of Schedule 2 demonstrates that the free cash flows (funds from operations minus capital expenditures) of water utilities as a percent of total operating revenues has been consistently negative and below that of the electric, combination electric and gas and natural gas utilities for the ten years ended 2012, showing some improvement in 2011 and 2012. Magnifying the impact of water utilities' potentially inadequate cash flow position is a general inability to achieve their authorized rate of return on common equity.

In view of the foregoing, it is clear that the water utility industry's high degree of capital intensity and low depreciation rates, coupled with the need for substantial infrastructure capital spending, makes the need to maintain financial integrity and the ability to attract needed new capital increasingly important in order for water utilities to be able to successfully meet the challenges they face.

Q. DOES A COMPANY'S SIZE HAVE A BEARING ON BUSINESS RISK?

A. Yes. Company size is a significant element of business risk for which investors expect to be compensated through greater returns. Smaller companies are simply less able to cope with significant events that affect sales, revenues and earnings. For example, smaller companies face more risk exposure to business cycles and economic conditions, both nationally and locally. Additionally, the loss of revenues from a few larger customers would have a greater effect on a small company than on a much larger company with a larger, more diverse, customer base. Moreover, smaller companies are generally less

diverse in their operations and have less financial flexibility.

Further evidence of the risk effects of size include the fact that investors demand greater returns to compensate for the lack of marketability and liquidity of the securities of smaller firms. It is a basic financial principle that it is the use of funds invested and not the source of those funds that gives rise to the risk of any investment[5]. Therefore, the Commission should authorize a cost of common equity in this proceeding that reflects TUI's relevant risk, including the impact of its small size, which will subsequently be discussed.

Consistent with the financial principle of risk and return discussed above, such increased risk due to small size must be taken into account in the allowed rate of return on common equity.

Q. PLEASE DISCUSS HOW TUI'S SIZE INCREASES ITS BUSINESS RISK RELATIVE TO THE PROXY GROUP.

A. TUI is smaller than the average company in the proxy group of nine water companies based upon estimated market capitalization as will be discussed subsequently. As shown on Schedule 10, page 1, TUI's estimated market capitalization of $111.096 <u>million</u> is lower than the average market capitalization of the water proxy group, $1.561 <u>billion</u> on September 16, 2013. Consequently, TUI has greater relative business risk because, all else equal, size has a bearing on risk.

<u>Financial Risk</u>

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[5] Richard A. Brealey and Stewart C. Myers, <u>Principles of Corporate Finance</u> (McGraw-Hill Book Company, 1996) 204-205, 229.

Q. PLEASE DEFINE FINANCIAL RISK AND EXPLAIN WHY IT IS IMPORTANT TO THE DETERMINATION OF A FAIR RATE OF RETURN.

A. Financial risk is the additional risk created by the introduction of senior capital, i.e., debt and preferred stock, into the capital structure. The higher the proportion of senior capital in the capital structure, the higher the financial risk which must be factored into the common equity cost rate, consistent with the previously mentioned basic financial principle of risk and return, i.e., investors demand a higher common equity return as compensation for bearing higher investment risk.

S&P initially published its electric, gas, and water utility ratings rankings in a framework consistent with the manner in which it presents its rating conclusions across all other corporate sectors in November 2007. S&P then stated[6]:

> Incorporating utility ratings into a shared framework to communicate the fundamental credit analysis of a company furthers the goals of transparency and comparability in the ratings process.
>
> * * *
>
> The utilities rating methodology remains unchanged, and the use of the corporate risk matrix has not resulted in any changes to ratings or outlooks. The same five factors that we analyzed to produce a business risk score in the familiar 10-point scale are used in determining whether a utility possesses an "Excellent," "Strong," "Satisfactory," "Weak," or "Vulnerable" business risk profile.

In September 2012, S&P refined and expanded its Business Risk / Financial Risk Matrix in an effort to provide greater transparency to its corporate rating methodology without changing its rating criteria or standards (see Tables 1 and 2, pages 2 and 3 of Schedule 3). Notwithstanding the metrics published in Table 2, S&P stated:

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[6] Standard & Poor's – Ratings Direct – "U.S. Utilities Ratings Analysis Now Portrayed In The S&P Corporate

> We do not have any predetermined weights for these categories. The significance of specific factors varies from situation to situation.
>
> * * *
>
> The rating matrix indicative outcomes are what we typically observe – but are not meant to be precise indications or guarantees of future rating opinions. Positive and negative nuances in our analysis may lead to a notch higher or lower than the outcomes indicated in the various cells of the matrix.

As shown on Schedule 7, page 4, the average S&P bond rating of the nine water companies is a split A+/A. Because TUI is a wholly-owned subsidiary of MSEX, whose S&P bond rating is A, TUI's bonds, if rated by S&P, would likely be rated A as well, in my opinion. Since a bond rating of A is slightly lower than that of the proxy group, a modest upward credit adjustment is warranted.

Q. NEVERTHELESS, CAN THE COMBINED BUSINESS RISKS, I.E., INVESTMENT RISK OF AN ENTERPRISE, BE PROXIED BY BOND AND CREDIT RATINGS?

A. Yes, similar bond ratings/issuer credit (bond/credit) ratings reflect and are representative of similar combined business and financial risks, i.e., total risk faced by bond investors. Although specific business or financial risks may differ between companies, the same bond/credit rating indicates that the combined risks are similar, albeit not necessarily equal, as the purpose of the bond/credit rating process is to assess credit quality or credit risk and not common equity risk. Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, i.e., within the A category, an S&P rating can be at A+, A, or A-. Similarly, risk distinctions for Moody's ratings are distinguished by

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Ratings Matrix" (November, 30, 2007) 2.

numerical rating gradations, i.e., within the A category, a Moody's rating can be A1, A2 and A3. For S&P, additional risk distinctions are reflected in the assignment of one of the six business risk profiles and six financial risk profiles, shown in Tables 1 and 2 on pages 2 and 3 of Schedule 3.

In summary, it is clear that S&P's bond/credit rating process encompasses a qualitative analysis of business and financial risks (see page 3 of Schedule 4). While not a means by which one can specifically quantify the differential in common equity risk between companies, bond/credit ratings provide a useful means with which to compare/differentiate investment risk between companies because they are the result of a thorough and comprehensive analysis of all diversifiable business risks, i.e., investment risk.

Tidewater Utilities, Inc.

Q. HAVE YOU REVIEWED FINANCIAL DATA FOR TUI?

A. TUI, along with its wholly-owned subsidiary, Southern Shores Water Company, LLC, provides water services to approximately 37,000 retail customers in New Castle, Kent and Sussex Counties.

As shown on page 1 of Schedule 4, during the five year period ending 2012, the achieved average earnings rate on book common equity for TUI was 6.80%. The five-year ending 2012 average common equity based upon total permanent capital was 55.01%.

Total debt as a percent of EBITDA for the years 2008-2012 ranged between 4.16 and 4.91 times and averaged 4.67%.

Proxy Group

1 **Q. PLEASE EXPLAIN HOW YOU CHOSE THE PROXY GROUP OF NINE**
2 **WATER COMPANIES.**

3 A. I chose the proxy group by selecting those companies which meet the following criteria:
4 1) they are included in the Water Company Group of AUS Utility Reports (October
5 2013); 2) they have 70% or greater of 2012 total operating income derived from and 70%
6 or greater of 2012 total assets devoted to regulated water operations; 3) at the time of the
7 preparation of this testimony, they had not publicly announced that they were involved in
8 any major merger or acquisition activity, i.e., one publicly-traded utility merging with or
9 acquiring another; 4) they have not cut or omitted their common dividends during the five
10 years ending 2012 or through the time of the preparation of this testimony; 5) they have a
11 *Value Line Investment Survey* (*Value Line*) adjusted beta; 6) they have a positive *Value*
12 *Line* five-year dividends per share ("DPS") growth rate projection; and 7) they have
13 *Value Line*, Reuters, Zacks or Yahoo! Finance, consensus five-year earnings per share
14 ("EPS") growth rate projections.

15 The following nine companies met these criteria: American States Water Co.,
16 American Water Works Co., Inc., Aqua America, Inc., Artesian Resources Corp.,
17 California Water Service Corp., Connecticut Water Service, Inc., TUI Water Co., SJW
18 Corp. and York Water Co.

19 **Q. HAVE YOU REVIEWED FINANCIAL DATA FOR THE PROXY GROUP?**

20 A. Yes. Page 2 of Schedule 4 contains comparative capitalization and financial statistics for
21 the nine proxy group water companies for the years 2008-2012.

22 As shown on page 2, during the five-year period ending 2012, the historically
23 achieved average earnings rate on book common equity for the group averaged 8.26%.

The average common equity ratio based upon permanent capital (excluding short-term debt) was 49.42%, and the average dividend payout ratio was 64.06%.

Total debt as a percent of EBITDA for the years 2008-2012 ranged between 3.84 and 9.07 times, averaging 5.51 times, while funds from operations relative to total debt ranged between 16.14% to 20.65%, averaging 17.82%.

Common Equity Cost Rate Models

Q. ARE THE COST OF COMMON EQUITY MODELS YOU USE MARKET-BASED MODELS?

A. Yes. It is important to use market-based models because the cost of common equity is a function of investors' perception of risk, which is embodied in the market prices they pay. The DCF model is market-based in that market prices are utilized in developing the dividend yield component of the model. The RPM is market-based in that the bond ratings and expected bond yields used in the application of the RPM reflect the market's assessment of bond/credit risk. In addition, the use of betas to determine the equity risk premium also reflects the market's assessment of market/systematic risk as betas are derived from regression analyses of market prices. The CAPM is market-based for many of the same reasons that the RPM is market-based i.e., the use of expected bond (U.S. Treasury bond) yields and betas. Finally, the process of selecting the comparable risk non-price regulated companies is market-based in that it is based upon statistics which result from regression analyses of market prices and reflect the market's assessment of total risk.

Discounted Cash Flow Model ("DCF")

1 **Q. WHAT IS THE THEORETICAL BASIS OF THE DCF MODEL?**

2 A. The theory underlying the DCF model is that the present value of an expected future
3 stream of net cash flows during the investment holding period can be determined by
4 discounting those cash flows at the cost of capital, or the investors' capitalization rate.
5 DCF theory indicates that an investor buys a stock for an expected total return rate, which
6 is derived from cash flows received in the form of dividends plus appreciation in market
7 price (the expected growth rate). Mathematically, the dividend yield on market price plus
8 a growth rate equals the capitalization rate, i.e., the total common equity return rate
9 expected by investors.

10 **Q. WHICH VERSION OF THE DCF MODEL DO YOU USE?**

11 A. I utilize the single-stage constant growth DCF model because, in my experience, it is the
12 most widely utilized version of the DCF used in public utility rate regulation. In my
13 opinion, it is widely utilized because utilities are generally in the mature stage of their
14 lifecycles and not transitioning from one growth stage to another.

15 **Q. PLEASE DESCRIBE THE DIVIDEND YIELD YOU USED IN YOUR**
16 **APPLICATION OF THE DCF MODEL.**

17 A. The unadjusted dividend yields are based upon a recent (September 16, 2013) indicated
18 dividend divided by the average of closing market prices for the 60 days ending
19 September 16, 2013 as shown in Column 1 on page 1 of Schedule 5.

20 **Q. PLEASE EXPLAIN THE ADJUSTED DIVIDEND YIELD SHOWN ON PAGE 1**
21 **OF SCHEDULE 5, COLUMN 6.**

22 A. Because dividends are paid periodically (quarterly), as opposed to continuously (daily), an
23 adjustment must be made to the dividend yield. This is often referred to as the discrete,

or the Gordon Periodic, version of the DCF model.

DCF theory calls for the use of the full growth rate, or D_1, in calculating the dividend yield component of the model. However, since the various companies in the proxy group increase their quarterly dividend at various times during the year, a reasonable assumption is to reflect one-half the annual dividend growth rate in the dividend yield component, or $D_{1/2}$. This is a conservative approach which does not overstate the dividend yield which should be representative of the next twelve-month period. Therefore, the actual average dividend yields in Column 1 on page 1 of Schedule 5 have been adjusted upward to reflect one-half the average projected growth rate shown in Column 6.

Q. PLEASE EXPLAIN THE BASIS OF THE GROWTH RATES OF THE PROXY GROUP WHICH YOU USE IN YOUR APPLICATION OF THE DCF MODEL.

A. Schedule 6 shows that approximately 50% of the common shares of the nine water companies are held by individuals as opposed to institutional investors. Institutional investors tend to have more extensive informational resources than most individual investors. Individual investors, with more limited resources, are therefore likely to place great significance on the opinions expressed by financial information services, such as *Value Line*, Reuters, Zacks and Yahoo! Finance, which are easily accessible and/or available on the Internet and through public libraries. Investors realize that analysts have significant insight into the dynamics of the industries and individual companies they analyze, as well as company's historical and future abilities to effectively manage the effects of changing laws and regulations and ever changing economic and market conditions.

1 Security analysts' earnings expectations have a more significant, but not sole,
2 influence on market prices than dividend expectations and on market price appreciation
3 or the "growth" experienced by investors.[7] Moreover, over the long run, there can be no
4 growth in dividends per share without growth in EPS. Thus, the use of earnings growth
5 rates in a DCF analysis provides a better matching between investors' market price
6 appreciation expectations and the growth rate component of the DCF.

7 **Q. PLEASE SUMMARIZE YOUR DIRECT DCF MODEL RESULTS.**

8 A. As shown on page 1 of Schedule 5, the average result of the application of the single-
9 stage DCF model is 8.79% while the median result is 8.72%. In arriving at a conclusion
10 of a DCF-indicated common equity cost rate for the proxy group, I have relied upon the
11 median of the results of the DCF, due to the wide range of DCF results as well as the
12 continuing volatile capital market conditions in light of the continuing fragile economic
13 recovery, and to not give undue weight to outliers on either the high or the low side. In
14 my opinion, the median is a more accurate and reliable measure of central tendency, and
15 provides recognition of all the DCF results.

16 **Q. PLEASE COMMENT UPON THE APPLICABILITY OF THE DCF MODEL IN**
17 **ESTABLISHING A COST OF COMMON EQUITY FOR TUI.**

18 A. The DCF model has a tendency to mis-specify investors' required common equity return
19 rate when the market value of common stock differs significantly from its book value.
20 Mathematically, because the "simplified" DCF model traditionally used in rate regulation
21 assumes a market-to-book ratio of one, it understates/overstates investors' required return

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[7] Roger A. Morin, New Regulatory Finance (Public Utility Reports, Inc., 2006) 298-303.

rate when market value exceeds or is less than book value. It does so because, in many instances, market prices reflect investors' assessments of long-range market price growth potentials (consistent with the infinite investment horizon implicit in the standard regulatory version of the DCF model) not fully reflected in analysts' shorter range forecasts of future growth in EPS, an accounting proxy. Thus, the market-based DCF model will result in a total annual dollar return on book common equity equal to the total annual dollar return expected by investors only when market and book values are equal, a rare and unlikely situation. In recent years, the market values of water utilities' common stocks have been well in excess of their book values as shown on page 2 of Schedule 4 ranging between 144.30% and 166.43% for the five years ending 2012.

Under DCF theory, the rate of return investors require is related to the market price paid for a security. Thus, market prices form the basis of investment decisions and investors' expected rates of return. In contrast, a regulated utility is generally limited to earning on a net book value (depreciated original cost) rate base. Although market prices are significantly influenced by analysts' EPS growth forecasts, market values can diverge from book values for a myriad of macroeconomic reasons including, but not limited to, EPS and DPS expectations, merger or acquisition expectations, interest rates, investor sentiment, unemployment levels, monetary policy, fiscal policy, etc.

Traditional rate base/rate of return regulation, where a market-based common equity cost rate is applied to a book value rate base, presumes that market-to-book ratios are at unity or 1.00. However, there is ample empirical evidence over sustained periods which demonstrate that this is an incorrect presumption. Since market-to-book ratios of unity or 1.00 are rarely the case as discussed above, regulatory allowed ROEs, i.e., earnings, have

a limited effect on utilities' market/book ratios as the market prices of utility common stocks are also influenced by factors beyond the direct influence of the regulatory process.

As noted by Phillips:[8]

> Many question the assumption that market price should equal book value, believing that 'the earnings of utilities should be sufficiently high to achieve market-to-book ratios which are consistent with those prevailing for stocks of unregulated companies.'

In addition, Bonbright[9] states:

> In the first place, commissions cannot forecast, except within wide limits, the effect their rate orders will have on the market prices of the stocks of the companies they regulate. In the second place, *whatever the initial market prices may be, they are sure to change not only with the changing prospects for earnings, but with the changing outlook of an inherently volatile stock market.* In short, market prices are beyond the control, though not beyond the influence of rate regulation. Moreover, even if a commission did possess the power of control, any attempt to exercise it ... would result in harmful, uneconomic shifts in public utility rate levels. (italics added)

Q. IS IT REASONABLE TO EXPECT THE MARKET VALUES OF UTILITIES' COMMON STOCKS TO CONTINUE TO SELL WELL ABOVE THEIR BOOK VALUES?

A. Yes. Market-to-book ratios of regulated utilities vary from year to year, due to such influences as the effects on the "Great Recession", subsequent economic and capital market turmoil and the fledgling recovery and the like. In my opinion, the common stocks of all utilities will continue to sell substantially above their book values, on average, because many investors will likely continue to commit a greater percentage of their available capital to common stocks in view of lower interest rate alternative

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8 Phillips, Charles F., The Regulation of Public Utilities – Theory and Practice (Public Utility Reports, Inc., 1993) 395.

9 James C. Bonbright, Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates (Public Utilities Reports, Inc., 1988) 334.

investment opportunities. The recent past and current capital market environment is in stark and historical contrast to the late 1970's and early 1980's when very high (by historical standards) yields on secured debt instruments in public utilities were available. Despite the fact dipped to a low in March 2009 as the "Great Recession" unfolded and the U.S. has begun to recover from the "Great Recession" at a slow pace, the majority of utility stocks, on average, have continued to sell at market prices well above their book value. In addition, as previously discussed, such sustained high market-to-book ratios have been influenced by factors other than fundamentals such as actual and reported growth in EPS and DPS.

Q. HAVE ANY REGULATORY COMMISSIONS RECOGNIZED THIS TENDENCY OF THE DCF MODEL TO UNDERSTATE/OVERSTATE INVESTORS' REQUIRED RETURN RATE WHEN MARKET-TO-BOOK RATIOS ARE GREATER/LESS THAN UNITY?

A. In 1994, the Indiana Utility Regulatory Commission (IURC) recognized the tendency of the DCF model to understate the cost of equity when market value exceeds book value noting that[10]:

> [u]nder the traditional DCF model . . . the appropriate earnings level of the utility would not be derived by applying the DCF result to the market price of the Company's stock . . . it would be applied to the utility's net original cost rate base. *If the market price of the stock exceeds its book value, . . . the investor will not achieve the return which the model finds is necessary.* (italics added)

Q. CAN THE UNDER- OR OVERSTATEMENT OF THE INVESTORS' REQUIRED RATE OF RETURN ON THE MARKET BY THE DCF MODEL BE

[10] Re: Indiana-American Water Company, Inc. 150 PUR4th 141, 167-168 (IN URC 1994).

DEMONSTRATED MATHEMATICALLY?

A. Yes. Page 2 of Schedule 5 demonstrates how a market-based DCF cost rate of 8.79% applied to a book value which is below market value will understate the investors' required return on market value. As shown, there is no realistic opportunity to earn the expected market-based rate of return on book value. In Column 1, investors expect an 8.79% return on a market price of $25.328. Column 2 shows that when the 8.79% return rate on market value is applied to book value which is approximately 59% of market value, the total annual return opportunity is just $1.309 on book value. With an annual dividend of $0.767, there is an opportunity for growth of only $0.542 which is just 2.14% in contrast to the 5.76% growth in market price expected by investors.

The converse is also true. When the market-to-book value is below 1, the DCF cost rate will overstate the investors' required return on market value.

Hence, it is clear that the DCF model mis-specifies, that is, it either understates/overstates investors' required cost of common equity capital when market values exceed/are less than their underlying book values and thus multiple cost of common equity models should be relied upon, rather than exclusive reliance upon the DCF model, when estimating investors' expectations.

Q. ARE YOU AWARE THAT MANY REGULATORY COMMISSIONS PRIMARILY RELY UPON THE DCF MODEL?

A. Yes. However, in my experience, the majority of regulatory commissions, including those which primarily rely upon the DCF model, also consider the result of a combination of the various cost of common equity models available.

Consideration of multiple cost of common equity estimation models is always appropriate, but especially so, when, in view of all of the foregoing, at this time the traditional application of the DCF mis-specifies investors' required return. The DCF mis-specifies, specifically understating investors' required return, because of the confluence of recently rising market prices, the use of accounting measures as proxies for capital appreciation in the DCF, the recent dramatic rise in actual and forecasted interest rates discussed below. The magnitude of this understatement can be found in the difference between the 5.76% growth in market values, i.e., growth in EPS, shown in column 1 on page 2 of Exhibit 5 and the growth in market value of 2.14%, shown in column 2, when the 8.79% DCF cost rate is applied to book value, or up to approximately 362 basis points. Coupled with the added reliability and accuracy that the use of multiple cost of common equity models provides in the estimation of the cost of common equity, it is more imperative than ever to not give exclusive, primary or even simply greater reliance to the DCF analysis at this time.

<u>The Risk Premium Model (RPM)</u>

Q. PLEASE DESCRIBE THE THEORETICAL BASIS OF THE RPM.

A. The RPM is based upon the basic financial principle of risk and return, namely, that investors require greater returns for bearing greater risk. The RPM recognizes that common equity capital has greater investment risk than debt capital, as common equity shareholders are last in line in any claim on a company's assets and earnings, with debt holders being first in line. Therefore, investors require higher returns from common stocks than from investment in bonds to compensate them for bearing the additional risk.

While the investors' required common equity return cannot be directly determined

1 or observed, it is possible to directly observe bond returns and yields. According to RPM
2 theory, one can assess a common equity risk premium over bonds, either historically or
3 prospectively, and then use that premium to derive a cost rate of common equity.
4 In summary, according to RPM theory, the cost of common equity equals the
5 expected cost rate for long-term debt capital plus a risk premium over that cost rate to
6 compensate common shareholders for the added risk of being unsecured and last-in-line
7 for any claim on the corporation's assets and earnings.
8 **Q. PLEASE EXPLAIN HOW YOU DERIVED YOUR INDICATED COST OF**
9 **COMMON EQUITY BASED UPON THE RPM.**
10 A. I relied upon the results from the application of two risk premium methods. The first
11 method is the Predictive Risk Premium Model™ (PRPM™), while the second method is
12 a risk premium model using a total market approach.
13 **Q. PLEASE EXPLAIN THE PRPM™.**
14 A. The PRPM™, published in the *Journal of Regulatory Economics (JRE)*[11] and *The*
15 *Electricity Journal (TEJ)*[12] was developed from the work of Robert F. Engle who shared
16 the Nobel Prize in Economics in 2003 "for methods of analyzing economic time series
17 with time-varying volatility ("ARCH")[13]" with "ARCH" standing for autoregressive
18 conditional heteroskedasticity. In other words, volatility changes over time and is related
19 from one period to the next, especially in financial markets. Engle discovered that the

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11 "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, Ph.D. The Journal of Regulatory Economics (December 2011), 40:261-278.

12 "Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", Pauline M. Ahern, Richard A. Michelfelder, Ph.D., Rutgers University, Dylan W. D'Ascendis, and Frank J. Hanley, The Electricity Journal (May, 2013).

13 www.nobelprize.org

volatility in prices and returns also clusters over time, is therefore highly predictable and can be used to predict future levels of risk and risk premiums. The PRPM™ estimates the risk / return relationship directly by analyzing the actual results of investor behavior rather than using subjective judgment as to the inputs required for the application of other cost of common equity models. In addition, the PRPM™ is not based upon an estimate of investor behavior, but rather upon the evaluation of the results of that behavior, i.e., the variance of historical equity risk premiums, in other words, the predicted equity risk premium is generated by the prediction of volatility (risk). Also, in the derivation of the premiums, greater weight is given to more recent time periods, in contrast to reliance upon the arithmetic mean premium which gives equal weight to each observed premium.

The inputs to the model are the historical returns on the common shares of each company in the proxy group minus the historical monthly yield on long-term U.S. Treasury securities through August 2013. Using a generalized form of ARCH, known as GARCH, each water company's projected equity risk premium was determined using Eviews© statistical software. The forecasted 30-year U.S. Treasury Bond (Note) yield of 4.31% is based upon the consensus forecast for the six quarters ending with the fourth quarter 2014 derived from the September 1, 2013 *Blue Chip Financial Forecasts (Blue Chip)*, was averaged with the long-range forecasts for 2015-2019 and 2020-2024 from the June 1, 2013 *Blue Chip* (shown on pages 9 and 10 of Schedule 7) as discussed below. The risk-free rate of 4.31% was then added to each company's PRPM™-derived equity risk premium to arrive at a PRPM™ derived cost of common equity as shown on page 2 of Schedule 7 which presents the results for each proxy company as well as the average and median results. As shown on page 2, the average PRPM™ indicated common equity

cost rate is 14.12% and the median is 11.58% for the nine water companies. I rely upon the median PRPM™ result due to the wide range of results and to not give any undue weight to any high or low outliers.

Q. PLEASE EXPLAIN THE TOTAL MARKET APPROACH RPM.

A. The total market approach RPM adds a prospective public utility bond yield to an equity risk premium which is derived from a beta-adjusted total market equity risk premium and an equity risk premium based upon the S&P Utilities Index.

Q. PLEASE EXPLAIN THE BASIS OF THE EXPECTED BOND YIELD OF 5.31% APPLICABLE TO THE NINE WATER COMPANIES SHOWN ON PAGE 3 OF SCHEDULE 7.

A. The first step in the total market approach RPM analysis is to determine the expected bond yield. Because both ratemaking and the cost of capital, including common equity cost rate, are prospective in nature, a prospective yield on similarly-rated long-term debt is essential. Hence, I rely upon a consensus forecast of about 50 economists of the expected yield on Aaa rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter of 2014 as derived from the September 1, 2013 *Blue Chip* averaged with the long-range forecasts for 2015-2019 and 2020-2024 from the June 1, 2013 *Blue Chip* (shown on pages 9 and 10 of Schedule 7). As shown on Line No. 1 of page 3 of Schedule 7, the average expected yield on Moody's Aaa rated corporate bonds is 5.08%. An adjustment of 0.27% is necessary to adjust that average Aaa corporate bond yield to be equivalent to a Moody's A rated public utility bond, as shown on Line No. 2 and explained in Note 2 resulting in an expected bond yield applicable to a Moody's A rated public utility bond of 5.35% as shown on Line No. 3.

Since the nine water companies' average Moody's bond rating is A1/A2, a downward adjustment of 0.04% is necessary to make the prospective bond yield applicable to an A1/A2 public utility bond, as detailed in Note 3 on page 3 of Schedule 7. Therefore, the expected specific bond yield is 5.31% for the nine water companies as shown on Line No. 5.

Q. PLEASE EXPLAIN THE METHOD UTILIZED TO ESTIMATE THE EQUITY RISK PREMIUM.

A. I evaluated the results of two different market equity risk premium studies based upon Ibbotson Associates' data, *Value Line's* forecasted total annual market return in excess of the prospective yield on Moody's Aaa corporate bonds, as well as two different studies of the equity risk premium for public utilities with Moody's A rated bonds as detailed on pages 8 and 11 of Schedule 7. As shown on Line No. 3, page 7, the mean equity risk premium is 4.89% applicable to the nine water companies. This estimate is the result of an average of a beta-derived equity risk premium as well as the average public utility equity risk premium relative to bonds rated A by Moody's based upon holding period returns.

Q. PLEASE EXPLAIN THE BASIS OF THE BETA-DERIVED EQUITY RISK PREMIUM.

A. The basis of the beta-derived equity risk premium applicable to the proxy group is shown on page 8 of Schedule 7. The beta-determined equity risk premium should receive substantial weight because betas are derived from the market prices of common stocks over a recent five-year period. Beta is a meaningful measure of prospective relative risk to the market as a whole and a logical means by which to allocate a company's/proxy

group's share of the market's total equity risk premium relative to corporate bond yields.

The total market equity risk premium utilized is 7.24%, based upon an average of the long-term arithmetic mean historical market equity risk premium, a predicted market equity risk premium based upon the PRPM™ and a forecasted market risk premium based upon *Value Line's* projected market appreciation and dividend yield.

Q. HOW DID YOU DERIVE THE LONG-TERM HISTORICAL MARKET EQUITY RISK PREMIUM?

A. To derive the historical (expectational) market equity risk premium, I used the most recent Morningstar data on holding period returns for the large company common stocks from the Ibbotson® SBBI® 2013 Valuation Yearbook – Market Results for Stocks, Bonds, Bill and Inflation ("SBBI – 2013")[14] and the average historical yield on Moody's Aaa and Aa rated corporate bonds for the period 1926-2012. The use of holding period returns over a very long period of time is useful because it is consistent with the long-term investment horizon presumed by the DCF model.

Consequently, as explained in note 1 on page 8 of Schedule 8, the long-term arithmetic mean monthly total return rate on large company common stocks of 11.83% and the long-term arithmetic mean monthly yield on Moody's Aaa and Aa rated corporate bonds of 5.28% were used. As shown on Line No. 1, the resultant long-term historical equity risk premium on the market as a whole is 6.55%.

I used arithmetic mean monthly total return rates for the large company stocks and yields (income returns) for the Moody's Aaa/Aa corporate bonds, because they are

[14] Ibbotson® SBBI® Valuation Yearbook – Market Results for Stocks, Bonds, Bills and Inflation Morningstar, Inc., 2013) .

appropriate for cost of capital purposes as noted in the SBBI – 2013. Arithmetic mean return rates and yields are appropriate because ex-post (historical) total returns and equity risk premiums differ in size and direction over time, providing insight into the variance and standard deviation of returns. Because the arithmetic mean captures the prospect for variance in returns and equity risk premiums, it provides the valuable insight needed by investors in estimating future risk when making a current investment. Absent such valuable insight into the potential variance of returns, investors cannot meaningfully evaluate prospective risk. If investors alternatively relied upon the geometric mean of ex-post equity risk premiums, they would have no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant rate of change, thereby obviating the year-to-year fluctuations, or variance, *critical to risk analysis.*

Only the arithmetic mean takes into account all of the returns / premiums, hence, providing meaningful insight into the variance and standard deviation of those returns / premiums.

Q. PLEASE EXPLAIN THE DERIVATION OF PRPM™ MARKET EQUITY RISK PREMIUM.

A. The inputs to the model are the historical monthly returns on large company common stocks from minus the monthly yields on Aaa corporate bonds during the period from January 1928 through June 2013 (the latest available at the time of the preparation of this testimony). Using the previously discussed generalized form of ARCH, known as GARCH, the market's projected equity risk premium was determined using Eviews© statistical software. The resulting predicted market equity risk premium based upon the

1 PRPM^{TM} of 9.20% is shown on Line No. 2 on page 8 of Schedule 7.

2 **Q. PLEASE EXPLAIN HOW YOU INCORPORATED *VALUE LINE'S***
3 **FORECASTED TOTAL ANNUAL MARKET RETURN MINUS THE**
4 **PROSPECTIVE YIELD ON AAA RATED CORPORATE BONDS IN YOUR**
5 **DEVELOPMENT OF AN EQUITY RISK PREMIUM FOR YOUR RPM**
6 **ANALYSIS?**

7 A. Once again, because both ratemaking and the cost of capital, including the cost rate of
8 common equity are prospective, a prospective market equity risk premium is essential.
9 The derivation of the forecasted or prospective market equity risk premium can be found
10 in note 3 on page 8 of Schedule 7. Consistent with the development of the dividend yield
11 component of my DCF analysis, it is derived from an average of the most recent thirteen
12 weeks ending September 20, 2013 3-5 year median market price appreciation potential by
13 *Value Line* plus an average of the median estimated dividend yield for the common stocks
14 of the 1,700 firms covered in *Value Line*'s Standard Edition as explained in detail in Note
15 1 on page 2 of Schedule 8.

16 The average median expected price appreciation is 41% which translates to a
17 8.97% annual appreciation and, when added to the average (similarly calculated) median
18 dividend yield of 2.08% equates to a forecasted annual total return rate on the market as a
19 whole of 11.05%. The forecasted total market equity risk premium of 5.97%, shown on
20 Line No. 3, page 8 of Schedule 7, is derived by deducting the September 1, 2013 *Blue*
21 *Chip* consensus estimate of about 50 economists of the expected yield on Moody's Aaa
22 rated corporate bonds for the six calendar quarters ending with the fourth calendar quarter
23 2014 averaged with the projected long-range forecasts for 2015-2019 and 2020-2024

from the June 1, 2013 *Blue Chip* of 5.08%, from the *Value Line*-derived projected market return of 11.05% (5.97% = 11.05% - 5.08%).

In arriving at my conclusion of equity risk premium of 7.24% on Line No. 4 on page 8, I have given equal weight to the historical market equity risk premium of 6.55%, the PRPM™ based market equity risk premium of 9.20% and the forecasted market equity risk premium of 5.97% shown on Line Nos. 1, 2 and 3, respectively (7.24% = (6.55% + 9.20% + 5.97%)/3).

Q. WHAT IS YOUR CONCLUSION OF A BETA-DERIVED EQUITY RISK PREMIUM FOR USE IN YOUR RPM ANALYSIS?

A. As shown on page 1 of Schedule 7, the most current median *Value Line* beta for the nine water companies is 0.70. Applying the median beta of the proxy group of 0.70 (consistent with my reliance upon the median PRPM™ results as previously discussed), to the market equity risk premium of 7.24% results in a beta adjusted equity risk premium of 5.07% for the nine water companies.

Q. HOW DID YOU DERIVE THE 4.70% EQUITY RISK PREMIUM BASED UPON THE S&P UTILITY INDEX AND MOODY'S A RATED PUBLIC UTILITY BONDS?

A. First, I derived the long-term monthly arithmetic mean equity risk premium between the S&P Utility Index total returns of 10.69% and monthly A rated public utility bond yields of 6.53% from 1928-2012 to arrive at an equity risk premium of 4.16% as shown on Line No. 3 on page 10 of Schedule 7. I then performed the PRPM™ using the same historical monthly equity risk premiums to arrive at the PRPM™ derived equity risk premium of 5.24% for the S&P Utility Index shown on Line No. 4, on page 11. The average of these

equity risk premiums is 4.70%, shown on Line No. 5 (4.70% = (4.16% + 5.24%)/2).

Q. WHAT IS YOUR CONCLUSION OF AN EQUITY RISK PREMIUM FOR USE IN YOUR TOTAL MARKET APPROACH RPM ANALYSIS?

A. The equity risk premium applicable to the proxy group of nine water companies is the average of the beta-derived premium, 5.07%, and that based upon the holding period returns of public utilities with A rated bonds, 4.70%, as summarized on Line No. 3 on Schedule 7, page 7, i.e., 4.89% (4.89% = (5.07% + 4.70%)/2).

Q. WHAT IS THE INDICATED RPM COMMON EQUITY COST RATE BASED UPON THE TOTAL MARKET APPROACH?

A. It is 10.20% for the nine water companies as shown on Line No. 7 on Schedule 7, page 3.

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE PRPM™ AND THE TOTAL MARKET APPROACH RPM?

A. As shown on page 1 of Schedule 7, the indicated RPM-derived common equity cost rate is 11.24%, derived by giving greater weight to the PRPM™ results because the PRPM™ is based upon a minimum of restrictive assumptions.[15] In addition, the PRPM™ is "not based upon an <u>estimate</u> of investor behavior, but rather, upon a statistical analysis of actual investor behavior" because it evaluates the results of that behavior, i.e., the volatility of historical equity risk premiums[16].

<u>The Capital Asset Pricing Model (CAPM)</u>

Q. PLEASE EXPLAIN THE THEORETICAL BASIS OF THE CAPM.

A. CAPM theory defines risk as the covariability of a security's returns with the market's

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[15] Ahern, Hanley, Michelfelder 277.

[16] The Electricity Journal.

returns as measured by beta (β). A beta less than 1.0 indicates lower variability while a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all other risk, i.e., all non-market or unsystematic risk, can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. In addition, the CAPM presumes that investors require compensation only for these systematic risks which are the result of macroeconomic and other events that affect the returns on all assets. The model is applied by adding a risk-free rate of return to a market risk premium, which is adjusted proportionately to reflect the systematic risk of the individual security relative to the total market as measured by beta. The traditional CAPM model is expressed as:

$$R_s = R_f + \beta(R_m - R_f)$$

Where: R_s = Return rate on the common stock

R_f = Risk-free rate of return

R_m = Return rate on the market as a whole

β = Adjusted beta (volatility of the security relative to the market as a whole)

Numerous tests of the CAPM have measured the extent to which security returns and betas are related as predicted by the CAPM confirming its validity. The empirical CAPM (ECAPM) reflects the reality that while the results of these tests support the notion that beta is related to security returns, the empirical Security Market Line ("SML") described by the CAPM formula is not as steeply sloped as the predicted SML.[17]

In view of theory and practical research, I have applied both the traditional CAPM

[17] Morin 175.

1 and the ECAPM to the companies in the proxy group and averaged the results.

2 **Q. PLEASE DESCRIBE YOUR SELECTION OF A RISK-FREE RATE OF**

3 **RETURN.**

4 A. As shown in column 3 on page 1 of Schedule 8, the risk-free rate adopted for both

5 applications of the CAPM is 4.31%. The risk-free rate for my CAPM analysis is based

6 upon the average of the consensus forecast of the reporting economists in the September

7 1, 2013 *Blue Chip* of the expected yields on 30-year U.S. Treasury bonds for the six

8 quarters ending with the fourth calendar quarter of 2014 averaged with the long-range

9 forecasts for 2015-2019 and 2020-2024 from the June 1, 2013 *Blue Chip*, as shown in

10 note 2, page 2 of Schedule 8.

11 **Q. WHY HAVE YOU AVERAGED THE PROSPECTIVE AND HISTORICAL**

12 **YIELDS ON U.S. TREASURY SECURITIES?**

13 A. I have averaged the prospective and historical yields on U.S. Treasury Securities because

14 in the current U.S. Treasury securities market, the Federal Reserve Bank is artificially and

15 indefinitely keeping interest rates low until certain economic thresholds are met; i.e.,

16 unemployment falls to 6.5% and inflation rises to 2.5%, amid concerns over the

17 struggling U.S. economy. As a result, current 30-year U.S. Treasury Bond yields and the

18 consensus forecasted yields are near historical and unprecedented lows. As such, they

19 are, by definition, not currently representative of the long-term cost of capital.

20 **Q. WHY ARE CURRENT AND CONSENSUS FORECASTED YIELDS FOR THE**

21 **NEXT SIX QUARTERS ON 30-YEAR U.S. TREASURY BONDS NOT**

22 **REPRESENTATIVE OF EXPECTED LONG-TERM CAPITAL COSTS?**

23 A. On August 23, 2013, *Value Line* published its Quarterly Forecast for the U.S. Economy.

Value Line projects interest rates to rise significantly by 2017. Specifically, the yield on the 3-month Treasury Bill is expected to rise from a current (September 6, 2013) 0.08%[18] to 3.0% in 2017; the yield on long-term Treasury securities to rise from a current (September 6, 2013) 3.87%[19] to 4.8% in 2017; the yield on Aaa Corporate Bonds to rise from 4.72%[20] (September 6, 2013) to 6.0% in 2017; and, the prime rate to rise from a recent (September 6, 2013) 3.25%[21] to 7.0% in 2017. These are significant anticipated increases in interest rates and indicate increasing capital costs in the next few years.

The minutes of the Federal Open Market Committee (FOMC) on July 30 and 31, 2013, indicate that the Federal Reserve's (Fed) policy makers "were 'broadly comfortable' Chairman Ben S. Bernanke's plan to taper this year if the economy strengthens, with a few saying a reduction may be needed soon"[22] While the market is currently (at the time of the writing of this testimony) responding to the crisis in Syria, the stock market reeled immediately after a similar sentiment was express by Chairman Bernanke following the June 18 and 19, 2013 meeting of the FOMC, when Chairman Bernanke hinted that the easing would be coming to a close sooner rather than later. Following the June FOMC meeting, the DJI fell approximately 520 points by week's end and another approximately 140 points on June 24, 2013. Since then, and before the market's reaction to the Syrian crisis and recent reaction to the budget and debt ceiling crisis, the stock market recovered somewhat as Chairman Bernanke clarified that while

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18 Federal Reserve Statistical Release, September 9, 2013.
19 Federal Reserve, September 9, 2013.
20 Federal Reserve, September 9, 2013.
21 Federal Reserve September 9, 2013.
22 www.bloomberg.com/new/print/2013-08-21/fomc-minutes-show-broad-support-for-bernanke-tapering-timeline.html.

the Fed may begin to taper down its quantitative easing, it does not necessarily mean a rise in the target Fed funds rate over the near-term.

> The Chairman has his work cut out for him. He has already indicated his intention to taper and tied it to the economic outlook. Markets haven't fully believed him, bringing forward their expectations of the increase in interest rates, interpreting the taper as the beginning of the end. Bernanke will have to work hard to convince markets that's not the case.[23]

Clearly the market believes interest rates are poised to rise sooner rather than later.

The bond markets also reacted strongly following the FOMC meeting in June 2013 with the yield on 10-year U.S. Treasury bonds rising more than 85 basis points since the close of the last FOMC meeting on May 1, 2013, i.e. rising from 1.66%[24] on May 1, 2013 to 2.52%[25] (June 21, 2013) rising another 42 basis points to 2.94%[26] on September 6, 2013, while the yield on 30-year U.S. Treasury Bonds rose 73 basis points from 2.83%[27] on May 1, 2013 to 3.56%[28] on June 21, 2013 rising another 31 basis points to 3.87%[29] on September 6, 2013. Public utility bond yields have also risen since May 1, 2013 with Moody's A rated public utility bond yields rising 61 basis points from 3.78%[30] on May 1, 2013 to 4.39%[31] on June 19, 2013 and rising another 23 basis points to 4.62%[32] on August 28, 2013, and Moody's Baa public utility bond yields rising 66 basis points from 4.15%[33] on May 1, 2013 to 4.81%[34] on June 19, 2013 and rising another 32

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23 "The End is Near: Fed Minutes Reveal Much of the FOMC Backs Tapering Q3 'Soon'", www.forbes.com.

24 *Value Line Selection & Opinion,* Value Line Investment Survey, May 10, 2013, 973.

25 Federal Reserve, June 24, 2013.

26 Federal Reserve Statistical Release, September 9, 2013.

27 *Value Line* 973.

28 Federal Reserve Statistical Release, June 24, 2013.

29 Federal Reserve Statistical Release, September 9, 2013.

30 *Value Line* 973.

31 *Value Line Selection and Opinion,* Value Line Investment Survey, June 28, 2013, 889.

32 *Value Line* 769.

33 *Value Line* 973.

basis points to 5.13%[35] on August 28, 2013. *Value Line* notes[36]:

> **Meantime, Wall Street is focused on the Federal Reserve,** and eagerly awaiting the lead bank's next FOMC meeting on September 17th and 18th for some hint as to when the popular bond-buying program will be curbed and by how much **and the situation in Syria,** where military action by the West was being contemplated as we went to press.
>
> * * *
>
> **The stock market has bent, but not broken,** as investors ponder the outlook for earnings, the economy, the Fed, world events, and budget dealings in Washington. Given how far and how fast equities have come, and the uncertainties now in place, the recent pullback on Wall Street is understandable. (bold type in original)

Clearly, the capital markets are beginning to reflect an expectation of rising interest rates. In my opinion, the end of the low interest rate environment of the last five years or so, a product of Fed policy, is coming to a close sooner rather than later and capital costs will [continue to] rise in general in the months and years to come, certainly during the life of the rates set in this proceeding. Hence, current and short-term consensus forecasted yields are not representative of current expected long-term capital costs.

Q. WHY IS THE YIELD ON LONG-TERM U.S. TREASURY BONDS APPROPRIATE FOR USE AS THE RISK-FREE RATE?

A. The yield on long-term U.S. Treasury T-Bonds is almost risk-free and its term is consistent with the long-term cost of capital to public utilities measured by the yields on A rated public utility bonds, the long-term investment horizon inherent in utilities' common stocks, the long-term investment horizon presumed in the standard DCF model

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34 *Value Line* 889.
35 *Value Line* 769.
36 *Value Line* 761.

1 employed in regulatory ratemaking, and the long-term life of the jurisdictional rate base
2 to which the allowed fair rate of return (i.e., cost of capital) will be applied. In contrast,
3 short-term U.S. Treasury yields are more volatile and largely a function of Federal
4 Reserve monetary policy.

5 **Q. PLEASE EXPLAIN THE ESTIMATION OF THE EXPECTED EQUITY RISK**
6 **PREMIUM FOR THE MARKET.**

7 A. The basis of the market equity risk premium is explained in detail in Note 1 on page 2 of
8 Schedule 8. It is derived from *Value Line's* 3-5 year median total market price
9 appreciation projections averaged over the most recent thirteen weeks ending September
10 20, 2013; the PRPM™ predicted market equity risk premium using monthly equity risk
11 premiums for large company common stocks relative to long-term U.S. Treasury
12 securities from January 1926 through June 2013; and, the arithmetic mean monthly equity
13 risk premiums of large company common stocks relative to long-term U.S. Treasury bond
14 income yields from SBBI-2013 from 1926-2012.

15 The *Value Line*-derived forecasted total market equity risk premium is derived by
16 deducting the 4.31% risk-free rate discussed above from the *Value Line* projected total
17 annual market return of 11.05%, resulting in a forecasted total market equity risk
18 premium of 6.74%. The PRPM™ market equity risk premium is 10.30%; derived using
19 the PRPM™, discussed above, relative to the yields on long-term U.S. Treasury securities
20 from January 1926 through June 2013 (the latest available at the time of the preparation
21 of this testimony). The long-term income return on U.S. Government Securities of 5.28%
22 was deducted from the SBBI-2013 monthly historical total market return of 11.83%

resulting in an historical market equity risk premium of 6.55%.

These three market equity risk premiums, when averaged, result in an average total market equity risk premium of 7.86% (7.86% = (6.74% + 10.30% + 6.55%)/3).

Q. WHAT ARE THE RESULTS OF YOUR APPLICATION OF THE TRADITIONAL AND EMPIRICAL CAPM TO THE PROXY GROUP?

A. As shown on Schedule 8, page 1, the average traditional CAPM cost rate is 9.72%, while the median is 10.34% for the nine water companies. The average ECAPM cost rate is 9.81%, while the median is 10.40%. Consistent with my reliance upon the median PRPM™ results discussed above, I rely upon the median results of the traditional CAPM and ECAPM for the proxy group, 9.81% and 10.40%, respectively. Thus, as shown on column 6 on page 1, the CAPM cost rate applicable to the proxy group is 10.11%[37], the average of the traditional CAPM and ECAPM results for the proxy group.

Common Equity Cost Rates For The Proxy Group Of Domestic, Non-Price Regulated Companies Based Upon the DCF, RPM and CAPM

Q. PLEASE DESCRIBE THE BASIS OF APPLYING COST OF COMMON EQUITY MODELS TO COMPARABLE RISK, NON-PRICE REGULATED COMPANIES.

A. Applying cost of common equity models to non-price regulated companies, comparable in total risk, is derived from the *"corresponding risk"* standard of the landmark cases of the U.S. Supreme Court, i.e., *Hope* and *Bluefield*, previously discussed. Therefore, it is consistent with the *Hope* doctrine that the return to the equity investor should be commensurate with returns on investments in other firms having corresponding risks

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[37] 10.11% = (9.81% + 10.40%)/2.

1 based upon the fundamental economic concept of opportunity cost which maintains that
2 the true cost of an investment is equal to the cost of the best available alternative use of
3 the funds to be invested. The opportunity cost principle is also consistent with one of the
4 fundamental principles upon which regulation rests: that regulation is intended to act as a
5 surrogate for competition and to provide a fair rate of return to investors.

6 The first step in determining such an opportunity cost of common equity based
7 upon a group of non-price regulated companies comparable in total risk to the nine water
8 companies is to choose an appropriate broad-based proxy group of non-price regulated
9 firms comparable in total risk to the proxy group of nine water companies which excludes
10 utilities to avoid circularity.

11 The selection criteria for the non-price regulated firms of comparable risk are
12 based upon statistics derived from the market prices paid by investors. *Value Line* betas
13 were used as a measure of systematic risk. The standard error of the regression was used
14 as a measure of each firm's unsystematic or specific risk with the standard error of the
15 regression reflecting the extent to which events specific to a company's operations affect
16 its stock price. In essence, companies which have similar betas and standard errors of the
17 regression, have similar total investment risk. Using a *Value Line* proprietary database
18 dated June 15, 2013, the application of these criteria based upon the nine water
19 companies results in a proxy group of non-price regulated firms comparable in total risk
20 to the average water company in the proxy group of nine water companies as explained
21 on page 4 of Schedule 9.

1 **Q. DID YOU CALCULATE COMMON EQUITY COST RATES USING THE DCF,**
2 **RPM AND CAPM FOR THE PROXY GROUP OF DOMESTIC, NON-PRICE**
3 **REGULATED COMPANIES THAT ARE COMPARABLE IN TOTAL RISK TO**
4 **THE UTILITY PROXY GROUP?**

5 A. Yes. Because the DCF, RPM and CAPM have been applied in an identical manner as
6 described above relative to the market data of the nine water companies, I will not repeat
7 the details of the rationale and application of each model shown on page 1 of Schedule 9.
8 An exception is that, in the application of the RPM, I did not use public utility-specific
9 equity risk premiums nor applied the PRPM™ to the individual companies. Pages 2
10 through 4 of Schedule 9 present the basis of selection, the identities of the companies in
11 the proxy group of non-price regulated companies as well as relevant notes.

12 Page 5 of Schedule 9 contains the derivation of the DCF cost rates. As shown, the
13 median DCF cost rate for the proxy group of twenty-nine non-price regulated companies
14 comparable in total risk to the nine water companies, is 11.13%.

15 Pages 6 through 8 contain information relating to the 11.07% RPM cost rate for the
16 proxy group of twenty-nine non-price regulated companies summarized on page 6. As
17 shown on Line No. 1 of page 6 of Schedule 9, the consensus prospective yield on Moody's
18 Baa rated corporate bonds of 6.00% is based upon the six quarters ending with the fourth
19 quarter of 2014 from the September 1, 2013 *Blue Chip* averaged with the long-range
20 forecasted yields for 2015-2019 and 2020-2024 from the June 1, 2013 *Blue Chip*. Since
21 the twenty-nine non-price regulated companies comparable in total risk to the nine water
22 companies have an average Moody's bond rating of Baa2 as shown on page 7 of Schedule

9, no adjustment is necessary to make the prospective bond yield applicable to the Baa corporate bond yield. Thus, the expected specific bond yield is 6.00% for the twenty-nine non-price regulated companies as shown on Line No. 1 on page 6 of Schedule 9. When the beta-adjusted risk premium of 5.07% relative to the proxy group of non-price regulated companies, as derived on page 8, is added to the prospective Baa rated corporate bond yield of 6.00%, the indicated RPM cost rate is 11.07%.

Page 9 contains the details of the application of the traditional CAPM and ECAPM to the proxy group of twenty-nine non-price regulated companies comparable in total risk to the nine water companies. As shown, the median traditional CAPM and ECAPM cost rates are 9.81% and 10.40%, respectively, for the twenty-nine non-price regulated companies which, when averaged, result in an indicated CAPM cost rate of 10.11%.

Q. WHAT IS YOUR CONCLUSION OF THE COST RATE OF COMMON EQUITY BASED UPON THE PROXY GROUP OF NON-PRICE REGULATED COMPANIES COMPARABLE IN TOTAL RISK TO THE NINE WATER COMPANIES?

A. As shown on page 1 of Schedule 9, the results of the DCF, RPM and CAPM applied to the non-price regulated group comparable in total risk to the nine water companies are 11.13%, 11.07% and 10.11%, respectively. Based upon these results, I will rely upon the average DCF, RPM and CAPM result of 10.77% for the proxy group of non-price regulated companies as summarized on page 1 of Schedule 9.

Conclusion of Common Equity Cost Rate

Q. WHAT IS YOUR RECOMMENDED COMMON EQUITY COST RATE?

A. It is 10.95% based upon the indicated common equity cost rate resulting from the application of multiple cost of common equity models to the nine water companies adjusted for TUI's credit and business risk as well as flotation costs.

I employ multiple cost of common equity models as primary tools in arriving at my recommended common equity cost rate because; 1) no single model is so inherently precise that it can be relied upon solely to the exclusion of other theoretically sound models; 2) all of the models are market-based; 3) the use of multiple models adds reliability to the estimation of the common equity cost rate; and 4) as demonstrated above, the prudence of using multiple cost of common equity models is supported in both the financial literature and regulatory precedent. Therefore, no single model should be relied upon exclusively to estimate investors' required rate of return on common equity.

The results of the cost of common equity models applied to the nine water companies are shown on Schedule 1, page 2 and summarized below:

Table 3

	Proxy Group of Nine Water Companies
Discounted Cash Flow Model	8.72%
Risk Premium Model	11.24
Capital Asset Pricing Model	10.11
Cost of Equity Models Applied to Comparable Risk, Non-Price Regulated Companies	10.77
Indicated Common Equity Cost Rate	10.45%
Credit Risk Adjustment	0.04
Business Risk Adjustment	0.35
Flotation Cost Adjustment	0.13
Indicated Common Equity Cost Rate	10.97%
Recommended Common Equity Cost Rate	10.95%

Based upon these common equity cost rate results, I conclude that a common equity cost rate of 10.45% is indicated for the nine water companies, before the financial and business risk adjustments as well as flotation costs previously discussed, and shown on Line Nos. 6, 7 and 8 on Schedule 1.

Credit Risk Adjustment

Q. IS THERE A WAY TO QUANTIFY A FINANCIAL RISK ADJUSTMENT DUE TO TUI'S LIKELY S&P BOND RATING OF A?

A. Yes. As discussed previously, if its bonds were rated, in my opinion, TUI would be

assigned an S&P bond rating of A. Since Moody's and S&P's bond ratings are generally analagous, in my opinion, were TUI's bonds to be rated by Moody's, they would likely be rated A2. Since the average Moody's bond rating of the nine water companies is A1/A2 as shown on page 2 of Schedule 7, the nine water companies enjoy slightly lower credit risk than TUI. Thus, a small, but necessary upward adjustment to the common equity cost rate based upon the nine water companies is warranted. An indication of the magnitude of such an adjustment is one-sixth of a recent three-month average spread of 0.24% shown on page 6 of Schedule 7 between Moody's Aa and A rated public utility bond yields, or 0.04% (0.04% = 0.24% * (1/6)).

Business Risk Adjustment

Q. IS THERE A WAY TO QUANTIFY A BUSINESS RISK ADJUSTMENT DUE TO TUI'S SMALL SIZE RELATIVE TO THE PROXY GROUP?

A. Yes. As discussed above, increased risk due to small size must be taken into account in the cost of common equity consistent with the financial principles of risk and return. Since the Company is smaller in size relative to the proxy group measured by the estimated market capitalization of common equity for TUI, whose common stock is not traded, it has greater business risk than the average company in the proxy group.

Table 4

	Market Capitalization(1) ($ Millions)	Times Greater than the Company
TUI	$111.096	
Proxy Group of Nine Water Companies	1,560.798	14.0x

(1) From page 1 of Schedule 10.

As shown on page 2 of Schedule 10, TUI's estimated market capitalization on September 16, 2013 was $111.096 million. In contrast, the market capitalization of the average water company was $1.561 billion on September 16, 2013, or 14.0 times the size of TUI's market capitalization.

Therefore, it is necessary to upwardly adjust the common equity cost rate of 10.45% based upon the nine water companies to reflect TUI's greater risk due to its smaller relative size. The determination is based upon the size premiums for decile portfolios of New York Stock Exchange (NYSE), American Stock Exchange (AMEX) and NASDAQ listed companies for the 1926-2012 period and related data from SBBI® – 2013. The average size premium for the 6th decile in which the nine water companies fall has been compared with the average size premium for the 10th decile in which the market capitalization of TUI falls. As shown on page 1, the size premium spread between the 10th decile and the 6th decile is 4.31%. In view of the foregoing, an upward adjustment of 0.35% to reflect TUI's greater relative business risk due to its smaller size is both reasonable and conservative.

Flotation Cost Adjustment

Q. WHAT ARE FLOTATION COSTS?

A. Flotation costs are those costs associated with the sale of new issuances of common stock. They include market pressure and the essential costs of issuance, e.g., underwriting fees and out-of-pocket costs for printing, legal, registration, etc.

Q. WHY IS IT IMPORTANT TO RECOGNIZE FLOTATION COSTS IN THE ALLOWED COMMON EQUITY COST RATE?

A. It is important because there is no other mechanism in the ratemaking paradigm with which such costs can be recovered. Because these costs are real and legitimate, recovery of these costs should be permitted. As noted by Morin:

> The costs of issuing these securities are just as real as operating and maintenance expenses or costs incurred to build utility plants, and fair regulatory treatment must permit recovery of these costs....
>
> The simple fact of the matter is that common equity capital is not free....[Flotation costs] must be recovered through a rate of return adjustment[38]

Q. SHOULD FLOTATION COSTS BE RECOGNIZED ONLY WHEN THERE WAS AN ISSUANCE DURING THE TEST YEAR OR THERE IS AN IMMINENT POST-TEST YEAR ISSUANCE OF ADDITIONAL COMMON STOCK?

A. No. As noted above, there is no mechanism to recapture such costs in the ratemaking paradigm other than an adjustment to the allowed common equity cost rate. Flotation costs are charged to capital accounts and are not expensed on a utility's income statement. As such, flotation costs are analogous to capital investments reflected on the balance

[38] Morin 321.

sheet. Recovery of capital investments relates to the expected useful lives of the investment. Since common equity has a very long and indefinite life (assumed to be infinity in the standard regulatory DCF model), flotation costs should be recovered through an adjustment to common equity cost rate even when there has not been an issuance during the test year or in the absence of an expected imminent issuance of additional shares of common stock.

Historical flotation costs are a permanent loss of investment to the utility and should be accounted for. When any company, including a utility, issues common stock, flotation costs are incurred for legal, accounting, printing fees and the like. For each dollar of issuing market price, a small percentage is expensed and is permanently unavailable for investment in utility rate base. Since these expenses are charged to capital accounts and not expensed on the income statement, the only way to restore the full value of that dollar of issuing price with an assumed investor required return of 10% is for the net investment, $0.95, to earn more than 10% to net back to the investor a fair return on that dollar. In other words, if a company issues stock at $1.00 with 5% in flotation costs, it will net $0.95 in investment. Assuming the investor in that stock requires a 10% return on his / her invested $1.00, or $0.10, the company needs to earn approximately 10.5% on its invested $0.95.

Q. DO THE COMMON EQUITY COST RATE MODELS YOU HAVE USED ALREADY REFLECT INVESTORS' ANTICIPATION OF FLOTATION COSTS?

A. No. All of these models assume no transaction costs. The literature is quite clear that these costs are not reflected in market prices paid for common stocks. For example, Brigham and Daves confirm this and provide the methodology utilized to calculate the

flotation adjustment which will be discussed subsequently[39] and shown on pages 1 and 2 of Schedule 11. In addition, Morin confirms the need for such an adjustment even when no new issue is imminent as previously noted.[40] Consequently, it is proper to include a flotation cost adjustment when using cost of common equity models to estimate the common equity cost rate.

Q. HOW DID YOU CALCULATE THE FLOTATION COST ALLOWANCE?

A. I modified the DCF calculation to provide a dividend yield that would reimburse investors for issuance costs in accordance with the previously cited literature by Brigham and Daves as well as Morin. The flotation cost adjustment recognizes the costs of issuing equity that were incurred by TUI's parent, MSEX, since May 2004. Based upon the issuance costs shown on page 1 of Schedule 11, an adjustment of 0.13% is required to reflect the flotation costs applicable to the proxy group as shown on Line No. 8 on Schedule 1.

Adding a credit risk adjustment of 0.04%, a business risk adjustment of 0.35% and a flotation cost adjustment of 0.13% to the 10.45% indicated common equity cost rate based upon the nine water companies before adjustment, results in a credit risk, business risk and flotation cost-adjusted common equity cost rate of 10.97%[41] which, when rounded to 10.95%, is my recommended common equity cost rate.

In my opinion, a common equity cost rate of 10.95% is both reasonable and conservative.

A common equity cost rate of 10.95% is consistent with the Hope and Bluefield

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39 Brigham and Daves 342.
40 Morin 327-30.
41 10.97% = 10.45% + 0.04% + 0.35% + 0.13.

1 standards of a fair and reasonable return which ensures the integrity of presently invested
2 capital and enables the attraction of needed new capital on reasonable terms. It also
3 ensures the continued reliability and quality of service to the benefit of ratepayers. Thus,
4 it balances the interests of both ratepayers and the Company.

5 A common equity cost rate of 10.95% is also reasonable in light of current and
6 expected economic and capital market conditions given the previous discussion of
7 expected rising interest rates and capital costs.

8 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

9 A. Yes.

APPENDIX A

PROFESSIONAL QUALIFICATIONS

OF

PAULINE M. AHERN, CRRA
PRINCIPAL

AUS CONSULTANTS

PROFESSIONAL QUALIFICATIONS
OF
PAULINE M. AHERN, CRRA
PRINCIPAL
AUS CONSULTANTS

PROFESSIONAL EXPERIENCE

1994-Present

In 1996, I became a Principal of AUS Consultants, continuing to offer testimony as an expert witness on the subjects of fair rate of return, cost of capital and related issues before state public utility commissions. I provide assistance and support to clients throughout the entire ratemaking litigation process. In addition, I supervise the financial analyst and administrative staff in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assists in the preparation of interrogatory responses, as well as rebuttal exhibits.

As the Publisher of AUS Utility Reports (formerly C. A. Turner Utility Reports), I am responsible for the production, publishing, and distribution of the reports. AUS Utility Reports provides financial data and related ratios for about 80 public utilities, i.e., electric, combination gas and electric, natural gas distribution, natural gas transmission, telephone, and water utilities, on a monthly, quarterly and annual basis. Among the subscribers of AUS Utility Reports are utilities, many state regulatory commissions, federal agencies, individuals, brokerage firms, attorneys, as well as public and academic libraries. The publication has continuously provided financial statistics on the utility industry since 1930.

I am also responsible for maintaining and calculating the performance of the AGA Index, a market capitalization weighted index of the common stocks of the approximately 70 corporate members of the AGA, which serves as the benchmark for the AGA Gas Utility Index Fund.

As an Assistant Vice President from 1994 - 1996, I prepared fair rate of return and cost of capital exhibits which were filed along with expert testimony before various state and federal public utility regulatory bodies. These supporting exhibits include the determination of an appropriate ratemaking capital structure and the development of embedded cost rates of senior capital. The exhibits also support the determination of a recommended return on common equity through the use of various market models, such as, but not limited to, Discounted Cash Flow analysis, Capital Asset Pricing Model and Risk Premium Methodology, as well as an assessment of the risk characteristics of the client utility. I also assisted in the preparation of responses to any interrogatories received regarding such testimonies filed on behalf of client utilities. Following the filing of fair rate of return testimonies, I assisted in the evaluation of opposition testimony in order to prepare interrogatory questions, areas of cross-examination, and rebuttal testimony. I also evaluated and assisted in the preparation of briefs and exceptions following the hearing process. I also submitted testimony before state public utility commissions regarding appropriate capital structure ratios and fixed capital cost rates.

1990-1994

As a Senior Financial Analyst, I supervised two analysts and assisted in the preparation of fair rate of return and cost of capital exhibits which are filed along with expert testimony before various state and federal public utility regulatory bodies. The team also assisted in the preparation of interrogatory responses.

I evaluated the final orders and decisions of various commissions to determine whether further actions were warranted and to gain insight which assisted in the preparation of future rate of return studies.

I assisted in the preparation of an article authored by Frank J. Hanley and A. Gerald Harris entitled "Does Diversification Increase the Cost of Equity Capital?" published in the July 15, 1991 issue of Public Utilities Fortnightly.

In 1992, I was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the National Society of Rate of Return Analysts (now the Society of Utility and Regulatory Financial Analysts (SURFA)). This designation is based upon education, experience and the successful completion of a comprehensive examination.

As Administrator of Financial Analysis for AUS Utility Reports, which then reported financial data for over 200 utility companies with approximately 1,000 subscribers, I oversaw the preparation of this monthly publication, as well as the accompanying annual publication, Financial Statistics - Public Utilities.

1988-1990

As a Financial Analyst, I assisted in the preparation of fair rate of return studies including capital structure determination, development of senior capital cost rates, as well as the determination of an appropriate rate of return on equity. I also assisted in the preparation of interrogatory responses, interrogatory questions of the opposition, areas of cross-examination and rebuttal testimony. I also assisted in the preparation of the annual publication C. A. Turner Utility Reports - Financial Statistics -Public Utilities.

1973-1975

As a Research Assistant in the Research Department of the Regional Economics Division of the Federal Reserve Bank of Boston, I was involved in the development and maintenance of econometric models to simulate regional economic conditions in New England in order to study the effects of, among other things, the energy crisis of the early 1970's and property tax revaluations on the economy of New England. I was also involved in the statistical analysis and preparation of articles for the New England Economic Review. Also, I was Assistant Editor of New England Business Indicators.

1972

As a Research Assistant in the Office of the Assistant Secretary for International Affairs, U.S. Treasury Department, Washington, D.C., I developed and maintained econometric models which simulated the economy of the United States in order to study the results of various alternate foreign trade policies so that national trade policy could be formulated and recommended.

Clients Served

I have offered expert testimony before the following commissions:

Arkansas
Arizona
British Columbia
California
Connecticut
Delaware
Florida
Hawaii
Idaho
Illinois
Indiana
Iowa
Kentucky
Louisiana
Maine
Maryland
Michigan
Missouri
Nevada
New Hampshire
New Jersey
New York
North Carolina
Ohio
Pennsylvania
Rhode Island
South Carolina
Virginia
Washington

I have sponsored testimony on fair rate of return and related issues for:

Alpena Power Company
Apple Canyon Utility Company
Applied Wastewater Management, Inc.
Aqua Illinois, Inc.
Aqua New Jersey, Inc.
Aqua North Carolina, Inc.
Aqua Ohio, Inc.
Aqua Virginia, Inc.

Rate of Return Testimony Clients Continued

Aquarion Water Company
Aquarion Water Co. of New Hampshire, Inc.
Arizona Water Company
Artesian Water Company
Bermuda Water Company
The Atlantic City Sewerage Company
Audubon Water Company
The Borough of Hanover, PA
Carolina Pines Utilities, Inc.
Carolina Water Service, Inc. of NC
Carolina Water Service, Inc. of SC
Chaparral City Water Company
The Columbia Water Company
The Connecticut Water Company
Consumers Illinois Water Company
Consumers Maine Water Company
Consumers New Jersey Water Company
City of DuBois, Pennsylvania
Elizabethtown Water Company
Emporium Water Company
GTE Hawaiian Telephone Inc.
Greenridge Utilities, Inc.
Illinois American Water Company
Iowa American Water Company
Jersey Central Power & Light Co.
Water Services Corp. of Kentucky
Lake Wildwood Utilities Corp.
Land'Or Utility Company
Long Island American Water Company
Long Neck Water Company
Louisiana Water Service, Inc.
Massanutten Public Service Company
Middlesex Water Company
Missouri-American Water Company
Mt. Holly Water Company
Nero Utility Services, Inc.
New Jersey Utilities Association
The Newtown Artesian Water Company
NRG Energy Center Pittsburgh LLC
NRG Energy Center Harrisburg LLC
Ohio-American Water Company
Penn Estates Utilities
Pinelands Water Company
Pinelands Waste Water Company
Pittsburgh Thermal
San Gabriel Valley Water Company
San Jose Water Company
Southland Utilities, Inc.
Spring Creek Utilities, Inc.
Sussex Shores Water Company
Tega Cay Water Services, Inc.
Total Environmental Services, Inc. – Treasure Lake Water & Sewer Divisions
Thames Water Americas
Tidewater Utilities, Inc.
Transylvania Utilities, Inc.
Trigen – Philadelphia Energy Corporation
Twin Lakes Utilities, Inc.
United Utility Companies
United Water Arkansas, Inc.
United Water Arlington Hills Sewerage, Inc.
United Water Connecticut, Inc.
United Water Delaware, Inc.
United Water Great Gorge Inc. / United Water Vernon Transmission, Inc.
United Water Idaho, Inc.
United Water Indiana, Inc.
United Water New Jersey, Inc.
United Water New Rochelle, Inc.
United Water New York, Inc.
United Water Owego / Nichols, Inc.
United Water Pennsylvania, Inc.
United Water Rhode Island, Inc.
United Water South County, Inc.
United Water Toms River, Inc.
United Water Vernon Sewage Inc.
United Water Virginia, Inc.
United Water Westchester, Inc.
United Water West Lafayette, Inc.
United Water West Milford, Inc.
Utilities, Inc.
Utilities Inc. of Central Nevada
Utilities, Inc. of Florida
Utilities, Inc. of Louisiana
Utilities, Inc. of Nevada
Utilities, Inc. of Pennsylvania
Utilities, Inc. - Westgate
Utilities Services of South Carolina
Utility Center, Inc.
Valley Energy, Inc.
Wellsboro Electric Company
Western Utilities, Inc.

I have sponsored testimony on generic/uniform methodologies for determining the return on common equity for:

Aquarion Water Company
The Connecticut Water Company
Corix Multi-Utility Services, Inc.
United Water Connecticut, Inc.
Utilities, Inc.

I have sponsored testimony on the rate of return and capital structure effects of merger and acquisition issues for:

California-American Water Company
New Jersey-American Water Company

I have sponsored testimony on capital structure and senior capital cost rates for the following clients:

Alpena Power Company
Arkansas-Western Gas Company
Associated Natural Gas Company
PG Energy Inc.
United Water Delaware, Inc.
Washington Natural Gas Company

I have sponsored testimony on Distribution System Improvement Charges (DSIC):

Arizona Water Company

I have assisted in the preparation of rate of return studies on behalf of the following clients:

Algonquin Gas Transmission Company
Anadarko Petroleum Corporation
Arizona Water Company
Arkansas-Louisiana Gas Company
Arkansas Western Gas Company
Artesian Water Company
Associated Natural Gas Company
Atlantic City Electric Company
Bridgeport-Hydraulic Company
Cambridge Electric Light Company
Carolina Power & Light Company
Citizens Gas and Coke Utility
City of Vernon, CA
Columbia Gas/Gulf Transmission Cos.
Commonwealth Electric Company
Commonwealth Telephone Company
Conestoga Telephone & Telegraph Co.
Connecticut Natural Gas Corporation
Consolidated Gas Transmission Company
Consumers Power Company
CWS Systems, Inc.
Delmarva Power & Light Company
East Honolulu Community Services, Inc.
Equitable Gas Company
Equitrans, Inc.
Florida Power & Light Company
Gary Hobart Water Company
Gasco, Inc.
GTE Arkansas, Inc.
GTE California, Inc.
GTE Florida, Inc.
GTE Hawaiian Telephone
GTE North, Inc.
GTE Northwest, Inc.
GTE Southwest, Inc.
Great Lakes Gas Transmission L.P.
Hawaiian Electric Company
Hawaiian Electric Light Company
IES Utilities Inc.
Illinois Power Company
Interstate Power Company
Interstate Power & Light Co.
Iowa Electric Light and Power Company
Iowa Southern Utilities Company
Kentucky-West Virginia Gas Company
Lockhart Power Company
Middlesex Water Company
Milwaukee Metropolitan Sewer District
Mountaineer Gas Company
National Fuel Gas Distribution Corp.
National Fuel Gas Supply Corp.
Newco Waste Systems of NJ, Inc.
New Jersey Natural Gas Company
New Jersey-American Water Company
New York-American Water Company
North Carolina Natural Gas Corp.
Northumbrian Water Company
Ohio-American Water Company
Oklahoma Natural Gas Company
Orange and Rockland Utilities
Paiute Pipeline Company
PECO Energy Company
Penn Estates Utilities, Inc.
Penn-York Energy Corporation
Pennsylvania-American Water Co.
PG Energy Inc.
Philadelphia Electric Company
Providence Gas Company
South Carolina Pipeline Company
Southwest Gas Corporation
Stamford Water Company
Tesoro Alaska Petroleum Company
Tesoro Refining & Marketing Co.
United Telephone of New Jersey
United Utility Companies
United Water Arkansas, Inc.
United Water Delaware, Inc.
United Water Idaho, Inc.
United Water Indiana, Inc.
United Water New Jersey, Inc.

Rate of Return Study Clients Continued

United Water New York, Inc.
United Water Pennsylvania, Inc.
United Water Virginia, Inc.
United Water West Lafayette, Inc.
Utilities, Inc. of Pennsylvania
Utilities, Inc. - Westgate
Vista-United Telecommunications Corp.
Washington Gas Light Company
Washington Natural Gas Company
Washington Water Power Corporation
Waste Management of New Jersey – Transfer Station A
Wellsboro Electric Company
Western Reserve Telephone Company
Western Utilities, Inc.
Wisconsin Power and Light Company

EDUCATION:

1973 – Clark University – B.A. – Honors in Economics (Concentration: Econometrics and Regional/International Economics)
1991 – Rutgers University – M.B.A. – High Honors (Concentration: Corporate Finance)

PROFESSIONAL AFFILIATIONS:

Advisory Council – New Mexico State University Center for Public Utilities
Advisory Board – Financial Research Institute – University of Missouri's Trulaske School of Business
Edison Electric Institute – Cost of Capital Working Group
National Association of Water Companies – Member of the Finance/Accounting/Taxation and Rates and Regulation Committees
Society of Utility and Regulatory Financial Analysts
Member, Board of Directors – 2010-2014
President – 2006-2008 and 2008-2010
Secretary/Treasurer – 2004-2006
American Finance Association
Financial Management Association
Energy Bar Association
Energy Association of Pennsylvania

SPEAKING ENGAGEMENTS:

"Regulatory Training in Financing, Planning, Strategies and Accounting Issues for Publicly- and Privately-Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, October 13-18, 2013, Instructor (Cost of Capital).

"Regulated Utilities – Access to Capital", (panelist) - Innovation: Changing the Future of Energy, 2013 Deloitte Energy Conference, Deloitte Center for Energy Solutions, May 22, 2013, Washington, DC.

"Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 32nd Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 17, 2013, Rutgers University, Shawnee on the Delaware, PA.

"Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks", before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN.

"Issues Surrounding the Determination of the Allowed Rate of Return", before the Staff Subcommittee on Electricity of the National Association of Regulatory Utility Commissioners, Winter 2013 Committee Meetings, February 3, 2013, Washington, DC.

"Leadership in the Financial Services Sector", Guest Professor – Cost of Capital, Business Leader Development Program, Rutgers University School of Business, February 1, 2013, Camden, NJ.

"Analyst Training in the Power and Gas Sectors", SNL Center for Financial Education, Downtown Conference Center at Pace University, New York City, December 12, 2012, Instructor (Financial Statement Analysis).

"Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, October 14-19, 2012, Instructor (Cost of Financial Capital).

"Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Dylan W. D'Ascendis, CRRA, AUS Consultants, Edison Electric Institute Cost of Capital Working Group, October 3, 2012, Webinar.

"Application of a New Risk Premium Model for Estimating the Cost of Common Equity", Co-Presenter with Dylan W. D'Ascendis, CRRA, AUS Consultants, Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Commissioners, September 10, 2012, St. Paul, MN.

"Analyst Training in the Power and Gas Sectors", SNL Center for Financial Education, Downtown Conference Center at Pace University, New York City, August 7, 2012, Instructor (Financial Statement Analysis).

"Advanced Regulatory Training in Financing Planning, Strategies and Accounting Issues for Publicly and Privately Owned Water and Wastewater Utilities", New Mexico State University Center for Public Utilities, May 13-17, 2012, Instructor (Cost of Financial Capital).

"A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", before the Finance and Regulatory Committees of the National Association of Water Companies, March 29, 2012, Telephonic Conference.

"A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", (co-presenter with Frank J. Hanley, Principal and Director, AUS Consultants) before the Water Committee of the National Association of Regulatory Utility Commissioners' Winter Committee Meetings, February 7, 2012, Washington, DC.

"A New Approach for Estimating the Equity Risk Premium Applied to Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University and Frank J. Hanley, Principal and Director, AUS Consultants) before the Wall Street Utility Group, December 19, 2011, New York City, NY.

"Advanced Cost and Finance Issues for Water", (co-presenter with Gary D. Shambaugh, Principal & Director, AUS Consultants), 2011 Advanced Regulatory Studies Program – Ratemaking, Accounting and Economics, September 29, 2011, Kellogg Center at Michigan State University – Institute for Public Utilities, East Lansing, MI.

"Public Utility Betas and the Cost of Capital", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 30th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2011, Rutgers University, Skytop, PA.

Moderator: Society of Utility and Regulatory Financial Analysts: 43rd Financial Forum – "Impact of Cost Recovery Mechanisms on the Perception of Public Utility Risk", April 14-15, 2011, Washington, DC.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Hot Topic Hotline Webinar, December 3, 2010, Financial Research Institute of the University of Missouri.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) before the Indiana Utility Regulatory Commission Cost of Capital Task Force, September 28, 2010, Indianapolis, IN

Tomorrow's Cost of Capital: Cost of Capital Issues 2010, Deloitte Center for Energy Solutions, 2010 Deloitte Energy Conference, "Changing the Great Game: Climate, Customers and Capital", June 7-8, 2010, Washington, DC.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Advanced Workshop in Regulation and Competition, 29th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 20, 2010, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 42nd Financial Forum – "The Changing Economic and Capital Market Environment and the Utility Industry", April 29-30, 2010, Washington, DC

"A New Model for Estimating the Equity Risk Premium for Public Utilities" (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) – Spring 2010 Meeting of the Staff Subcommittee on Accounting and Finance of the National Association of Regulatory Utility Commissioners, March 17, 2010, Charleston, SC

"New Approach to Estimating the Cost of Common Equity Capital for Public Utilities" (co-presenter with Richard A. Michelfelder, Ph.D., Rutgers University) - Advanced Workshop in Regulation and Competition, 28th Annual Eastern Conference of the Center for Research in Regulated Industries (CRRI), May 14, 2009, Rutgers University, Skytop, PA

Moderator: Society of Utility and Regulatory Financial Analysts: 41st Financial Forum – "Estimating the Cost of Capital in Today's Economic and Capital Market Environment", April 16-17, 2009, Washington, DC

"Water Utility Financing: Where Does All That Cash Come From?", AWWA Pre-Conference Workshop: Water Utility Ratemaking, March 25, 2008, Atlantic City, NJ

PAPERS:

"Empirical Tests of the Generalized Consumption Asset Pricing Model for Estimating the Cost of Common Equity Capital for Public Utilities", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Dylan W. D'Ascendis, (Working Paper).

"Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model", co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Dylan W. D'Ascendis, and Frank J. Hanley, The Electricity Journal, May, 2013.

"A New Approach for Estimating the Equity Risk Premium for Public Utilities", co-authored with Frank J. Hanley and Richard A. Michelfelder, Ph.D., Rutgers University, The Journal of Regulatory Economics (December 2011), 40:261-278.

"Comparable Earnings: New Life for Old Precept" co-authored with Frank J. Hanley, Financial Quarterly Review, (American Gas Association), Summer 1994.

Exhibit No. T-6
Tidewater Utilities, Inc.
PSC Docket No. _____
Witness: Pauline M. Ahern
Date Submitted:

BEFORE THE

DELAWARE PUBLIC SERVICE COMMISSION

EXHIBIT

TO ACCOMPANY THE

PREPARED DIRECT TESTIMONY

OF

PAULINE M. AHERN, CRRA
PRINCIPAL
AUS CONSULTANTS

ON BEHALF OF

TIDEWATER UTILITIES, INC.

NOVEMBER 2013

Table of Contents
to Exhibit No. T-6
of Pauline M. Ahern, CRRA

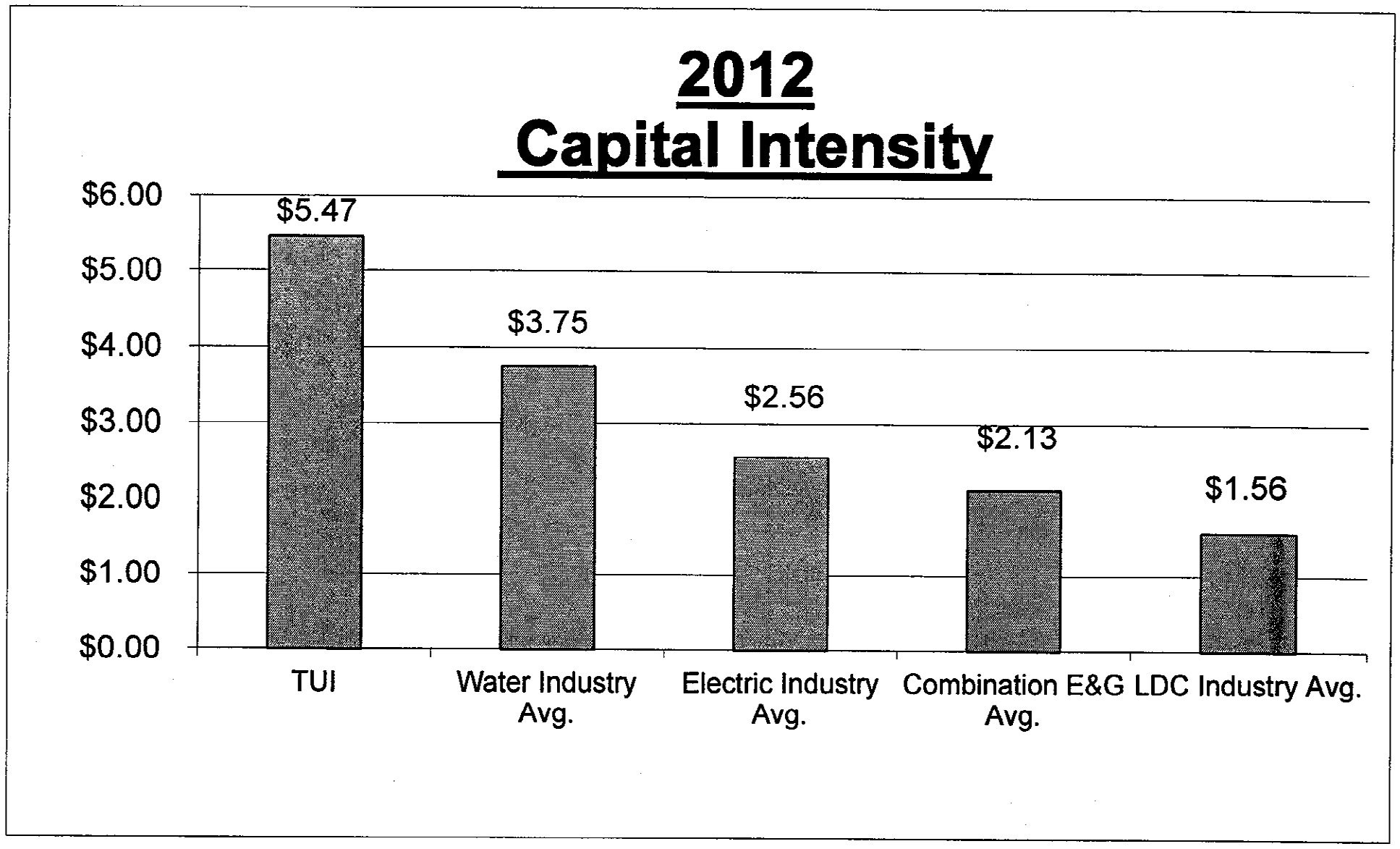
Tidewater Utilities, Inc.
Brief Summary of Common Equity Cost Rate

No.	Principal Methods	Proxy Group of Nine Water Companies
1.	Discounted Cash Flow Model (DCF) (1)	8.72 %
2.	Risk Premium Model (RPM) (2)	11.24
3.	Capital Asset Pricing Model (CAPM) (3)	10.11
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	10.77
5.	Indicated Common Equity Cost Rate before Adjustment for Business Risks	10.45 %
6.	Credit Risk Adjustment (5)	0.04
7	Business Risk Adjustment (6)	0.35
8.	Flotation Cost Adjustment (7)	0.13
9.	Indicated Common Equity Cost Rate	10.97 %
10.	Recommended Common Equity Cost Rate	10.95 %

Notes:
(1) From Schedule 5.
(2) From page 1 of Schedule 7.
(3) From page 1 of Schedule 8.
(4) From page 2 of Schedule 9.
(5) Credit risk adjustment to reflect the financial risk of the capital structure employed by Tidewater Utilities, Inc. for rate making purposes relative to the proxy group as detailed in Ms. Ahern's accompanying direct testimony.
(6) Business risk adjustment to reflect Tidewater Utilities, Inc.'s greater business risk due to its small size relative to the proxy group as detailed in Ms. Ahern's accompanying direct testimony.
(7) From Schedule 11.

Tidewater Utilities, Inc.
2012 Capital Intensity of Tidewater Utilities, Inc. and
AUS Utility Reports Utility Companies Industry Averages

	Average Net Plant ($ mill)	Average Operating Revenue ($ mill)	Capital Intensity ($)	Capital Intensity TUI v. Other Industries (times)
Tidewater Utilities, Inc.	$ 144.77	$ 26.46	$ 5.47	- -
Water Industry Average	$ 2,176.28	$ 581.03	$ 3.75	145.87%
Electric Industry Average	$ 15,387.49	$ 6,000.19	$ 2.56	213.67%
Combination Elec. & Gas Industry Average	$ 13,362.27	$ 6,263.01	$ 2.13	256.81%
Gas Distribution Average	$ 3,348.51	$ 2,149.69	$ 1.56	350.64%



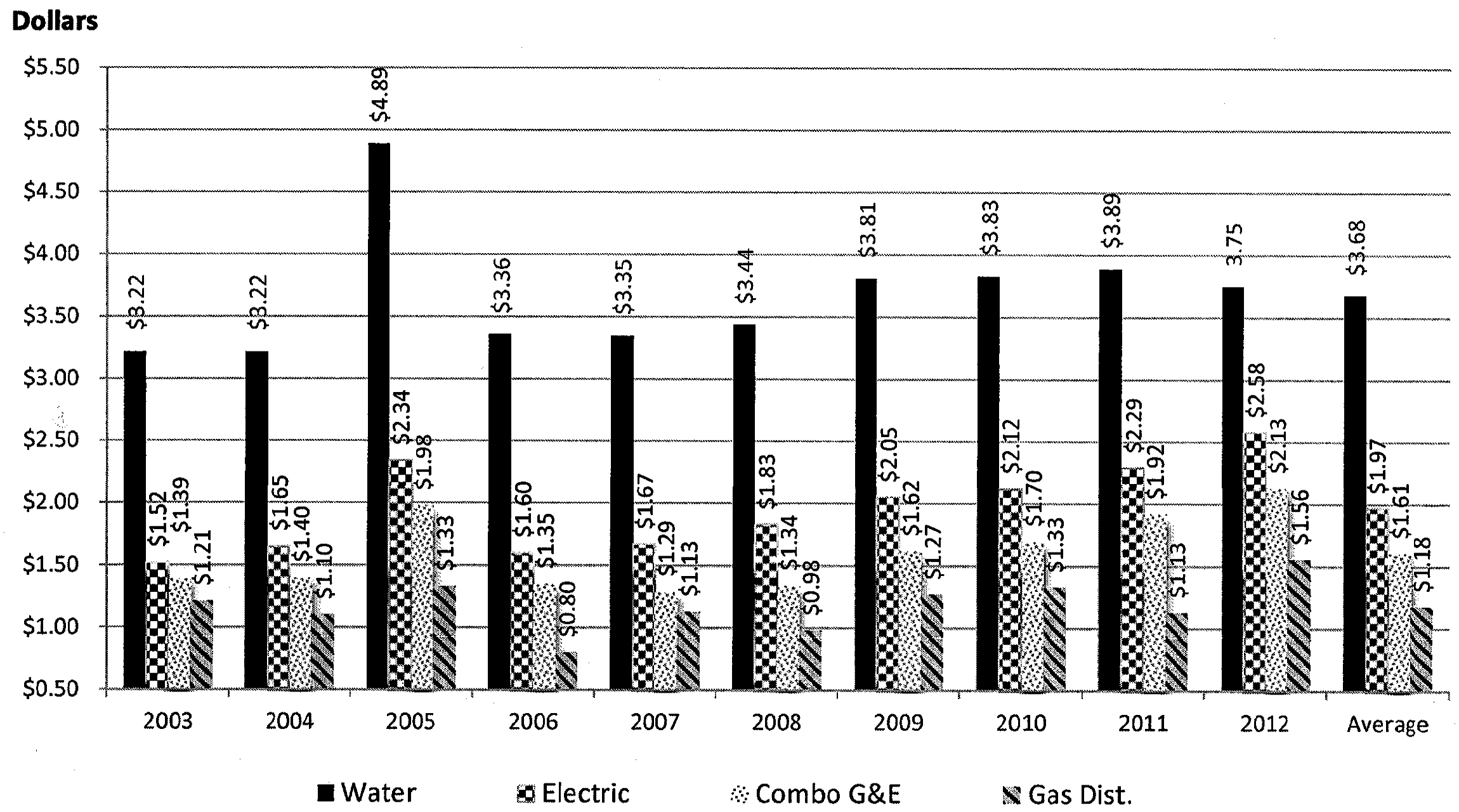
Notes:
Capital Intensity is equal to Net Plant divided by Total Operating Revenue.

Source of Information:
EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Reports - May 2012
Published By AUS Consultants

Company Provided Information

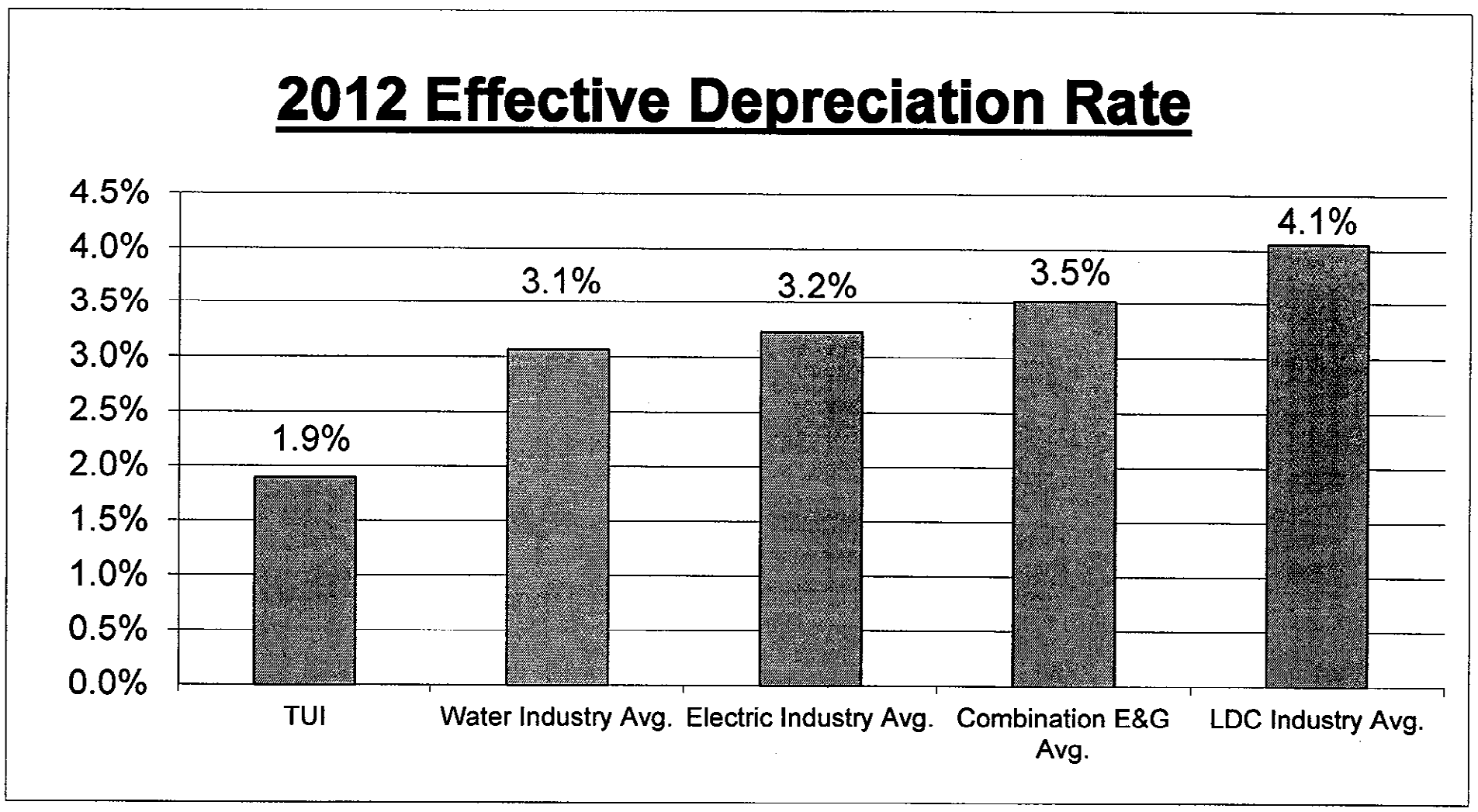
Capital Intensity of the AUS Utility Reports Companies
2003 - 2012



Source of Information: SEC Edgar I-Metrix Online Database

Tidewater Utilities, Inc.
2012 Depreciation Rate of Tidewater Utilities, Inc. and
AUS Utility Reports Utility Companies Industry Averages

	Depreciation Depletion & Amort. Expense ($ mill)	Average Total Gross Plant Less CWIP ($ mill)	Depreciation Rate (%)	Depreciation Rate TUI v. Other Industries (times)
Tidewater Utilities, Inc.	$ 3.06	$ 161.93	1.9%	- -
Water Industry Average	$ 73.48	$ 2,397.71	3.1%	61.29%
Electric Industry Average	$ 642.42	$ 19,834.47	3.2%	59.38%
Combination Elec. & Gas Industry Average	$ 650.61	$ 18,499.01	3.5%	54.29%
LDC Gas Distribution Industry Average	$ 175.22	$ 4,318.74	4.1%	46.34%



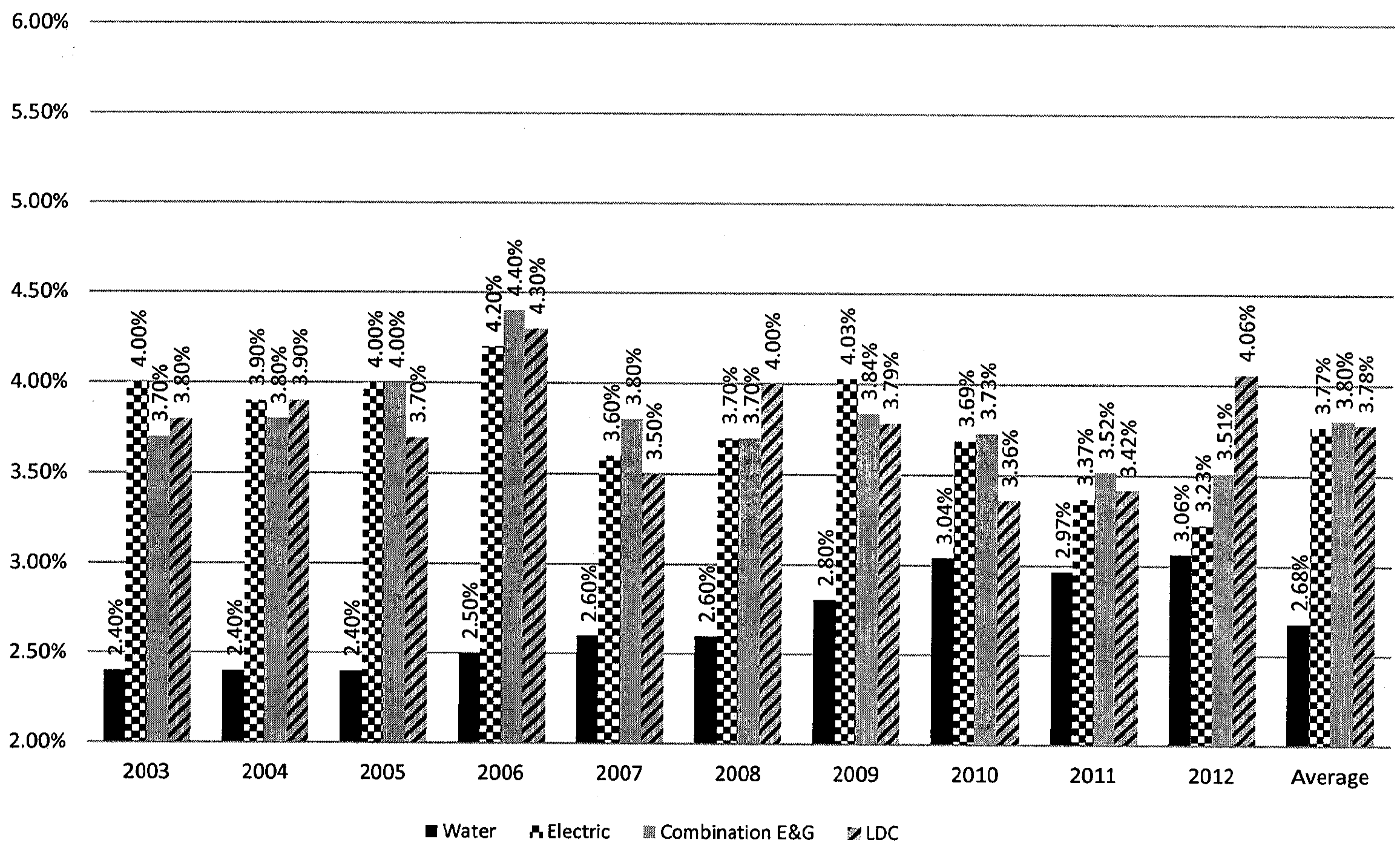
Notes:
Effective Depreciation Rate is equal to Depreciation, Depletion and Amortization Expense divided by average beginning and ending year's Gross Plant minus Construction Work in Progress.

Source of Information:
EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Report - May 2012
Published by AUS Consultants

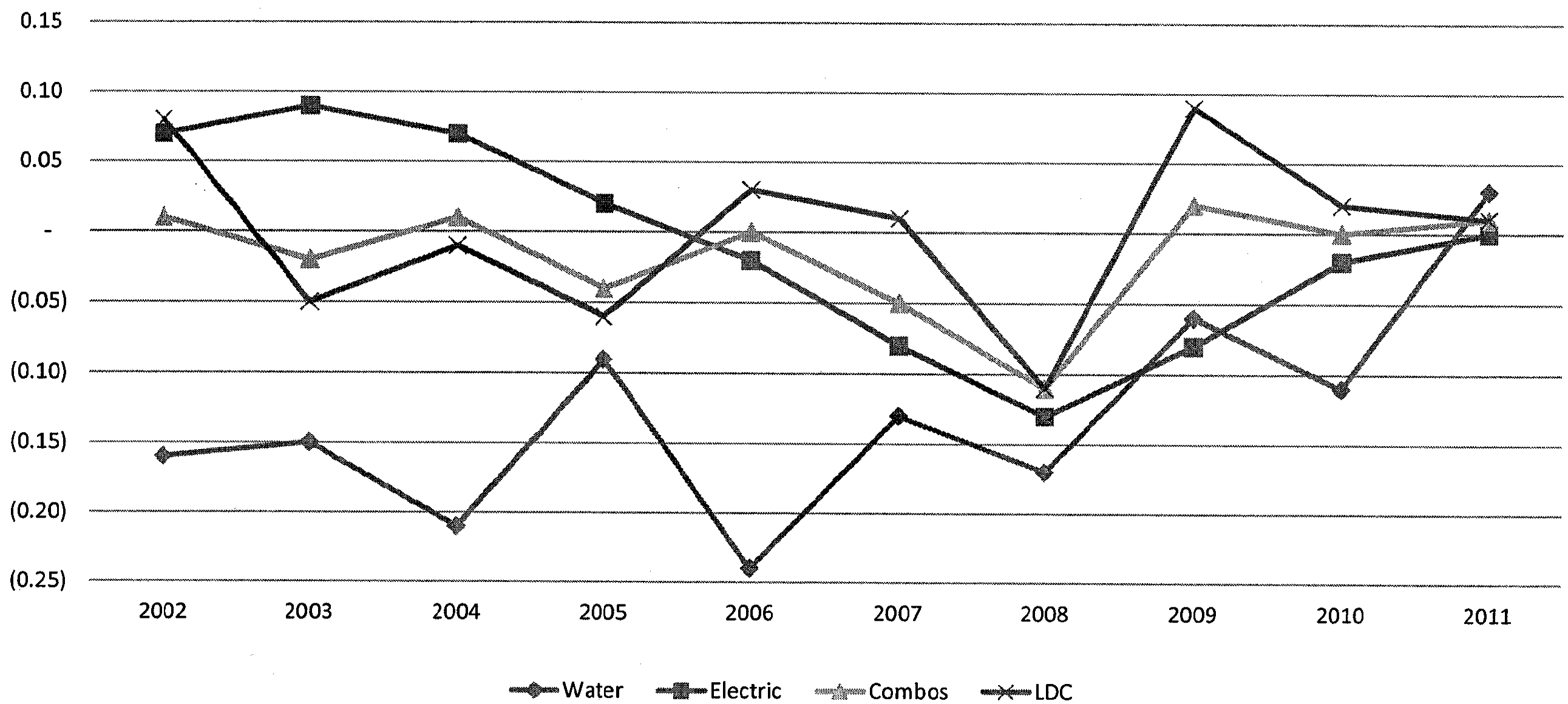
Company Provided Information

Depreciation Rates for the AUS Utility Reports Companies 2003-2012



Source of Information: SEC Edgar I-Metrix Online

Free Cash Flow / Operating Revenues for the AUS Utility Reports Companies 2002-2011



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Criteria | Corporates | General:

Methodology: Business Risk/Financial Risk Matrix Expanded

Criteria Officer:
Mark Puccia, Managing Director, New York (1) 212-438-7233; mark_puccia@standardandpoors.com

Table Of Contents

Criteria | Corporates | General:

Methodology: Business Risk/Financial Risk Matrix Expanded

1. Standard & Poor's Ratings Services is refining its methodology for corporate ratings related to its business risk/financial risk matrix, which we published as part of "2008 Corporate Ratings Criteria" on April 15, 2008. We subsequently updated this matrix in the article "Criteria Methodology: Business Risk/Financial Risk Matrix Expanded," published May 27, 2009. In order to provide greater transparency on the methodology used to evaluate corporate ratings, this article updates table 1 of the May 27, 2009, article to reflect how we analyze companies with an excellent business risk profile and minimal financial risk profile, as well as companies with a vulnerable business risk profile and a highly leveraged financial risk profile. This article amends and supersedes both the 2008 and 2009 articles mentioned above. This article is related to "Principles Of Credit Ratings," published on Feb. 16, 2011.

2. We introduced the business risk/financial risk matrix in 2005. The relationships depicted in the matrix represent an essential element of our corporate analytical methodology (see table 1).

Table 1

Business And Financial Risk Profile Matrix

Business Risk Profile	--Financial Risk Profile--					
	Minimal	Modest	Intermediate	Significant	Aggressive	Highly Leveraged
Excellent	AAA/AA+	AA	A	A-	BBB	--
Strong	AA	A	A-	BBB	BB	BB-
Satisfactory	A-	BBB+	BBB	BB+	BB-	B+
Fair	--	BBB-	BB+	BB	BB-	B
Weak	--	--	BB	BB-	B+	B-
Vulnerable	--	--	--	B+	B	B- or below

These rating outcomes are shown for guidance purposes only. Actual rating should be within one notch of indicated rating outcomes.

3. The rating outcomes refer to issuer credit ratings. The ratings indicated in each cell of the matrix are the midpoints of a range of likely rating possibilities. This range would ordinarily span one notch above and below the indicated rating.

Business Risk/Financial Risk Framework

4. Our corporate analytical methodology organizes the analytical process according to a common framework, and it divides the task into several categories so that all salient issues are considered. The first categories involve fundamental business analysis; the financial analysis categories follow.

5. Our ratings analysis starts with the assessment of the business and competitive profile of the company. Two companies with identical financial metrics can be rated very differently, to the extent that their business challenges and prospects differ. The categories underlying our business and financial risk assessments are:

Business risk

- Country risk
- Industry risk
- Competitive position
- Profitability/Peer group comparisons

Financial risk

- Accounting
- Financial governance and policies/risk tolerance
- Cash flow adequacy
- Capital structure/asset protection
- Liquidity/short-term factors

6. We do not have any predetermined weights for these categories. The significance of specific factors varies from situation to situation.

Updated Matrix

7. We developed the matrix to make explicit the rating outcomes that are typical for various business risk/financial risk combinations. It illustrates the relationship of business and financial risk profiles to the issuer credit rating.

8. We tend to weight business risk slightly more than financial risk when differentiating among investment-grade ratings. Conversely, we place slightly more weight on financial risk for speculative-grade issuers (see table 1, again).

9. This version of the matrix represents a refinement--not any change in rating criteria or standards--and, consequently, no rating changes are expected. However, the expanded matrix should enhance the transparency of the analytical process.

Financial Benchmarks

Table 2

Financial Risk Indicative Ratios (Corporates)

	FFO/Debt (%)	Debt/EBITDA (x)	Debt/Capital (%)
Minimal	greater than 60	less than 1.5	less than 25
Modest	45-60	1.5-2.0	25-35
Intermediate	30-45	2-3	35-45
Significant	20-30	3-4	45-50
Aggressive	12-20	4-5	50-60
Highly Leveraged	less than 12	greater than 5	greater than 60

How To Use The Matrix--And Its Limitations

10. The rating matrix indicative outcomes are what we typically observe--but are not meant to be precise indications or

guarantees of future rating opinions. Positive and negative nuances in our analysis may lead to a notch higher or lower than the outcomes indicated in the various cells of the matrix.

11. In certain situations there may be specific, overarching risks that are outside the standard framework, e.g., a liquidity crisis, major litigation, or large acquisition. This often is the case regarding issuers at the lowest end of the credit spectrum--i.e., the 'CCC' category and lower. These ratings, by definition, reflect some impending crisis or acute vulnerability, and the balanced approach that underlies the matrix framework just does not lend itself to such situations.

12. Similarly, some matrix cells are blank because the underlying combinations are highly unusual--and presumably would involve complicated factors and analysis.

13. The following hypothetical example illustrates how the tables can be used to better understand our rating process (see tables 1 and 2).

14. We believe that Company ABC has a satisfactory business risk profile, typical of a low investment-grade industrial issuer. If we believed its financial risk were intermediate, the expected rating outcome should be within one notch of 'BBB'. ABC's ratios of cash flow to debt (35%) and debt leverage (total debt to EBITDA of 2.5x) are indeed characteristic of intermediate financial risk.

15. It might be possible for Company ABC to be upgraded to the 'A' category by, for example, reducing its debt burden to the point that financial risk is viewed as minimal. Funds from operations (FFO) to debt of more than 60% and debt to EBITDA of only 1.5x would, in most cases, indicate minimal financial risk.

16. Conversely, ABC may choose to become more financially aggressive--perhaps it decides to reward shareholders by borrowing to repurchase its stock. It is possible that the company may fall into the 'BB' category if we view its financial risk as significant. FFO to debt of 20% and debt to EBITDA of 4x would, in our view, typify the significant financial risk category.

17. Still, it is essential to realize that the financial benchmarks are guidelines, neither gospel nor guarantees. They can vary in nonstandard cases: For example, if a company's financial measures exhibit very little volatility, benchmarks may be somewhat more relaxed.

18. Moreover, our assessment of financial risk is not as simplistic as looking at a few ratios. It encompasses:

    - A view of accounting and disclosure practices;
    - A view of corporate governance, financial policies, and risk tolerance;
    - The degree of capital intensity, flexibility regarding capital expenditures and other cash needs, including acquisitions and shareholder distributions; and
    - Various aspects of liquidity--including the risk of refinancing near-term maturities.

19. The matrix addresses a company's standalone credit profile, and does not take account of external influences, which would pertain in the case of government-related entities or subsidiaries that in our view may benefit or suffer from affiliation with a stronger or weaker group. The matrix refers only to local-currency ratings, rather than foreign-currency ratings, which incorporate additional transfer and convertibility risks. Finally, the matrix does not

apply to project finance or corporate securitizations.

Related Criteria And Research

- Principles Of Credit Ratings, Feb. 16, 2011
- Criteria Methodology: Business Risk/Financial Risk Matrix Expanded, May 27, 2009
- 2008 Corporate Ratings Criteria, April 15, 2008

20. These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.

Tidewater Utilities, Inc.
CAPITALIZATION AND FINANCIAL STATISTICS
2008 - 2012, INCLUSIVE

	2012	2011	2010	2009	2008	5 YEAR AVERAGE
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$ 104.526	$ 102.201	$ 99.363	$ 88.427	$ 85.851	
SHORT-TERM DEBT	5.450	0.750	4.500	6.950	7.000	
TOTAL-CAPITAL EMPLOYED	$ 109.976	$ 102.951	$ 103.863	$ 95.377	$ 92.851	
INDICATED AVERAGE CAPITAL COST RATES (1)						
TOTAL DEBT	5.28 %	5.40 %	5.48 %	5.48 %	5.91 %	
PREFERRED STOCK						
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	43.04 %	45.92 %	47.39 %	44.87 %	43.72 %	44.99 %
PREFERRED STOCK	-	-	-	-	-	-
COMMON EQUITY	56.96	54.08	52.61	55.13	56.28	55.01
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	45.86 %	46.31 %	49.67 %	48.89 %	47.97 %	47.74 %
PREFERRED STOCK	-	-	-	-	-	-
COMMON EQUITY	54.14	53.69	50.33	51.11	52.03	52.26
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
DIVIDEND PAYOUT RATIO	- %	- %	- %	- %	- %	- %
RATE OF RETURN ON AVERAGE COMMON EQUITY	7.43 %	5.58 %	6.98 %	6.04 %	7.99 %	6.80 %
TOTAL DEBT / EBITDA (2)	4.16 x	4.89 x	4.91 x	4.88 x	4.50 x	4.67 x
TOTAL DEBT / TOTAL CAPITAL	45.86 %	46.31 %	49.67 %	48.89 %	47.97 %	47.74 %

Notes:
(1) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.
(2) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).

Source of Information: Tidewater Utilities, Inc.'s Reports to the Delaware Public Service Commission

Proxy Group of Nine Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2008 - 2012, Inclusive

	2012	2011	2010	2009	2008	5 YEAR AVERAGE
			(MILLIONS OF DOLLARS)			
CAPITALIZATION STATISTICS						
AMOUNT OF CAPITAL EMPLOYED						
TOTAL PERMANENT CAPITAL	$1,801.379	$1,736.912	$1,712.951	$1,641.561	$1,537.371	
SHORT-TERM DEBT	$55.136	$81.076	$53.463	$31.243	$84.104	
TOTAL CAPITAL EMPLOYED	$1,856.515	$1,817.988	$1,766.414	$1,672.804	$1,621.475	
INDICATED AVERAGE CAPITAL COST RATES (2)						
TOTAL DEBT	5.41 %	5.36 %	5.37 %	5.31 %	5.58 %	
PREFERRED STOCK	2.77	2.77	2.77	2.77	2.88	
CAPITAL STRUCTURE RATIOS						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	49.12 %	50.69 %	50.97 %	50.80 %	50.35 %	50.39 %
PREFERRED STOCK	0.16	0.18	0.19	0.21	0.22	0.19
COMMON EQUITY	50.72	49.13	48.84	48.99	49.43	49.42
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	50.79 %	52.55 %	53.49 %	53.33 %	53.43 %	52.72 %
PREFERRED STOCK	0.15	0.17	0.18	0.19	0.21	0.18
COMMON EQUITY	49.06	47.28	46.33	46.48	46.36	47.10
TOTAL	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
FINANCIAL STATISTICS						
FINANCIAL RATIOS - MARKET BASED						
EARNINGS / PRICE RATIO	6.45 %	6.21 %	6.38 %	4.53 %	2.95 %	5.30 %
MARKET / AVERAGE BOOK RATIO	166.43	162.85	150.32	144.30	155.64	155.91
DIVIDEND YIELD	3.44	3.63	3.89	4.25	4.14	3.87
DIVIDEND PAYOUT RATIO	61.46	67.87	66.67	60.06	64.23	64.06
RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY	9.94 %	8.99 %	8.98 %	6.99 %	6.39 %	8.26 %
TOTAL DEBT / EBITDA (3)	3.84 X	4.34 X	4.75 X	5.53 X	9.07 X	5.51 X
FUNDS FROM OPERATIONS / TOTAL DEBT (4)	20.65 %	18.82 %	17.10 %	16.41 %	16.14 %	17.82 %
TOTAL DEBT / TOTAL CAPITAL	50.79 %	52.55 %	53.49 %	53.33 %	53.43 %	52.72 %

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.

(2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.

(3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).

(4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: I-Metrix Database
Company SEC Form 10-K

Tidewater Utilities, Inc.
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
the Proxy Group of Nine Water Companies

	1	2	3	4	5	6	7	8
Proxy Group of Nine Water Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Reuters Mean Consensus Projected Five Year Growth Rate in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
American States Water Co.	2.49 %	5.00 %	2.00 %	2.00 %	2.00 %	2.75 %	2.52 %	5.27 %
American Water Works Co., Inc.	2.72	10.00	8.60	7.20	7.50	8.33	2.83	11.16
Aqua America, Inc.	2.20	9.50	7.40	5.30	5.80	7.00	2.28	9.28
Artesian Resources Corp.	3.68	NA	NA	NA	4.00	4.00	3.75	7.75
California Water Service Group	3.12	5.50	NA	6.00	6.00	5.83	3.21	9.04
Connecticut Water Service, Inc.	3.25	6.50	5.00	5.00	5.00	5.38	3.34	8.72
Middlesex Water Company	3.64	4.00	NA	NA	2.70	3.35	3.70	7.05
SJW Corporation	2.72	7.50	NA	NA	14.00	10.75	2.87	13.62
York Water Company	2.72	4.00	NA	NA	4.90	4.45	2.78	7.23
Average								8.79 %
Median								8.72 %

NA= Not Available
NMF = Not Meaningful Figure

Notes:

(1) Indicated dividend at 09/16/2013 divided by the average closing price of the last 60 trading days ending 09/13/2013 for each company.
(2) From pages 2 through 11 of this Schedule.
(3) Average of columns 2 through 5 excluding negative growth rates.
(4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co. , 2.49% x (1+(1/2 x 2.75%)) = 2.52%.
(5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey
www.reuters.com Downloaded on 09/16/2013
www.zacks.com Downloaded on 09/16/2013
www.yahoo.com Downloaded on 09/16/2013

Tidewater Utilities, Inc.
Example of the Inadequacy of
DCF Return Rate Related to Book Value
When Market Value Exceeds Book Value

Line No.		Based on the Proxy Group of Nine Water Companies (1) Market Value	(2) Book Value
1.	Per Share	$ 25.328 (1)	$ 14.887 (2)
2.	DCF Cost Rate (3)	8.79%	8.79%
3.	Return in Dollars	$ 2.226	$ 1.309
4.	Dividends	$ 0.767 (4)	$ 0.767 (4)
5.	Growth in Dollars	$ 1.459	$ 0.542
6.	Return on Market Value (5)	8.79%	5.17%
7.	Rate of Growth on Market Value (6)	5.76%	2.14%

Notes:

(1) Average market price of Ms. Ahern's proxy group of water companies as shown in column 4 on page 2 of Schedule 10.

(2) Average book value of Ms. Ahern's proxy group of water companies as shown in column 2 on page 2 of Schedule 10.

(3) From page 1 of Schedule 5.

(4) Dividends per share based upon a 3.03% adjusted dividend yield. $0.767 = $25.328 *

(5) Line 3 / market value per share (line 1 column (a)).

(6) Line 6 - average dividend yield from page 1 of this Schedule.

AMER. STATES WATER NYSE-AWR

RECENT PRICE 55.11 | P/E RATIO 19.3 (Trailing: 18.5 Median: 22.0) | RELATIVE P/E RATIO 1.10 | DIV'D YLD 3.0% | VALUE LINE

TIMELINESS 2 Raised 11/23/12
SAFETY 2 Raised 7/20/12
TECHNICAL 3 Raised 5/24/13
BETA .70 (1.00 = Market)

High:	29.0	29.0	26.8	34.6	43.8	46.1	42.0	38.8	39.6	36.4	48.1	57.8
Low:	20.3	21.6	20.8	24.3	30.3	33.6	27.0	29.8	31.2	30.5	34.1	48.0

2016-18 PROJECTIONS

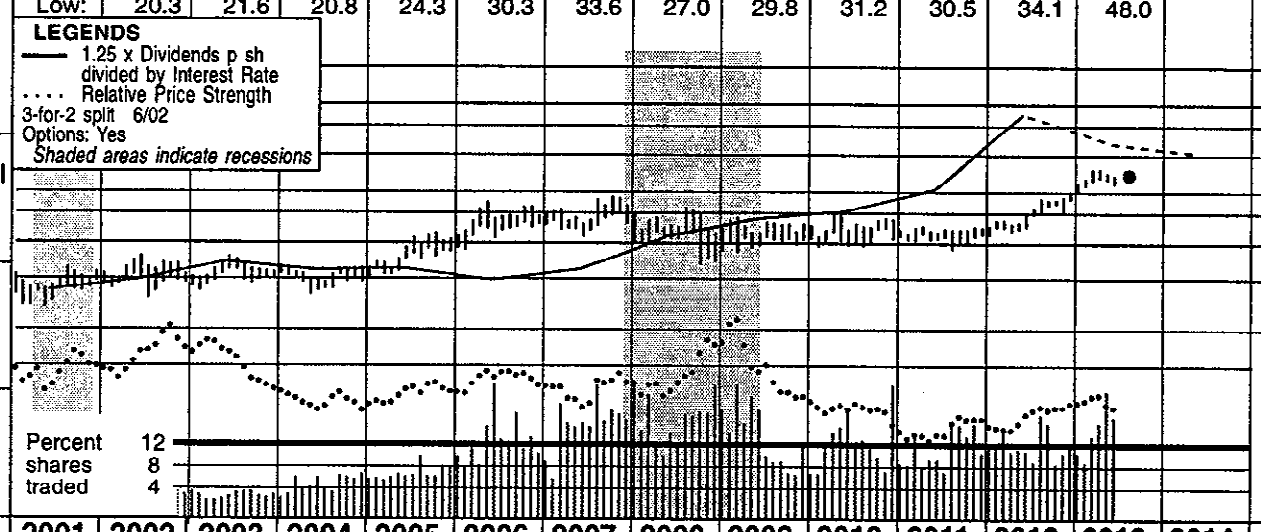
	Price	Gain	Ann'l Total Return
High	75	(+35%)	10%
Low	55	(Nil)	3%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	0	0	0	0	1	0	0	0	0
Options	16	0	0	1	1	1	0	0	1
to Sell	17	0	0	2	3	1	0	0	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	79	77	93
to Sell	65	64	59
Hld's(000)	11747	12033	12482



Target Price Range 2016 | 2017 | 2018
128 96 80 64 48 40 32 24 16 12

% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	39.7	27.2
3 yr.	77.4	65.6
5 yr.	78.3	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
11.44	11.02	12.91	12.17	13.06	13.78	13.98	13.61	14.06	15.76	17.49	18.42	19.48	21.41	22.24	24.24	*24.40*	*25.65*	Revenues per sh	*25.60*
1.85	2.04	2.26	2.20	2.53	2.54	2.08	2.23	2.64	2.89	3.31	3.37	3.40	4.23	4.26	4.96	*5.25*	*5.70*	"Cash Flow" per sh	*6.50*
1.04	1.08	1.19	1.28	1.35	1.34	.78	1.05	1.32	1.33	1.62	1.55	1.62	2.22	2.24	2.82	*2.85*	*2.95*	Earnings per sh A	*3.25*
.83	.84	.85	.86	.87	.87	.88	.89	.90	.91	.96	1.00	1.01	1.04	1.10	1.27	*1.45*	*1.55*	Div'd Decl'd per sh B■	*1.80*
2.58	3.11	4.30	3.03	3.18	2.68	3.76	5.03	4.24	3.91	2.89	4.45	4.18	4.24	4.26	3.54	*4.40*	*4.35*	Cap'l Spending per sh	*4.20*
11.24	11.48	11.82	12.74	13.22	14.05	13.97	15.01	15.72	16.64	17.53	17.95	19.39	20.26	21.68	23.61	*23.70*	*23.95*	Book Value per sh	*24.25*
13.44	13.44	13.44	15.12	15.12	15.18	15.21	16.75	16.80	17.05	17.23	17.30	18.53	18.63	18.85	19.26	*19.50*	*19.50*	Common Shs Outst'g C	*21.50*
14.5	15.5	17.1	15.9	16.7	18.3	31.9	23.2	21.9	27.7	24.0	22.6	21.2	15.7	15.4	14.3	*Bold figures are*		Avg Ann'l P/E Ratio	*19.5*
.84	.81	.97	1.03	.86	1.00	1.82	1.23	1.17	1.50	1.27	1.36	1.41	1.00	.97	.92	*Value Line*		Relative P/E Ratio	*1.30*
5.5%	5.0%	4.2%	4.2%	3.9%	3.6%	3.5%	3.6%	3.1%	2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	*estimates*		Avg Ann'l Div'd Yield	*3.1%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $335.8 mill. **Due in 5 Yrs** $10.6 mill.
LT Debt $332.4 mill. **LT Interest** $8.0 mill.
(LT interest earned: 5.2x: total interest coverage: 4.9x) (42% of Cap'l)
Leases, Uncapitalized: Annual rentals $3.0 mill.

Pension Assets-12/12 $107.6 mill. **Oblig.** $163.2 mill.
Pfd Stock None.
Common Stock 19,284,804 shs. as of 5/7/13
MARKET CAP: $1.1 billion (Mid Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		16-18
212.7	228.0	236.2	268.6	301.4	318.7	361.0	398.9	419.3	466.9	*480*	*500*	Revenues ($mill)	*550*
11.9	16.5	22.5	23.1	28.0	26.8	29.5	41.4	42.0	54.1	*56.0*	*58.0*	Net Profit ($mill)	*65.0*
43.5%	37.4%	47.0%	40.5%	42.6%	37.8%	38.9%	43.2%	41.7%	39.9%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
--	--	--	12.2%	8.5%	6.9%	3.2%	5.8%	2.0%	2.5%	*2.5%*	*2.5%*	AFUDC % to Net Profit	*2.5%*
52.0%	47.7%	50.4%	48.6%	46.9%	46.2%	45.9%	44.3%	45.4%	42.2%	*43.0%*	*43.0%*	Long-Term Debt Ratio	*42.0%*
48.0%	52.3%	49.6%	51.4%	53.1%	53.8%	54.1%	55.7%	54.6%	57.8%	*57.0%*	*57.0%*	Common Equity Ratio	*58.0%*
442.3	480.4	532.5	551.6	569.4	577.0	665.0	677.4	749.1	787.0	*800*	*820*	Total Capital ($mill)	*900*
602.3	664.2	713.2	750.6	776.4	825.3	866.4	855.0	896.5	917.8	*940*	*985*	Net Plant ($mill)	*1060*
4.6%	5.2%	5.4%	6.0%	6.7%	6.4%	5.9%	7.6%	7.1%	8.3%	*7.5%*	*7.5%*	Return on Total Cap'l	*7.0%*
5.6%	6.6%	8.5%	8.1%	9.3%	8.6%	8.2%	11.0%	10.3%	11.9%	*12.0%*	*12.5%*	Return on Shr. Equity	*12.5%*
5.6%	6.6%	8.5%	8.1%	9.3%	8.6%	8.2%	11.0%	10.3%	11.9%	*12.0%*	*12.5%*	Return on Com Equity	*12.5%*
NMF	1.0%	2.8%	2.7%	3.9%	3.1%	3.2%	5.8%	5.3%	6.6%	*6.0%*	*6.0%*	Retained to Com Eq	*5.5%*
113%	84%	67%	67%	58%	64%	61%	47%	49%	45%	*51%*	*52%*	All Div'ds to Net Prof	*56%*

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	1.3	23.5	32.8
Other	164.3	160.5	141.1
Current Assets	165.6	184.0	173.9
Accts Payable	37.9	40.6	46.6
Debt Due	.3	3.3	3.4
Other	66.2	49.8	39.8
Current Liab.	104.4	93.7	89.8
Fix. Chg. Cov.	401%	442%	*450%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '10-'12 to '16-'18
Revenues	5.5%	7.5%	*3.0%*
"Cash Flow"	6.5%	9.0%	*6.5%*
Earnings	6.5%	11.5%	*5.0%*
Dividends	3.0%	4.5%	*8.0%*
Book Value	5.0%	5.5%	*2.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	88.4	95.5	111.3	103.7	398.9
2011	94.3	109.8	119.9	95.3	419.3
2012	107.6	114.3	133.5	111.5	466.9
2013	110.6	*120*	*135*	*114.4*	*480*
2014	*115*	*125*	*140*	*120*	*500*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	.45	.47	.62	.68	2.22
2011	.37	.68	.83	.36	2.24
2012	.53	.79	.97	.53	2.82
2013	.69	*.75*	*.95*	*.46*	*2.85*
2014	*.55*	*.80*	*1.10*	*.50*	*2.95*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.250	.250	.250	.260	1.01
2010	.260	.260	.260	.260	1.04
2011	.260	.280	.280	.280	1.10
2012	.280	.280	.355	.355	1.27
2013	.355	.355	.405		

BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Company, it supplies water to more than 250,000 customers in 75 communities in 10 counties. Service areas include the greater metropolitan areas of Los Angeles and Orange Counties. The company also provides electric utility services to nearly 23,250 customers in the city of Big Bear Lake and in areas of San Bernardino County. Sold Chaparral City Water of Arizona (6/11). Has 728 employees. Officers & directors own 2.9% of common stock (4/12 Proxy). Chairman: Lloyd Ross. President & CEO: Robert J. Sprowls. Inc: CA. Addr: 630 East Foothill Boulevard, San Dimas, CA 91773. Tel: 909-394-3600. Internet: www.aswater.com.

American States Water has declared a two-for-one stock split. Investors owning the shares as of August 15th will receive an additional share for each one they own effective September 3rd. *(Please note: our figures do not reflect the proposed stock split.)*

A recent rate case had an overall reasonable outcome. Though the allowed return on equity was low (9.43%), there were no major surprises, and we think the groundwork has been laid for Golden State Water (American States major subsidiary) to experience growth of 5%-6% over the next three years.

We're raising our earnings estimate for American States Water. California regulators allowed the company to recoup some previous costs in the March quarter. This resulted in the company posting share earnings of $0.69 a share versus our $0.50 estimate. To reflect this we are increasing our full-year earnings projection from $2.70 to $2.85 a share. Moreover, we are raising next year's per-share earnings by $0.10 to $2.95.

Nonutility operations are a core part of American States' earnings. The company has been aggressively pursuing business outside of its core water utility activities for the past several years. Indeed, in 2012, more than 25% of its income came from water and wasterwater contracts at U.S. military bases. Currently, the company is involved in major construction at Fort Bragg and Fort Bliss. And while the pipeline has slowed recently, we look for a long-term pickup in this business as the U.S. Army seeks to privatize certain aspects of its operations.

The balance sheet should be able to handle the step-up in capital expenditures. The company raised its projected construction budget from $70 million to $85 million annually. This should be managed without any deterioration to the company's already solid finances.

This equity has a Timeliness rank of 2 (Above Average). These shares may appeal to momentum and income-seeking investors (especially given the recent hefty 14% dividend increase). Longer-term investors will probably not be attracted to the stock's below-average total return potential through 2016-2018.

James A. Flood *July 19, 2013*

(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 14¢; '05, 25¢; '06, 6¢; '08, (27¢); '10, (45¢) '11, 20¢. Next earnings report due early August. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.

Company's Financial Strength	A
Stock's Price Stability	90
Price Growth Persistence	65
Earnings Predictability	90

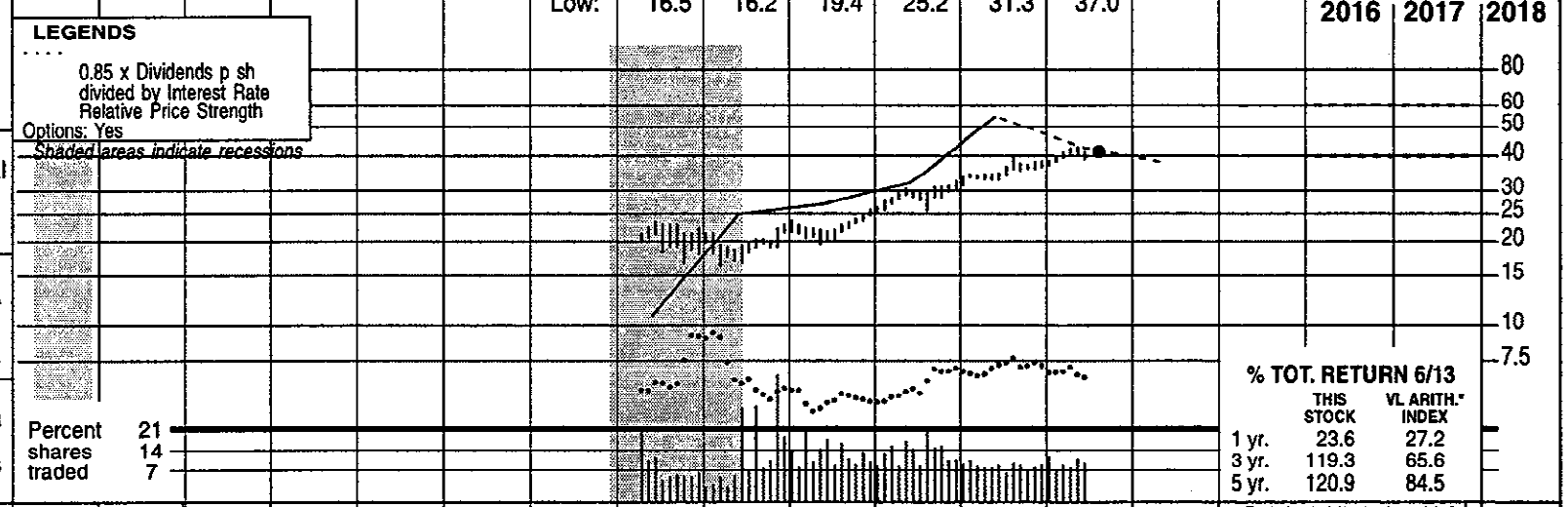
AMERICAN WATER NYSE-AWK

RECENT PRICE 41.46 | P/E RATIO 18.4 (Trailing: 19.3 Median: NMF) | RELATIVE P/E RATIO 1.05 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 3 Raised 6/21/13
SAFETY 3 New 7/25/08
TECHNICAL 3 Raised 4/19/13
BETA .65 (1.00 = Market)

	2008	2009	2010	2011	2012	2013
High:	23.7	23.0	25.8	32.8	39.4	43.1
Low:	16.5	16.2	19.4	25.2	31.3	37.0

Target Price Range 2016 | 2017 | 2018



2016-18 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	60	(+45%)	12%
Low	40	(-5%)	3%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	0	0	0	0	0	0	0	0	0
Options	5	0	0	4	0	0	0	8	0
to Sell	6	0	0	4	0	0	0	8	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	173	188	191
to Sell	171	175	186
Hld's(000)	143865	146609	145912

% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	23.6	27.2
3 yr.	119.3	65.6
5 yr.	120.9	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006E	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
--	--	--	--	--	--	--	--	--	13.08	13.84	14.61	13.98	15.49	15.18	16.25	*17.30*	*18.35*	Revenues per sh	*20.00*
--	--	--	--	--	--	--	--	--	.65	d.47	2.87	2.89	3.56	3.73	4.27	*4.30*	*4.50*	"Cash Flow" per sh	*5.20*
--	--	--	--	--	--	--	--	--	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	*2.25*	*2.40*	Earnings per sh A	*2.85*
--	--	--	--	--	--	--	--	--	--	--	.40	.82	.86	.91	.96	*1.06*	*1.20*	Div'd Decl'd per sh B■	*1.40*
--	--	--	--	--	--	--	--	--	4.31	4.74	6.31	4.50	4.38	5.27	5.25	*5.35*	*5.40*	Cap'l Spending per sh	*5.25*
--	--	--	--	--	--	--	--	--	23.86	28.39	25.64	22.91	23.59	24.11	25.10	*26.40*	*27.50*	Book Value per sh D	*30.00*
--	--	--	--	--	--	--	--	--	160.00	160.00	160.00	174.63	175.00	175.66	176.99	*178.00*	*179.00*	Common Shs Outst'g C	*190.00*
--	--	--	--	--	--	--	--	--	--	--	18.9	15.6	14.6	16.8	16.7	*Bold figures are*		Avg Ann'l P/E Ratio	*18.0*
--	--	--	--	--	--	--	--	--	--	--	1.14	1.04	.93	1.05	1.07	*Value Line*		Relative P/E Ratio	*1.20*
--	--	--	--	--	--	--	--	--	--	--	1.9%	4.2%	3.8%	3.1%	2.7%	*estimates*		Avg Ann'l Div'd Yield	*2.8%*
						--	--	--	2093.1	2214.2	2336.9	2440.7	2710.7	2666.2	2876.9	*3080*	*3300*	Revenues ($mill)	*3800*
						--	--	--	d155.8	d342.3	187.2	209.9	267.8	304.9	375.0	*400*	*430*	Net Profit ($mill)	*540*
						--	--	--	--	--	37.4%	37.9%	40.4%	39.5%	40.7%	*40.0%*	*40.0%*	Income Tax Rate	*40.0%*
						--	--	--	--	--	--	--	--	12.5%	6.2%	*8.0%*	*10.0%*	AFUDC % to Net Profit	*12.0%*
						--	--	--	56.1%	50.9%	53.1%	56.9%	56.8%	55.7%	53.8%	*54.0%*	*54.0%*	Long-Term Debt Ratio	*53.5%*
						--	--	--	43.9%	49.1%	46.9%	43.1%	43.2%	44.2%	46.0%	*46.0%*	*46.0%*	Common Equity Ratio	*46.5%*
						--	--	--	8692.8	9245.7	8750.2	9289.0	9561.3	9580.3	9652.7	*10300*	*10800*	Total Capital ($mill)	*12000*
						--	--	--	8720.6	9318.0	9991.8	10524	11059	11021	11739	*12300*	*12800*	Net Plant ($mill)	*14000*
						--	--	--	NMF	NMF	3.7%	3.8%	4.4%	4.8%	5.5%	*5.5%*	*5.5%*	Return on Total Cap'l	*6.0%*
						--	--	--	NMF	NMF	4.6%	5.2%	6.5%	7.2%	8.4%	*8.5%*	*8.5%*	Return on Shr. Equity	*9.5%*
						--	--	--	NMF	NMF	4.6%	5.2%	6.5%	7.2%	8.4%	*8.5%*	*8.5%*	Return on Com Equity	*9.5%*
						--	--	--	NMF	NMF	3.0%	1.8%	2.8%	3.5%	4.6%	*4.5%*	*4.5%*	Retained to Com Eq	*4.5%*
						--	--	--	--	--	34%	65%	56%	52%	45%	*46%*	*47%*	All Div'ds to Net Prof	*50%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $5300.8 mil. **Due in 5 Yrs** $1034.0 mil.
LT Debt $5184.9 mil. **LT Interest** $301.0 mil.
(Total interest coverage: 4.4x) (53% of Cap'l)

Leases, Uncapitalized: Annual rentals $28.1 mill.
Pension Assets $1157.7 mill **Oblig.** $1621.2 mill.
Pfd Stock $18.9 mill. **Pfd Div'd** $.7 mill

Common Stock 177,700,586 shs. as of 5/2/13

MARKET CAP: $7.4 billion (Large Cap)

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	14.2	24.4	21.2
Other	1383.5	475.0	470.7
Current Assets	1397.7	499.4	491.9
Accts Payable	243.7	279.6	166.7
Debt Due	543.9	385.9	449.7
Other	701.5	329.3	341.9
Current Liab.	1489.1	994.8	958.3
Fix. Chg. Cov.	256%	292%	300%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '10-'12 to '16-'18
Revenues	--	3.0%	5.0%
"Cash Flow"	--	--	6.5%
Earnings	--	--	10.0%
Dividends	--	--	9.0%
Book Value	--	-1.5%	4.5%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	588.1	671.2	786.9	664.5	2710.7
2011	596.7	668.8	760.9	639.8	2666.2
2012	618.7	745.6	831.8	680.8	2876.9
2013	636.1	*800*	*900*	*743.9*	*3080*
2014	*700*	*850*	*975*	*775*	*3300*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	.18	.42	.71	.23	1.53
2011	.23	.42	.73	.32	1.72
2012	.28	.66	.87	.30	2.11
2013	.32	*.63*	*.90*	*.40*	*2.25*
2014	*.35*	*.65*	*1.00*	*.40*	*2.40*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.20	.20	.21	.21	.82
2010	.21	.21	.22	.22	.86
2011	.22	.23	.23	.23	.91
2012	.23	.23	.25	.25	.96
2013	.25	.25	.28		

BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to over 14 million people in over 30 states and Canada. It's nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 89.1% of 2012 revenues. New Jersey is its biggest market accounting for 22.2% of revenues. Has roughly 7,000 employees. Depreciation rate, 2.6% in '12. BlackRock, Inc., owns 10.3% of the common stock outstanding. Off. & dir. own less than 1% (3/13 Proxy). President & CEO; Jeffry Sterba. Chairman; George Mackenzie. Address: 1025 Laurel Oak Road, Voorhees, NJ 08043. Telephone: 856-346-8200. Internet: www.amwater.com.

Keeping expenses low is American Water Works' prime objective. The company strives hard to keep costs in check for more than the obvious bottom-line reasons. Restraining short-term expenditures helps to ensure good relations with the over 30 different state regulatory commissions that American Water must contend with when applying for higher rates. The company's expense ratio fell 1.3% last year, and it expects to shave another 1% off the rate by 2015. We highlight this fact because a utility's relationship with its regulators cannot be over emphasized. And excellent operating margins make it harder for regulators to hand down harsh decisions.

Long-term infrastructure spending will probably be sizable. American Water's basic systems are old and in need of repair and modernization. Capital expenditures should average a hefty $1 billion over the next three- to five-year period as the company upgrades its water assets. Internally generated cash won't cover the entire budget, so American Water will most likely have to take on more debt in the coming years. We think an equity offering would be appropriate, but the company believes its shares are undervalued. Therefore, the balance sheet could weaken in the years ahead as more debt is issued to help cover these costs.

Earnings and dividend growth prospects are bright. With its good regulatory relations, lean cost structure, and a much greater contribution from nonregulated businesses, we think that American Water has laid the framework for annual earning growth of about 10% through 2016-2018, which should enable dividend growth in the 7%-8% range. (In May, American Water raised its quarterly payout from $0.25 to $0.28, a healthy 12% increase.)

All told, these shares are worth a second look by income-oriented investors. The combination of a dividend yield about 60 basis points higher that the *Value Line* universe's median and the prospects of above-average dividend growth could make this stock worthwhile for investors seeking current income and whose secondary concern is long-term capital appreciation.

James A. Flood *July 19, 2013*

(A) Diluted earnings. Excludes nonrecurring losses: '08, $4.62; '09, $2.63; '11, $0.07. Discontinued operations: '06, (4¢); '11, 3¢; '12, (10¢). Next earnings report due late July. Quarterly earnings may not sum due to rounding. (B) Dividends paid in March, June, September, and December. ■ Div. reinvestment available. (C) In millions. (D) Includes intangibles. In 2012: $1.207 billion, $6.82/share. (E) Pro forma numbers for '06 & '07.

Company's Financial Strength	B+
Stock's Price Stability	95
Price Growth Persistence	85
Earnings Predictability	20

AQUA AMERICA NYSE-WTR

RECENT PRICE 32.33 | P/E RATIO 22.3 (Trailing: 26.1 Median: 24.0) | RELATIVE P/E RATIO 1.27 | DIV'D YLD 2.4% | VALUE LINE

TIMELINESS 3 Lowered 5/24/13
SAFETY 2 Raised 4/20/12
TECHNICAL 2 Raised 7/5/13
BETA .60 (1.00 = Market)

High:	15.0	16.8	18.5	29.2	29.8	26.6	22.0	21.5	23.0	23.8	26.9	33.3
Low:	9.6	11.8	14.2	17.5	20.1	18.9	12.2	15.4	16.5	19.3	21.1	25.7

2016-18 PROJECTIONS

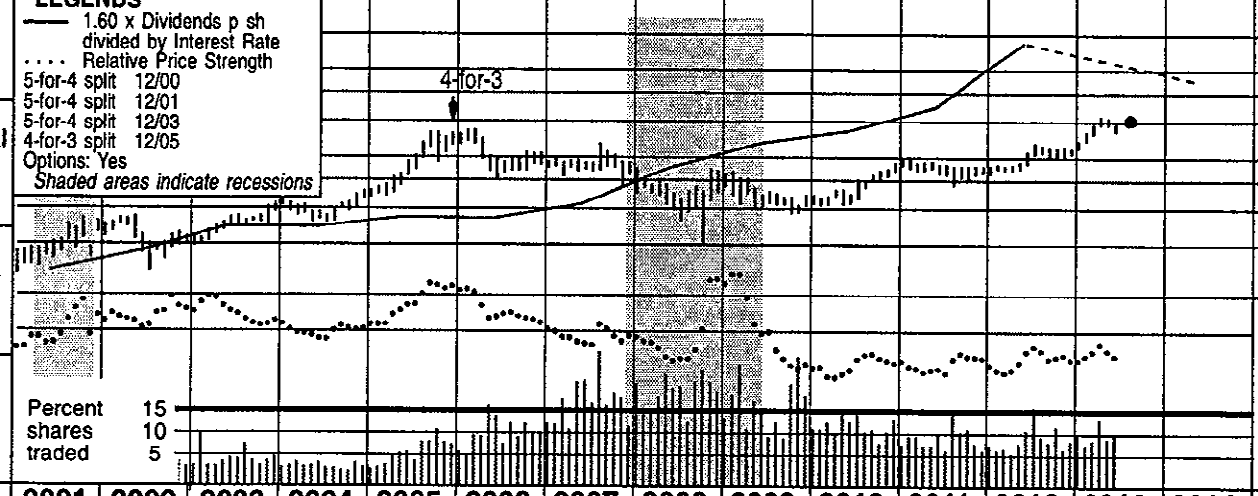
	Price	Gain	Ann'l Total Return
High	40	(+25%)	8%
Low	30	(-5%)	2%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	0	0	0	0	0	0	0	0	0
Options	0	0	0	0	1	3	2	2	0
to Sell	0	0	0	0	0	2	0	0	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	117	118	136
to Sell	108	117	116
Hld's(000)	64465	67182	65923



Target Price Range 2016 | 2017 | 2018

64 48 40 32 24 20 16 12 8 6

% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	28.5	27.2
3 yr.	92.2	65.6
5 yr.	126.4	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
2.02	2.09	2.41	2.46	2.70	2.85	2.97	3.48	3.85	4.03	4.52	4.63	4.91	5.26	5.13	5.40	**5.70**	**5.90**	Revenues per sh	**6.40**
.56	.61	.72	.76	.86	.94	.96	1.09	1.21	1.26	1.37	1.42	1.61	1.78	1.81	1.89	**2.00**	**2.10**	"Cash Flow" per sh	**2.35**
.34	.40	.42	.47	.51	.54	.57	.64	.71	.70	.71	.73	.77	.90	1.04	1.09	**1.45**	**1.55**	Earnings per sh A	**1.60**
.24	.26	.27	.28	.30	.32	.35	.37	.40	.44	.48	.51	.55	.59	.63	.67	**.70**	**.84**	Div'd Decl'd per sh B■	**1.00**
.58	.82	.90	1.16	1.09	1.20	1.32	1.54	1.84	2.05	1.79	1.98	2.08	2.37	2.38	2.48	**2.65**	**2.65**	Cap'l Spending per sh	**2.65**
2.84	3.21	3.42	3.85	4.15	4.36	5.34	5.89	6.30	6.96	7.32	7.82	8.12	8.51	9.01	9.87	**11.20**	**12.25**	Book Value per sh	**13.30**
67.47	72.20	106.80	111.82	113.97	113.19	123.45	127.18	128.97	132.33	133.40	135.37	136.49	137.97	138.88	140.35	**140.50**	**141.00**	Common Shs Outst'g C	**143.00**
17.8	22.5	21.2	18.2	23.6	23.6	24.5	25.1	31.8	34.7	32.0	24.9	23.1	21.1	21.3	21.9	*Bold figures are*		Avg Ann'l P/E Ratio	**21.0**
1.03	1.17	1.21	1.18	1.21	1.29	1.40	1.33	1.69	1.87	1.70	1.50	1.54	1.34	1.34	1.40	*Value Line*		Relative P/E Ratio	**1.40**
3.9%	2.9%	3.0%	3.3%	2.5%	2.5%	2.5%	2.3%	1.8%	1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	*estimates*		Avg Ann'l Div'd Yield	**2.9%**
						367.2	442.0	496.8	533.5	602.5	627.0	670.5	726.1	712.0	757.8	**800**	**835**	Revenues ($mill)	**915**
						67.3	80.0	91.2	92.0	95.0	97.9	104.4	124.0	144.8	153.1	**205**	**220**	Net Profit ($mill)	**250**
						39.3%	39.4%	38.4%	39.6%	38.9%	39.7%	39.4%	39.2%	32.9%	39.0%	**40.0%**	**40.0%**	Income Tax Rate	**40.0%**
						--	--	--	--	--	--	--	--	2.9%	3.1%	**3.0%**	**3.0%**	AFUDC % to Net Profit	**2.0%**
						51.4%	50.0%	52.0%	51.6%	55.4%	54.1%	55.6%	56.6%	52.7%	52.7%	**50.0%**	**50.0%**	Long-Term Debt Ratio	**50.0%**
						48.6%	50.0%	48.0%	48.4%	44.6%	45.9%	44.4%	43.4%	47.3%	47.3%	**50.0%**	**50.0%**	Common Equity Ratio	**50.0%**
						1355.7	1497.3	1690.4	1904.4	2191.4	2306.6	2495.5	2706.2	2646.8	2929.7	**3150**	**3450**	Total Capital ($mill)	**3800**
						1824.3	2069.8	2280.0	2506.0	2792.8	2997.4	3227.3	3469.3	3612.9	3936.2	**4150**	**4350**	Net Plant ($mill)	**4600**
						6.4%	6.7%	6.9%	6.4%	5.9%	5.7%	5.6%	5.9%	6.9%	6.6%	**6.0%**	**6.0%**	Return on Total Cap'l	**6.0%**
						10.2%	10.7%	11.2%	10.0%	9.7%	9.3%	9.4%	10.6%	11.6%	11.0%	**12.0%**	**12.0%**	Return on Shr. Equity	**11.5%**
						10.2%	10.7%	11.2%	10.0%	9.7%	9.3%	9.4%	10.6%	11.6%	11.0%	**12.0%**	**12.0%**	Return on Com Equity	**11.5%**
						4.2%	4.6%	4.9%	3.7%	3.2%	2.8%	2.7%	3.7%	4.6%	4.3%	**6.0%**	**6.0%**	Retained to Com Eq	**4.0%**
						59%	57%	56%	63%	67%	70%	72%	65%	60%	61%	**52%**	**58%**	All Div'ds to Net Prof	**65%**

CAPITAL STRUCTURE as of 3/31/13
Total Debt $1645.4 mill. Due in 5 Yrs $368.3 mill.
LT Debt $1464.5 mill. LT Interest $60.0 mill.
(LT interest earned: 5.0x; total interest coverage: 4.1x) (51% of Cap'l)

Pension Assets-12/12 $190.1 mill. Oblig. $303.1 mill.

Pfd Stock None
Common Stock 140,742,383 shares as of 4/23/13
MARKET CAP: $4.6 billion (Mid Cap)

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	8.2	5.5	19.4
Receivables	81.1	92.9	89.5
Inventory (AvgCst)	11.2	11.8	12.0
Other	220.0	150.7	92.1
Current Assets	320.5	260.9	213.0
Accts Payable	68.3	55.5	31.6
Debt Due	80.4	125.4	180.9
Other	277.0	93.3	89.5
Current Liab.	425.7	274.2	302.0
Fix. Chg. Cov.	367%	398%	398%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '10-'12 to '16-'18
Revenues	8.0%	7.5%	3.5%
"Cash Flow"	8.5%	8.0%	5.5%
Earnings	6.5%	4.5%	9.5%
Dividends	7.5%	8.0%	10.5%
Book Value	9.0%	7.0%	7.0%

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2010	160.5	178.5	207.8	179.3	726.1
2011	163.6	178.3	197.3	172.7	712.0
2012	164.0	191.7	214.6	187.5	757.8
2013	180.0	**210**	**215**	**195**	**800**
2014	**190**	**220**	**225**	**200**	**835**

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2010	.16	.22	.32	.20	.90
2011	.22	.27	.30	.25	1.04
2012	.19	.30	.36	.25	1.09
2013	.29	**.36**	**.45**	**.35**	**1.45**
2014	**.30**	**.40**	**.50**	**.35**	**1.55**

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.135	.135	.135	.145	.55
2010	.145	.145	.145	.155	.59
2011	.155	.155	.155	.165	.63
2012	.165	.165	.165	.175	.67
2013	.175	.175	.19		

BUSINESS: Aqua America, Inc. is the holding company for water and wastewater utilities that serve approximately three million residents in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Florida, Indiana, and five other states. Divested three of four non-water businesses in '91; telemarketing group in '93; and others. Acquired AquaSource, 7/03; Consumers Water, 4/99; and others. Water supply revenues '12: residential, 60.5%; commercial, 16.1%; industrial & other, 23.4%. Officers and directors own 1.4% of the common stock (4/13 Proxy). Chairman & Chief Executive Officer: Nicholas DeBenedictis. Incorporated: Pennsylvania. Address: 762 West Lancaster Avenue, Bryn Mawr, Pennsylvania 19010. Telephone: 610-525-1400. Internet: www.aquaamerica.com.

Aqua America has announced a proposed five-for-four stock split. The company will have a stock distribution in which holders of the stock on August 16th will receive their additional shares on September 1st. *(Please note that our figures do not reflect the split.)* Meanwhile,

Aqua should continue to wheel and deal in the years ahead. The company is pursuing a growth-by-acquisition strategy as it buys up water companies around the country. With its managerial expertise and financial wherewithal, Aqua can streamline, better manage, and use economies of scale to squeeze more profits out of these small utilities. Year to date, Aqua has already purchased seven water utilities with a goal of buying 13 more in 2013, compared to the 18 acquired in 2012. Moreover, the company continues to sell nonstrategic assets. (In the first quarter, it sold 65% of its Florida operations and all of its Maine assets for a $0.04-a-share gain that we have excluded from our numbers.)

The profit outlook for Aqua is favorable. For starters, the company will benefit from a complex "repair tax accounting change" that was made in late 2012. This could add $0.15-$0.20 to 2013's bottom line. Moreover, Aqua is making impressive progress on the cost side (due in part to the integration of its acquisitions). Operating and maintainence expenses as a percentage of revenues fell to 38% in the first quarter, versus 39.5% the similar year-ago period. All told, we are raising our full-year share-net forecast by 10¢, to $1.45. We are hiking next year's figure by a similar amount, to $1.55.

Fracking is good for Aqua. The utility entered into a joint venture to build the recently completed Marcellus Water Pipeline. By early this year, the pipeline had already eliminated the need for 15,000 water truck trips on rural Pennsylvania roads. Natural gas prices have been rising, so more drilling may take place in the near future. In any case, we look for this venture to start adding $0.05-$0.10 a share to annual earnings.

Aqua unexpectedly hiked its dividend a hefty 9%. And, since we think a growth rate similar to this is sustainable through 2016-2018, investors seeking current income may be attracted to the stock.

James A. Flood *July 19, 2013*

(A) Diluted egs. Excl. nonrec. gains (losses): '99, (11¢); '00, 2¢; '01, 2¢; '02, 5¢; '03, 4¢; '12, 22¢. Excl. gain from disc. operations: '12, 9¢; '13, 4¢. May not sum due to rounding. Next earnings report due late July.
(B) Dividends historically paid in early March, June, Sept. & Dec. ■ Div'd. reinvestment plan available (5% discount).
(C) In millions, adjusted for stock splits.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	70
Earnings Predictability	100

ARTESIAN RES. CORP. NDQ–ARTNA

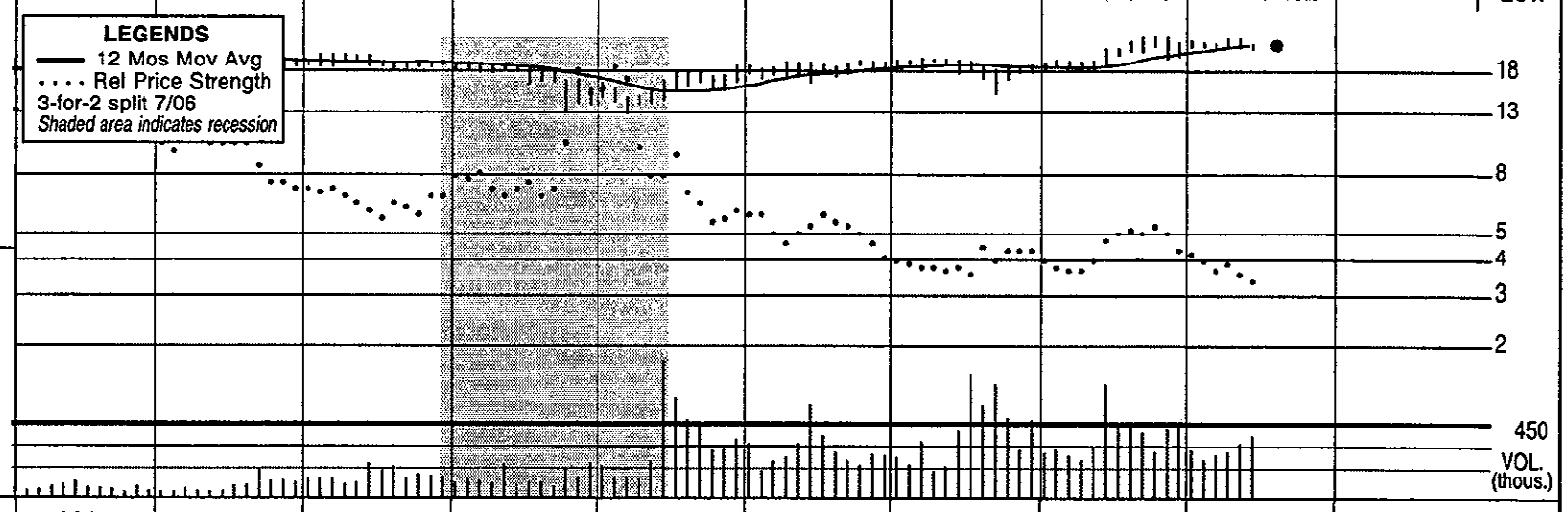
RECENT PRICE	TRAILING P/E RATIO	RELATIVE P/E RATIO	DIV'D YLD	
22.30	21.4	1.13	3.7%	VALUE LINE

RANKS

PERFORMANCE	3	Average
Technical	3	Average
SAFETY	2	Above Average
BETA .60		(1.00 = Market)

Financial Strength	B
Price Stability	100
Price Growth Persistence	40
Earnings Predictability	85

	2005	2006	2007	2008	2009	2010	2011	2012	2013
High	22.62	22.33	20.67	19.31	18.73	19.59	19.99	24.43	23.75
Low	17.20	17.90	18.26	13.00	12.81	16.43	15.16	18.20	21.52



© VALUE LINE PUBLISHING LLC	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014/2015
SALES PER SH	7.52	7.77	7.20	7.59	8.11	8.48	7.56	8.10	--	
"CASH FLOW" PER SH	1.56	1.75	1.57	1.65	1.84	1.92	1.64	2.04	--	
EARNINGS PER SH	.81	.97	.90	.86	.97	1.00	.83	1.13	***1.07*** [A,B]	***1.24*** [C]***/NA***
DIV'DS DECL'D PER SH	.58	.61	.66	.71	.72	.75	.76	.79	--	
CAP'L SPENDING PER SH	3.35	5.08	3.66	6.09	2.32	2.57	1.83	2.36	--	
BOOK VALUE PER SH	9.60	10.15	11.66	11.86	12.15	12.44	13.12	13.57	--	
COMMON SHS OUTST'G (MILL)	6.02	6.09	7.30	7.40	7.51	7.65	8.61	8.71	--	
AVG ANN'L P/E RATIO	24.2	20.3	21.5	20.1	16.4	18.2	22.5	18.3	***20.8***	***18.0/NA***
RELATIVE P/E RATIO	1.28	1.10	1.14	1.21	1.09	1.16	1.41	1.17	--	
AVG ANN'L DIV'D YIELD	2.9%	3.1%	3.4%	4.1%	4.5%	4.1%	4.1%	3.8%	--	
SALES ($MILL)	45.3	47.3	52.5	56.2	60.9	64.9	65.1	70.6	--	***Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.***
OPERATING MARGIN	100.0%	45.6%	45.6%	45.1%	46.9%	46.5%	45.5%	48.7%	--	
DEPRECIATION ($MILL)	4.4	4.6	5.2	5.8	6.6	7.0	7.4	7.9	--	
NET PROFIT ($MILL)	5.0	6.1	6.3	6.4	7.3	7.6	6.7	9.8	--	
INCOME TAX RATE	39.9%	39.0%	39.8%	40.8%	40.1%	40.0%	40.8%	40.2%	--	
NET PROFIT MARGIN	11.1%	12.8%	11.9%	11.4%	11.9%	11.7%	10.4%	14.0%	--	
WORKING CAP'L ($MILL)	d1.8	d8.8	2.5	d20.9	d23.3	d27.9	d11.4	d11.4	--	
LONG-TERM DEBT ($MILL)	92.4	92.1	91.8	107.6	106.0	105.1	106.5	106.3	--	
SHR. EQUITY ($MILL)	57.8	61.8	85.1	87.8	91.2	95.1	113.0	118.2	--	
RETURN ON TOTAL CAP'L	5.3%	5.8%	5.3%	4.7%	5.2%	5.6%	4.6%	5.9%	--	
RETURN ON SHR. EQUITY	8.7%	9.8%	7.4%	7.3%	8.0%	8.0%	6.0%	8.3%	--	
RETAINED TO COM EQ	2.7%	3.8%	2.1%	1.4%	2.1%	2.0%	.5%	2.5%	--	
ALL DIV'DS TO NET PROF	69%	61%	71%	81%	74%	75%	92%	70%	--	

[A] *No. of analysts changing earn. est. in last 5 days: 0 up, 0 down, consensus 5-year earnings growth not available.* [B] *Based upon 4 analysts' estimates.* [C] *Based upon 4 analysts' estimates.*

ANNUAL RATES

of change (per share)	5 Yrs.	1 Yr.
Sales	1.5%	7.0%
"Cash Flow"	3.0%	24.0%
Earnings	2.0%	36.0%
Dividends	4.5%	4.0%
Book Value	4.5%	3.5%

Fiscal Year	QUARTERLY SALES ($mill.) 1Q	2Q	3Q	4Q	Full Year
12/31/11	14.8	16.5	17.7	16.1	65.1
12/31/12	16.7	17.9	19.0	17.0	70.6
12/31/13	16.3				
12/31/14					

Fiscal Year	EARNINGS PER SHARE 1Q	2Q	3Q	4Q	Full Year
12/31/10	.22	.24	.38	.16	1.00
12/31/11	.14	.23	.26	.20	.83
12/31/12	.28	.32	.33	.20	1.13
12/31/13	.19	*.27*	*.34*	*.27*	
12/31/14					

Cal-endar	QUARTERLY DIVIDENDS PAID 1Q	2Q	3Q	4Q	Full Year
2010	.187	.188	.188	.189	.75
2011	.19	.19	.19	.193	.76
2012	.193	.198	.198	.203	.79
2013	.203	.206			

INSTITUTIONAL DECISIONS

	3Q'12	4Q'12	1Q'13
to Buy	34	28	32
to Sell	23	32	26
Hld's(000)	3021	3052	3036

ASSETS ($mill.)	2011	2012	3/31/13
Cash Assets	.3	.6	.3
Receivables	8.6	8.7	9.1
Inventory	1.5	1.4	1.5
Other	2.9	2.8	2.1
Current Assets	13.3	13.5	13.0
Property, Plant & Equip, at cost	435.0	454.4	--
Accum Depreciation	77.4	83.8	--
Net Property	357.6	370.6	372.5
Other	7.8	7.6	7.6
Total Assets	378.7	391.7	393.1
LIABILITIES ($mill.)			
Accts Payable	2.8	3.5	4.2
Debt Due	13.8	12.6	11.7
Other	8.1	8.8	8.6
Current Liab	24.7	24.9	24.5

LONG-TERM DEBT AND EQUITY as of 3/31/13

Total Debt $117.7 mill. **Due in 5 Yrs.** NA
LT Debt $106.0 mill.
Including Cap. Leases NA
(47% of Cap'l)

Leases, Uncapitalized Annual rentals NA

Pension Liability $.4 mill. in '12 vs. $.5 mill. in '11

Pfd Stock None **Pfd Div'd Paid** None

Common Stock 8,740,479 shares
(53% of Cap'l)

INDUSTRY: Water Utility

BUSINESS: Artesian Resources Corporation, through its subsidiaries, provides water, wastewater, and other services on the Delmarva Peninsula. It distributes and sells water to residential, commercial, industrial, municipal, and utility customers in the states of Delaware, Maryland, and Pennsylvania. The company also offers water for public and private fire protection to customers in its service territories. In addition, it provides contract water and wastewater services, water and sewer service line protection plans, and wastewater management services, as well as design, construction, and engineering services. As of December 31, 2012, the company served approximately 79,000 metered water customers through 1,162 miles of transmission and distribution mains. Has 229 employees. Chairman, C.E.O. & President: Dian C. Taylor. Address: 664 Churchmans Rd., Newark, DE 19702. Tel.: (302) 453-6900. Internet: http://www.artesianwater.com.

J.V.

July 19, 2013

TOTAL SHAREHOLDER RETURN

Dividends plus appreciation as of 6/30/2013

3 Mos.	6 Mos.	1 Yr.	3 Yrs.	5 Yrs.
0.05%	1.15%	7.22%	35.71%	48.95%

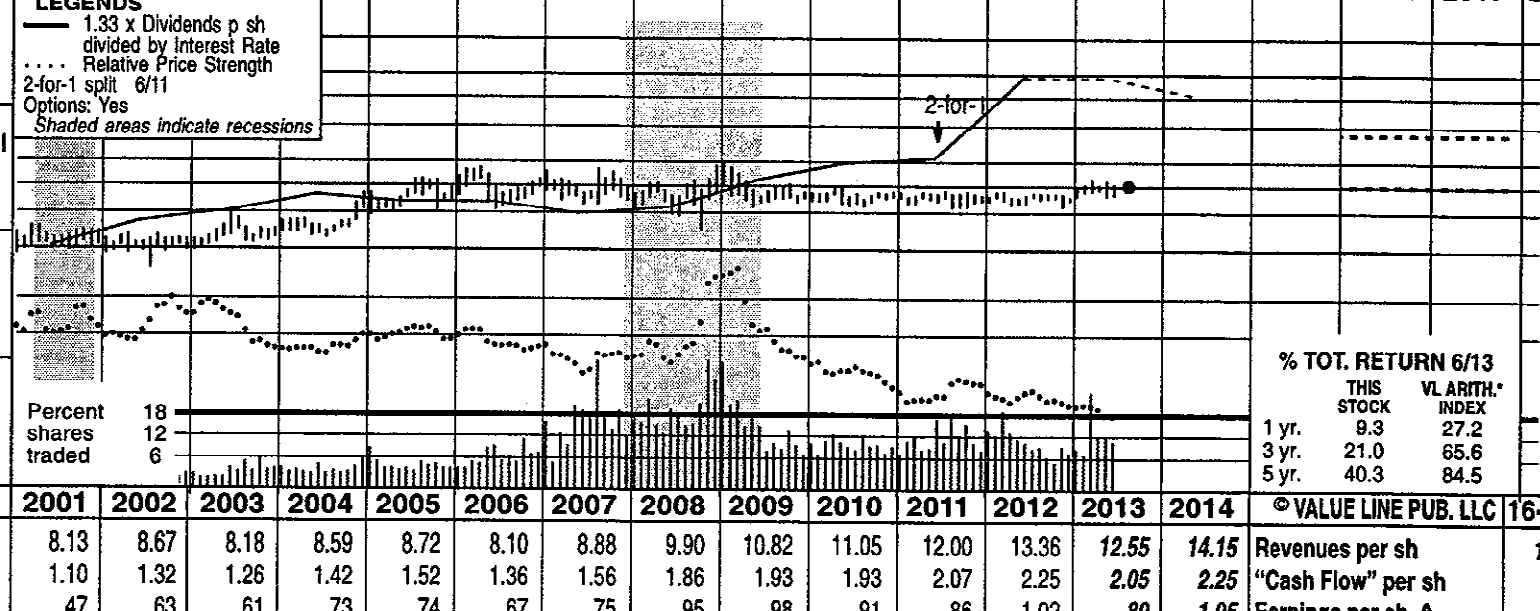
CALIFORNIA WATER NYSE-CWT

RECENT PRICE 20.10 | P/E RATIO 25.1 (Trailing: 20.9 Median: 21.0) | RELATIVE P/E RATIO 1.43 | DIV'D YLD 3.2% | VALUE LINE

TIMELINESS 3 Raised 7/5/13
SAFETY 3 Lowered 7/27/07
TECHNICAL 3 Raised 3/15/13
BETA .65 (1.00 = Market)

High:	13.4	15.7	19.0	21.1	22.9	22.7	23.3	24.1	19.8	19.4	19.3	21.2
Low:	10.2	11.8	13.0	15.6	16.4	17.1	13.8	16.7	16.9	16.7	16.8	18.4

Target Price Range 2016 | 2017 | 2018



2016-18 PROJECTIONS

	Price	Gain	Ann'l Total Return
High	30	(+50%)	13%
Low	20	(Nil)	4%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	1	0	0	0	0	0	0	20	0
Options	0	0	0	0	0	0	0	0	0
to Sell	1	0	0	0	0	0	0	0	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	63	54	86
to Sell	46	63	39
Hld's(000)	22150	22078	26409

% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	9.3	27.2
3 yr.	21.0	65.6
5 yr.	40.3	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
7.74	7.38	7.98	8.08	8.13	8.67	8.18	8.59	8.72	8.10	8.88	9.90	10.82	11.05	12.00	13.36	*12.55*	*14.15*	Revenues per sh	*16.00*
1.46	1.30	1.37	1.26	1.10	1.32	1.26	1.42	1.52	1.36	1.56	1.86	1.93	1.93	2.07	2.25	*2.05*	*2.25*	"Cash Flow" per sh	*2.75*
.92	.73	.77	.66	.47	.63	.61	.73	.74	.67	.75	.95	.98	.91	.86	1.02	*.80*	*1.05*	Earnings per sh A	*1.35*
.53	.54	.54	.55	.56	.56	.56	.57	.57	.58	.58	.59	.59	.60	.62	.63	*.64*	*.68*	Div'd Decl'd per sh B ■	*.90*
1.30	1.37	1.72	1.23	2.04	2.91	2.19	1.87	2.01	2.14	1.84	2.41	2.66	2.97	2.83	3.05	*2.65*	*2.90*	Cap'l Spending per sh	*3.00*
6.50	6.69	6.71	6.45	6.48	6.56	7.22	7.83	7.90	9.07	9.25	9.72	10.13	10.45	10.76	11.30	*13.40*	*13.85*	Book Value per sh C	*15.00*
25.24	25.24	25.87	30.29	30.36	30.36	33.86	36.73	36.78	41.31	41.33	41.45	41.53	41.67	41.82	41.91	*47.75*	*48.00*	Common Shs Outst'g D	*50.0*
12.6	17.8	17.8	19.6	27.1	19.8	22.1	20.1	24.9	29.2	26.1	19.8	19.7	20.3	21.3	17.9	*Bold figures are*		Avg Ann'l P/E Ratio	*19.0*
.73	.93	1.01	1.27	1.39	1.08	1.26	1.06	1.33	1.58	1.39	1.19	1.31	1.29	1.34	1.10	*Value Line*		Relative P/E Ratio	*1.25*
4.6%	4.2%	4.0%	4.3%	4.4%	4.5%	4.2%	3.9%	3.1%	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	*estimates*		Avg Ann'l Div'd Yield	*3.6%*
						277.1	315.6	320.7	334.7	367.1	410.3	449.4	460.4	501.8	560.0	*590*	*650*	Revenues ($mill) E	*800*
						19.4	26.0	27.2	25.6	31.2	39.8	40.6	37.7	36.1	42.7	*40.0*	*53.0*	Net Profit ($mill)	*67.0*
						39.9%	39.6%	42.4%	37.4%	39.9%	37.7%	40.3%	39.5%	40.5%	*30.5%*	*34.0%*	*39.0%*	Income Tax Rate	*39.0%*
						10.3%	3.2%	3.3%	10.6%	8.3%	8.6%	7.6%	4.2%	7.6%	8.0%	*8.0%*	*8.5%*	AFUDC % to Net Profit	*10.0%*
						50.2%	48.6%	48.3%	43.5%	42.9%	41.6%	47.1%	52.4%	51.7%	52.1%	*42.0%*	*46.5%*	Long-Term Debt Ratio	*50.0%*
						49.1%	50.8%	51.1%	55.9%	56.6%	58.4%	52.9%	47.6%	48.3%	47.8%	*58.0%*	*53.5%*	Common Equity Ratio	*50.0%*
						498.4	565.9	568.1	670.1	674.9	690.4	794.9	914.7	931.5	908.2	*1050*	*1125*	Total Capital ($mill)	*1400*
						759.5	800.3	862.7	941.5	1010.2	1112.4	1198.1	1294.3	1381.1	1457.1	*1510*	*1575*	Net Plant ($mill)	*1825*
						5.6%	6.1%	6.3%	5.2%	5.9%	7.1%	6.5%	5.5%	5.5%	*6.5%*	*5.5%*	*6.0%*	Return on Total Cap'l	*6.5%*
						7.8%	8.9%	9.3%	6.8%	8.1%	9.9%	9.6%	8.6%	8.0%	9.0%	*7.0%*	*8.0%*	Return on Shr. Equity	*9.5%*
						7.9%	9.0%	9.3%	6.8%	8.1%	9.9%	9.6%	8.6%	8.0%	9.0%	*7.0%*	*8.0%*	Return on Com Equity	*9.5%*
						.7%	2.1%	2.1%	1.0%	1.8%	3.8%	3.8%	3.0%	2.3%	3.6%	*1.5%*	*3.0%*	Retained to Com Eq	*3.0%*
						91%	77%	78%	86%	77%	61%	60%	66%	71%	62%	*75%*	*62%*	All Div'ds to Net Prof	*67%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $574.2 mill. **Due in 5 Yrs** $65.3 mill.
LT Debt $434.2 mill. **LT Interest** $29.5 mill.
(LT interest earned: 6.7x; total int. cov.: 6.0x)
(43% of Cap'l)
Pension Assets-12/12 $202.9 mill.
Oblig. $402.9 mill.
Pfd Stock None

Common Stock 47,728,775 shs.
as of 5/1/13

MARKET CAP: $950 million (Small Cap)

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	←27.2	38.8	127.7
Other	86.7	107.8	104.0
Current Assets	113.9	146.6	231.7
Accts Payable	48.9	46.8	44.3
Debt Due	53.7	136.3	140.0
Other	49.3	59.7	72.5
Current Liab.	151.9	242.8	256.8
Fix. Chg. Cov.	278%	297%	325%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '16-'18
Revenues	3.5%	6.0%	5.0%
"Cash Flow"	4.5%	6.5%	5.0%
Earnings	4.0%	5.0%	5.5%
Dividends	1.0%	1.0%	6.0%
Book Value	5.0%	5.0%	5.5%

Cal-endar	QUARTERLY REVENUES ($ mill.)E Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2010	90.3	118.3	146.3	105.5	460.4
2011	98.1	131.4	169.3	103.0	501.8
2012	116.7	143.6	178.1	121.6	560.0
2013	111.4	*155*	*190*	*133.6*	*590*
2014	*135*	*165*	*210*	*140*	*650*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2010	.05	.25	.49	.12	.91
2011	.03	.29	.50	.04	.86
2012	.03	.31	.56	.12	1.02
2013	d.03	*.25*	*.45*	*.13*	*.80*
2014	*.05*	*.30*	*.55*	*.15*	*1.05*

Cal-endar	QUARTERLY DIVIDENDS PAID B ■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.148	.148	.148	.148	.59
2010	.149	.149	.149	.149	.60
2011	.154	.154	.154	.154	.62
2012	.1575	.1575	.1575	.1575	.63
2013	.16	.16			

BUSINESS: California Water Service Group provides regulated and nonregulated water service to roughly 471,900 customers in 83 communities in California, Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '12: residential, 66%; business, 18%; public authorities, 4%; industrial, 4%; other 8%. '12 reported depreciation rate: 2.8%. Has 1,131 employees. President, Chairman, and Chief Executive Officer: Peter C. Nelson. Inc.: Delaware. Address: 1720 North First Street, San Jose, California 95112-4598. Telephone: 408-367-8200. Internet: www.calwatergroup.com.

California Water will most likely have a down year in 2013. In the first quarter, the company posted a loss of $0.03 a share versus our estimate of a $0.04 gain mostly due to an accounting adjustment. Furthermore, over the remaining three quarters, the utility will probably experience negative year-over-year earnings comparisons. This is because of the combination that California Water is in need of rate relief and that the large equity offering it had in April should dilute share net by roughly 15%. For the full year, we expect share earnings to fall by over 20%, to $0.80.

A rebound seems probable in 2014, however. Higher rates being in effect will be the main reason for the improved showing. In mid-2012, the company filed a request with the California Public Utility Commission seeking increased rates of nearly 20%. Based on some recent cases, we think that regulators will permit a subpar return on equity, but will overall, hand down a reasonable decision. All told, we expect the company's share net to reach $1.05 next year.

The balance sheet has improved significantly. With the now completed 5.75-million- share offering, California Water has bolstered its finances. The long- term debt-to-total capital ratio has gone from 52% at year-end 2012 to 43% at the end of the first quarter, a large positive swing. Going forward, the utility won't be able to internally fund all of the capital expenditures required to update and modernize its infrastructure. Thus, it will probably issue debt which should result in moderate deterioration in the company's financial position.

California Water's dividend growth will be subpar in the near future for a water utility. Over the past five-and 10-year periods, the company's dividend growth has been a paltry 1%, low for even a nonutility stock. For the next several years we expect the payout to only grow 2%-3% versus about 5% for the industry.

All told, we think there are better opportunities elsewhere. True, CWT's yield is about 100 basis points higher than the *Value Line* average. Still, there are other water utilities with similar yields but better dividend growth prospects.

James A. Flood *July 19, 2013*

(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (4¢); '01, 2¢; '02, 4¢; '11, 4¢. Next earnings report due mid-August.
(B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
(C) Incl. intangible assets. In '12: $18.8 mill., $0.44/sh.
(D) In millions, adjusted for splits.
(E) Excludes non-reg. rev.

Company's Financial Strength	B++
Stock's Price Stability	100
Price Growth Persistence	55
Earnings Predictability	90

CONNECTICUT WATER NDQ-CTWS

RECENT PRICE 28.88 | P/E RATIO 18.1 (Trailing: 18.8 Median: 23.0) | RELATIVE P/E RATIO 1.03 | DIV'D YLD 3.4% | VALUE LINE

TIMELINESS 4 Lowered 3/29/13
SAFETY 3 New 1/18/13
TECHNICAL 3 Raised 5/3/13
BETA .75 (1.00 = Market)

High:	31.1	30.4	29.8	28.2	27.7	25.6	29.0	26.4	27.9	29.1	32.8	30.3
Low:	20.3	24.0	23.8	21.9	20.3	22.4	19.3	17.3	20.0	23.3	26.2	27.8

Target Price Range 2016 | 2017 | 2018

2016-18 PROJECTIONS

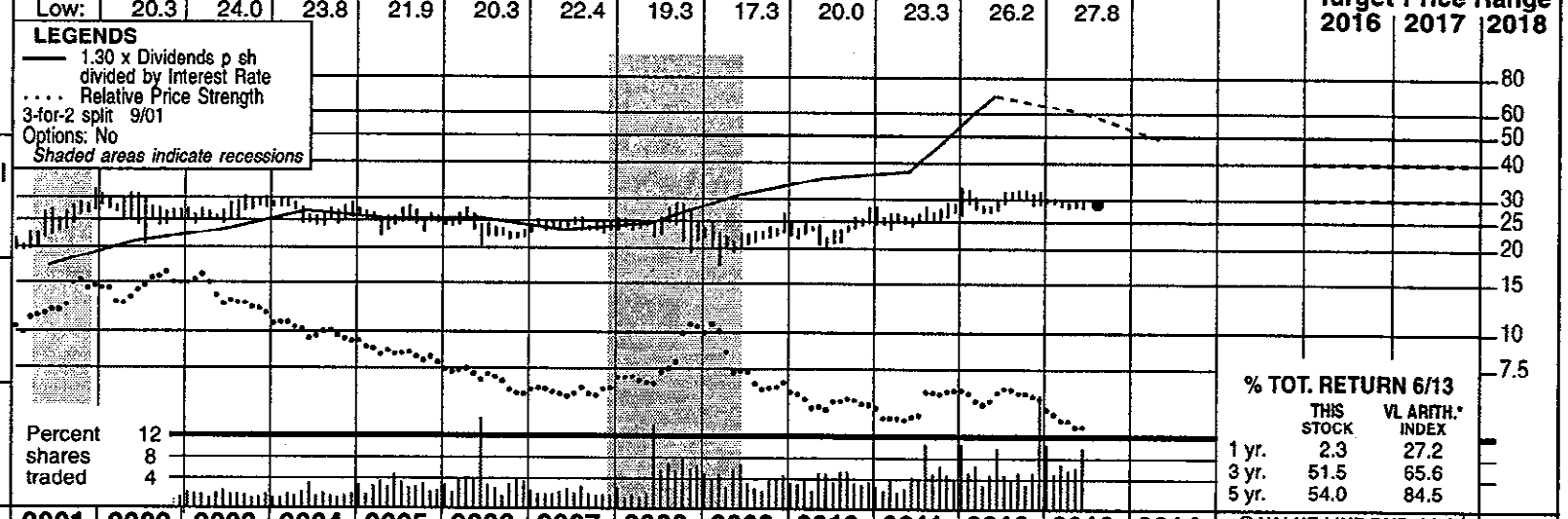
	Price	Gain	Ann'l Total Return
High	40	(+40%)	11%
Low	30	(+5%)	3%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	0	0	0	0	2	0	0	0	0
Options	3	0	0	0	0	0	0	0	0
to Sell	3	0	0	0	0	0	0	0	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	29	48	52
to Sell	22	16	21
Hld's(000)	3102	4069	4336



% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	2.3	27.2
3 yr.	51.5	65.6
5 yr.	54.0	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
5.67	5.58	5.87	5.70	5.93	5.77	5.91	6.04	5.81	5.68	7.05	7.24	6.93	7.65	7.93	7.63	*8.65*	*8.90*	Revenues per sh	*11.25*
1.51	1.59	1.65	1.73	1.78	1.78	1.89	1.91	1.62	1.52	1.90	1.95	1.93	2.04	2.11	*2.10*	*2.55*	*2.65*	"Cash Flow" per sh	*2.75*
1.00	1.02	1.03	1.09	1.13	1.12	1.15	1.16	.88	.81	1.05	1.11	1.19	1.13	1.13	1.53	*1.60*	*1.65*	Earnings per sh A	*1.75*
.77	.78	.79	.79	.80	.81	.83	.84	.85	.86	.87	.88	.90	.92	.94	.96	*.99*	*1.04*	Div'd Decl'd per sh B■	*1.14*
1.99	1.12	1.42	1.43	1.86	1.98	1.49	1.58	1.96	1.96	2.24	2.44	3.28	3.06	2.61	2.34	*2.75*	*2.85*	Cap'l Spending per sh	*2.90*
8.26	8.52	8.61	8.92	9.25	10.06	10.46	10.94	11.52	11.60	11.95	12.23	12.67	13.05	13.50	16.89	*17.25*	*17.80*	Book Value per sh D	*20.40*
6.79	6.80	7.26	7.28	7.65	7.94	7.97	8.04	8.17	8.27	8.38	8.46	8.57	8.68	8.76	10.97	*11.00*	*11.25*	Common Shs Outst'g C	*12.00*
12.9	15.5	18.2	18.2	21.5	24.3	23.5	22.9	28.6	29.0	23.0	22.2	18.4	20.7	23.0	19.4	*Bold figures are*		Avg Ann'l P/E Ratio	*20.0*
.74	.81	1.04	1.18	1.10	1.33	1.34	1.21	1.52	1.57	1.22	1.34	1.23	1.32	1.44	1.24	*Value Line*		Relative P/E Ratio	*1.35*
6.0%	4.9%	4.2%	4.0%	3.3%	3.0%	3.0%	3.1%	3.4%	3.6%	3.6%	3.6%	4.1%	3.9%	3.6%	3.6%	*estimates*		Avg Ann'l Div'd Yield	*3.4%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $180.3 mill. Due in 5 Yrs $14.8 mill.
LT Debt $177.9 mill. LT Interest $7.6 mill.
(Total interest coverage: 8.8x)
(49% of Cap'l)
Leases, Uncapitalized: Annual rentals $.2 mill.
Pension Assets $45.4 mill.
Oblig. $66.5 mill.

Pfd Stock $0.8 mill. Pfd Divd NMF

Common Stock 10,982,430 shs.
MARKET CAP: $325 million (Small Cap)

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		16-18
47.1	48.5	47.5	46.9	59.0	61.3	59.4	66.4	69.4	83.8	*95.0*	*100*	Revenues ($mill)	*135*
9.2	9.4	7.2	6.7	8.8	9.4	10.2	9.8	9.9	13.6	*17.5*	*18.0*	Net Profit ($mill)	*21.0*
17.9%	22.9%	--	23.5%	32.4%	27.2%	19.5%	35.2%	41.3%	32.0	*32.0%*	*33.0%*	Income Tax Rate	*35%*
--	--	--	--	--	1.7%	--	--	1.8%	1.8%	*2.0%*	*2.0%*	AFUDC % to Net Profit	*3.0%*
43.5%	42.8%	44.9%	44.4%	47.8%	46.9%	50.6%	49.5%	53.2%	49.0%	*49.5%*	*49.5%*	Long-Term Debt Ratio	*48.5%*
55.9%	56.7%	54.6%	55.1%	51.8%	52.7%	49.1%	50.2%	46.5%	50.9%	*50.5%*	*50.5%*	Common Equity Ratio	*51.5%*
148.9	155.1	172.3	174.1	193.2	196.5	221.3	225.6	254.2	364.6	*375*	*390*	Total Capital ($mill)	*475*
238.9	246.1	247.7	268.1	284.3	302.3	325.2	344.2	362.4	447.9	*470*	*490*	Net Plant ($mill)	*550*
7.5%	7.0%	5.0%	4.9%	5.5%	5.9%	5.5%	5.4%	4.9%	4.8%	*5.5%*	*5.5%*	Return on Total Cap'l	*5.5%*
10.9%	10.6%	7.5%	6.9%	8.7%	9.0%	9.3%	8.6%	8.3%	7.3%	*9.0%*	*9.0%*	Return on Shr. Equity	*8.5%*
11.0%	10.6%	7.6%	7.0%	8.7%	9.1%	9.4%	8.7%	8.3%	7.3%	*9.0%*	*9.0%*	Return on Com Equity	*8.5%*
3.2%	3.1%	.3%	NMF	1.6%	1.9%	2.3%	1.6%	1.4%	2.7%	*3.5%*	*3.5%*	Retained to Com Eq	*3.0%*
71%	71%	95%	105%	82%	79%	76%	81%	83%	63%	*62%*	*63%*	All Div'ds to Net Prof	*65%*

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	1.0	13.2	9.1
Accounts Receivable	14.9	11.5	11.1
Other	3.0	11.7	12.9
Current Assets	18.9	36.4	33.1
Accts Payable	7.2	10.0	5.9
Debt Due	--	3.0	2.4
Other	23.2	2.9	4.1
Current Liab.	30.4	15.9	12.4
Fix. Chg. Cov.	419%	455%	*460%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '16-'18
Revenues	2.5%	5.0%	*6.0%*
"Cash Flow"	1.5%	4.0%	*5.0%*
Earnings	0.5%	4.0%	*6.5%*
Dividends	1.5%	1.5%	*4.0%*
Book Value	4.0%	3.0%	*6.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	13.8	15.9	21.0	15.7	66.4
2011	16.0	17.4	20.6	15.4	69.4
2012	18.5	21.3	24.5	19.5	83.8
2013	21.5	*23.5*	*27.0*	*23.0*	*95.0*
2014	*22.0*	*24.0*	*30.0*	*24.0*	*100*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	.12	.27	.54	.20	1.13
2011	.26	.37	.39	.11	1.13
2012	.22	.47	.67	.16	1.53
2013	.24	*.45*	*.66*	*.25*	*1.60*
2014	*.30*	*.45*	*.65*	*.25*	*1.65*

Cal-endar	QUARTERLY DIVIDENDS PAID B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.222	.222	.228	.228	.90
2010	.228	.228	.233	.233	.922
2011	.233	.233	.238	.238	.942
2012	.238	.238	.243	.243	.962
2013	.243	.243			

BUSINESS: Connecticut Water Service, Inc. is a non-operating holding company, whose income is derived from earnings of its wholly-owned subsidiary companies (regulated water utilities). Its largest subsidiary, Connecticut Water, accounted for about 85% of the holding company's net income in 2012, and provides water services to 400,000 people in 55 towns throughout Connecticut and Maine. Acquired The Maine Water Co., 1/12; Biddeford and Saco Water, 12/12. Inc.: CT. Has about 260 employees. Chairman/President/CEO: Eric W. Thornburg. Officers and directors own 2.2% of the common stock; BlackRock, Inc. 6.7%; The Vanguard Group, 5.3%. Address: 93 West Main Street, Clinton, CT 06413. Telephone: (860) 669-8636. Web: www.ctwater.com.

Connecticut Water has reached a tentative deal with state officials. In sum, the utility agreed to reduce consumers rates for the next two years and not file a new rate case seeking higher tariffs until October 2015. The lower rates will be made possible by Connecticut Water passing through to the ratepayers a tax refund from 2010-12 that it recently qualified for with the IRS. The agreement was made with the Consumer Council and the Attorney General but still must be given final approval by the state's Public Utility Regulatory Authority (PURA).

The deal is not as unfavorable to Connecticut Water as it sounds. In return for the above concessions, going forward authorities are allowing the utility to establish a Revenue Adjustment Mechanism that will allow it to let the tax benefit (from the same refund) flow through to shareholders until the next rate case.

In fact, we are raising our earnings estimates for the company substantially. We think that the new arrangement will add $0.20 to the bottom line in 2013 and $0.10 in 2014. All told, we believe that Connecticut Water can possibly earn $1.60 this year, and $1.65 next year.

Is this a sign that the regulatory climate in Connecticut is getting more constructive? Long regarded as one of the toughest places for utilities to operate, this latest ruling seems fair to both the ratepayers and the utility. (*Value Line* currently ranks Connecticut's regulatory climate as Below Average.)

The higher projected earnings could possibly give Connecticut Water a window to start a more generous dividend paying policy. Over the past five and 10 year periods, the utility's dividend growth rate has been roughly 1%-2%, well below average for a water utility. With this potential windfall, Connecticut Water could reward shareholders with perhaps more than the subpar 2% increase that we were previously expecting.

Connecticut Water shares carry a 4 (Below Average) rank for Timeliness. Despite the upbeat recent events, we should remind investors that the deal with regulators has not been finalized. Thus, we'd advise staying on the sidelines for the time being.

James A. Flood *July 19, 2013*

(A) Diluted earnings. Next earnings report due mid-August.
(B) Dividends historically paid in mid-March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.
(D) Includes intangibles. In '12: $31.7 million/$2.89 a share.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	35
Earnings Predictability	85

MIDDLESEX WATER NDQ-MSEX

RECENT PRICE 20.68 | P/E RATIO 20.7 (Trailing: 20.9 Median: 22.0) | RELATIVE P/E RATIO 1.18 | DIV'D YLD 3.7% | VALUE LINE

TIMELINESS 2 Raised 6/7/13
SAFETY 2 New 10/21/11
TECHNICAL 3 Raised 6/29/12
BETA .70 (1.00 = Market)

High:	20.0	21.2	21.8	23.5	20.5	20.2	19.8	17.9	19.3	19.4	19.6	20.9
Low:	13.7	15.8	16.7	17.1	16.5	16.9	12.0	11.6	14.7	16.5	17.5	18.6

2016-18 PROJECTIONS

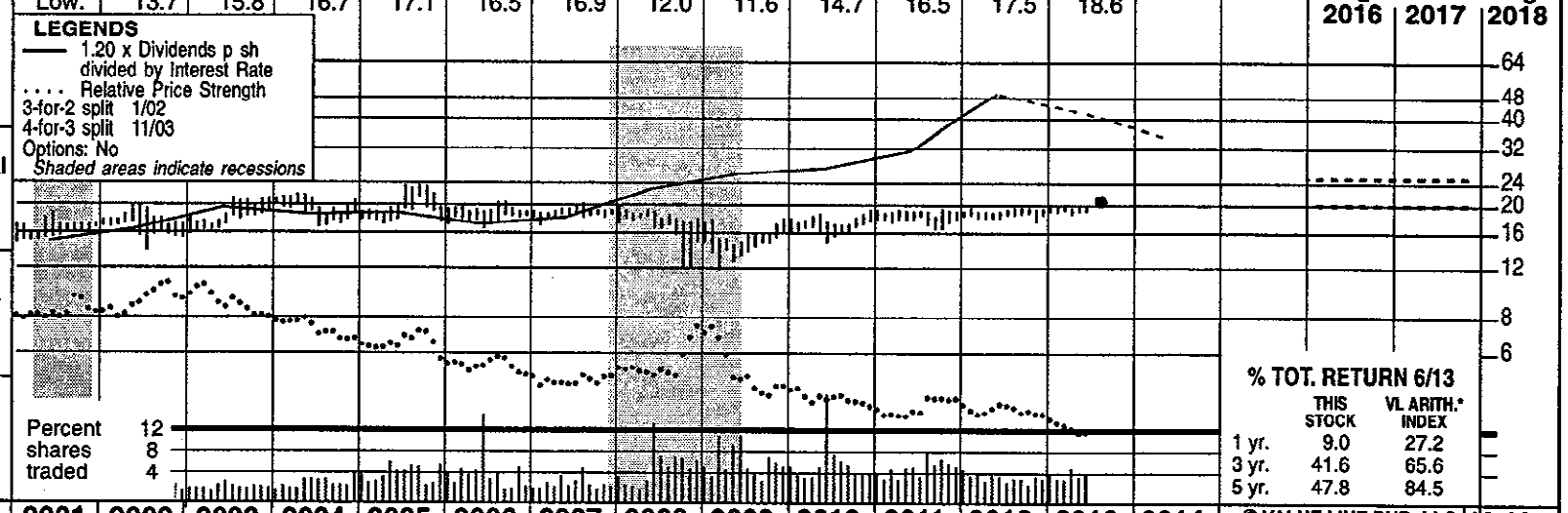
	Price	Gain	Ann'l Total Return
High	25	(+20%)	8%
Low	20	(-5%)	3%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	1	1	1	0	0	0	0	0	0
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	0	0	0	0	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	37	38	38
to Sell	22	28	30
Hld's(000)	6713	6696	6579



% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	9.0	27.2
3 yr.	41.6	65.6
5 yr.	47.8	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
4.72	4.39	5.35	5.39	5.87	5.98	6.12	6.25	6.44	6.16	6.50	6.79	6.75	6.60	6.50	6.98	*7.20*	*7.70*	Revenues per sh	*9.10*
1.02	1.02	1.19	.99	1.18	1.20	1.15	1.28	1.33	1.33	1.49	1.53	1.40	1.55	1.46	1.56	*1.65*	*1.85*	"Cash Flow" per sh	*2.30*
.67	.71	.76	.51	.66	.73	.61	.73	.71	.82	.87	.89	.72	.96	.84	.90	*1.00*	*1.05*	Earnings per sh A	*1.15*
.57	.58	.60	.61	.62	.63	.65	.66	.67	.68	.69	.70	.71	.72	.73	.74	*.75*	*.76*	Div'd Decl'd per sh B■	*.80*
1.20	2.68	2.33	1.32	1.25	1.59	1.87	2.54	2.18	2.31	1.66	2.12	1.49	1.90	1.50	1.36	*1.50*	*1.65*	Cap'l Spending per sh	*2.00*
6.00	6.80	6.95	6.98	7.11	7.39	7.60	8.02	8.26	9.52	10.05	10.03	10.33	11.13	11.27	11.48	*11.75*	*12.10*	Book Value per sh	*12.90*
8.54	9.82	10.00	10.11	10.17	10.36	10.48	11.36	11.58	13.17	13.25	13.40	13.52	15.57	15.70	15.82	*16.00*	*16.25*	Common Shs Outst'g C	*17.00*
13.4	15.2	17.6	28.7	24.6	23.5	30.0	26.4	27.4	22.7	21.6	19.8	21.0	17.8	21.7	20.8	*Bold figures are*		Avg Ann'l P/E Ratio	*20.0*
.77	.79	1.00	1.87	1.26	1.28	1.71	1.39	1.46	1.23	1.15	1.19	1.40	1.13	1.36	1.33	*Value Line*		Relative P/E Ratio	*1.35*
6.3%	5.4%	4.4%	4.2%	3.8%	3.7%	3.5%	3.4%	3.5%	3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	*estimates*		Avg Ann'l Div'd Yield	*3.6%*
						64.1	71.0	74.6	81.1	86.1	91.0	91.2	102.7	102.1	110.4	*115*	*125*	Revenues ($mill)	*155*
						6.6	8.4	8.5	10.0	11.8	12.2	10.0	14.3	13.4	14.4	*15.5*	*17.0*	Net Profit ($mill)	*20.0*
						32.8%	31.1%	27.6%	33.4%	32.6%	33.2%	34.1%	32.1%	32.7%	33.9%	*34.0%*	*34.0%*	Income Tax Rate	*34.0%*
						--	--	--	--	--	--	--	6.8%	6.1%	3.4%	*4.5%*	*4.5%*	AFUDC % to Net Profit	*5.0%*
						53.8%	53.8%	55.3%	49.5%	49.0%	45.6%	46.6%	43.1%	42.3%	41.5%	*43.0%*	*43.0%*	Long-Term Debt Ratio	*43.0%*
						44.0%	42.5%	41.3%	47.5%	49.6%	51.8%	52.1%	55.8%	56.6%	57.4%	*57.0%*	*57.0%*	Common Equity Ratio	*57.0%*
						181.1	214.5	231.7	264.0	268.8	259.4	267.9	310.5	312.5	316.5	*330*	*345*	Total Capital ($mill)	*400*
						230.9	262.9	288.0	317.1	333.9	366.3	376.5	405.9	422.2	435.2	*440*	*450*	Net Plant ($mill)	*510*
						5.0%	5.1%	5.0%	5.1%	5.6%	5.8%	5.0%	5.7%	5.2%	5.4%	*4.5%*	*5.0%*	Return on Total Cap'l	*5.5%*
						7.9%	8.5%	8.2%	7.5%	8.6%	8.6%	7.0%	8.1%	7.5%	7.8%	*8.0%*	*8.5%*	Return on Shr. Equity	*9.0%*
						8.0%	9.0%	8.6%	7.8%	8.7%	8.9%	7.0%	8.2%	7.5%	7.8%	*8.0%*	*8.5%*	Return on Com Equity	*9.0%*
						NMF	.9%	.6%	1.3%	1.8%	2.0%	.1%	2.1%	1.0%	1.4%	*2.0%*	*2.5%*	Retained to Com Eq	*3.0%*
						106%	90%	94%	84%	79%	78%	98%	75%	87%	83%	*80%*	*73%*	All Div'ds to Net Prof	*70%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $163.1 mill. Due in 5 Yrs $60.0 mill.
LT Debt $130.5 mill. LT Interest $7.0 mill.
(LT interest coverage: 4.1x)
(41% of Cap'l)

Pension Assets-12/12 $37.9 mill.
Oblig. $62.8 mill.
Pfd Stock $3.4 mill. Pfd Div'd: $.2 mill.

Common Stock 15,819,812 shs.
as of 4/30/13

MARKET CAP: $325 million (Small Cap)

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	3.1	3.0	4.5
Other	19.8	21.6	20.8
Current Assets	22.9	24.6	25.3
Accts Payable	5.7	3.8	4.5
Debt Due	4.6	11.1	32.6
Other	36.4	41.1	14.7
Current Liab.	46.7	55.9	51.8
Fix. Chg. Cov.	380%	410%	*415%*

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '10-'12 to '16-'18
Revenues	1.5%	1.0%	*5.5%*
"Cash Flow"	3.0%	2.0%	*7.0%*
Earnings	3.5%	2.5%	*4.0%*
Dividends	1.5%	1.5%	*1.5%*
Book Value	4.5%	4.0%	*2.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	21.6	26.5	29.6	25.0	102.7
2011	24.0	26.1	28.7	23.3	102.1
2012	23.5	27.4	32.3	27.1	110.4
2013	27.0	*28.0*	*32.0*	*28.0*	*115*
2014	*30.0*	*29.0*	*36.0*	*30.0*	*125*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	.11	.31	.37	.17	.96
2011	.17	.23	.32	.12	.84
2012	.11	.23	.38	.17	.90
2013	.20	*.28*	*.35*	*.17*	*1.00*
2014	*.17*	*.28*	*.40*	*.20*	*1.05*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.178	.178	.178	.180	.71
2010	.180	.180	.180	.183	.72
2011	.183	.183	.183	.185	.73
2012	.185	.185	.185	.1875	.74
2013	.1875	.1875			

BUSINESS: Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 60,000 retail customers, primarily in Middlesex County, New Jersey. in 2012, the Middlesex System accounted for 65% of total revenues. At 12/31/12, the company had 279 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers/directors own 3.1% of the common stock; BlackRock, 6.3%; The Vanguard Group, 5.7% (4/13 proxy). Address: 1500 Ronson Road, Iselin, NJ 08830. Tel.: 732-634-1500. Internet: www.middlesexwater.com.

Middlesex Water has a subpar historical record when it comes to dividend growth. Over the past five and 10 years respectively, the water utility has managed to raise the annual dividend a paltry 1.5%. This is among the lowest percentages in the water utility industry.

We don't expect this to change anytime soon. Our forecast is for the rise in the yearly payout to remain in the 1%-2% range over the pull to 2016-2018. Part of this is due to the company's existing high payout ratio which restricts future growth. This is also why Middlesex's stock is currently yielding the highest in the group. (Investors are willing to pay a premium i.e. accept a lower yield in return for larger dividend hikes in the future.)

Earnings have been surprising on the upside lately. For the third consecutive quarter, the company has posted solid year-over-year quarterly comparisons. This is due mostly to higher residential rates, which were implemented in 2012's third quarter. We think the $4 million in higher rates granted in Delaware and additional $8 million allowed in New Jersey will be enough to ensure earnings per share gains of 10% in 2013 and 5% next year, despite the weakening in other business areas. (See below.)

A weak performance in the commercial and industrial markets will prevent a better earnings showing. In the recent past, the company lost two big contracts that totalled almost $5 million in revenue. In New Jersey, the borough of Sayreville, has decided not to renew it contract for wholesale water when it ends this August. Also, the closing of a refinery meant the loss of a major industrial company and $2.6 million in revenues.

Capital investment will likely help long term growth. The company plans on spending almost $75 million on capital expenditures over the next three years. Most of the money will be directed toward the higher-margined, residential market, which is much more predictable than the commercial and industrial markets.

These timely shares are mostly for momentum investors seeking a high current-yield. Other companies in this group offer a lower yield but higher potential total returns to 2016-2018.

James A. Flood *July 19, 2013*

(A) Diluted earnings. May not sum due to rounding. Next earnings report due early August.
(B) Dividends historically paid in mid-Feb., May, Aug., and November.■ Div'd reinvestment plan available.
(C) In millions, adjusted for splits.
(D) Intangible assets in 2012: $9.2 million, $0.58 a share.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	30
Earnings Predictability	80

SJW CORP. NYSE-SJW

RECENT PRICE 25.95 | P/E RATIO 20.0 (Trailing: 21.8 Median: 23.0) | RELATIVE P/E RATIO 1.14 | DIV'D YLD 2.9% | VALUE LINE

TIMELINESS 2 Raised 6/7/13
SAFETY 3 New 4/22/11
TECHNICAL 3 Lowered 6/28/13
BETA .85 (1.00 = Market)

High:	15.1	15.0	19.6	27.8	45.3	43.0	35.1	30.4	28.2	26.8	26.9	28.1
Low:	12.7	12.6	14.6	16.1	21.2	27.7	20.0	18.2	21.6	20.9	22.6	24.5

Target Price Range 2016 | 2017 | 2018

2016-18 PROJECTIONS

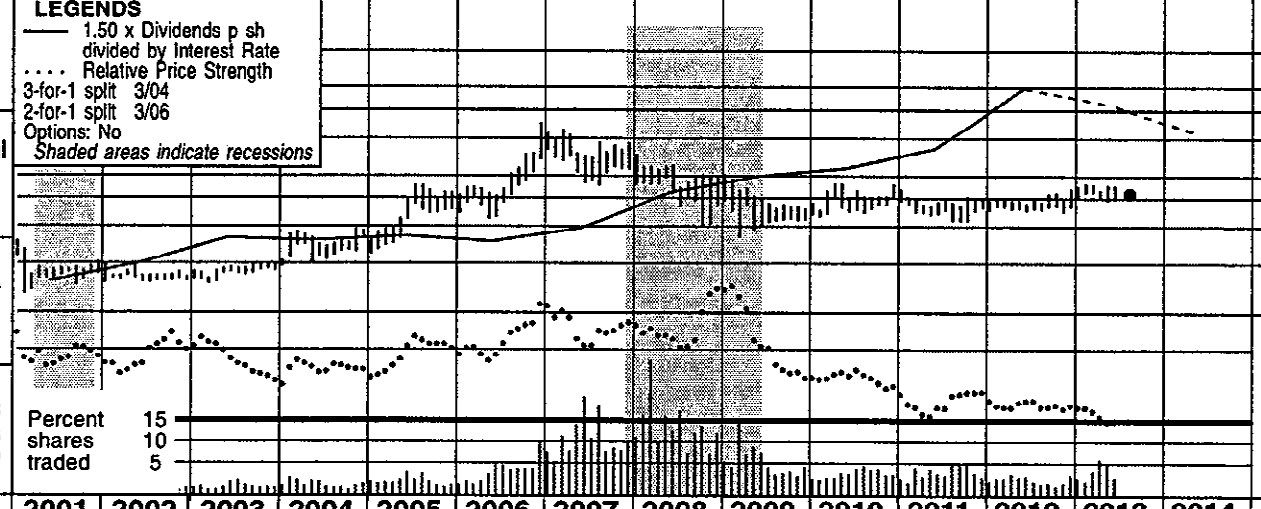
	Price	Gain	Ann'l Total Return
High	40	(+55%)	14%
Low	30	(+15%)	7%

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	1	0	0	4	0	0	0	0	0
Options	0	0	0	0	1	0	0	0	0
to Sell	0	0	0	0	1	0	0	0	0

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	31	34	46
to Sell	31	30	20
Hld's(000)	8844	9043	10000



% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	12.3	27.2
3 yr.	21.9	65.6
5 yr.	14.5	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
5.79	5.58	6.40	6.74	7.45	7.97	8.20	9.14	9.86	10.35	11.25	12.12	11.68	11.62	12.85	13.99	*14.25*	*14.75*	Revenues per sh	*16.30*
1.27	1.26	1.43	1.23	1.49	1.55	1.75	1.89	2.21	2.38	2.30	2.44	2.21	2.38	2.80	2.94	*3.30*	*3.50*	"Cash Flow" per sh	*3.65*
.80	.76	.87	.58	.77	.78	.91	.87	1.12	1.19	1.04	1.08	.81	.84	1.11	1.18	*1.30*	*1.40*	Earnings per sh A	*1.60*
.38	.39	.40	.41	.43	.46	.49	.51	.53	.57	.61	.65	.66	.68	.69	.71	*.73*	*.75*	Div'd Decl'd per sh B■	*.90*
1.27	1.81	1.77	1.89	2.63	2.06	3.41	2.31	2.83	3.87	6.62	3.79	3.17	5.65	3.75	5.70	*5.25*	*5.20*	Cap'l Spending per sh	*4.85*
7.02	7.53	7.88	7.90	8.17	8.40	9.11	10.11	10.72	12.48	12.90	13.99	13.66	13.75	14.20	14.68	*15.60*	*16.40*	Book Value per sh	*19.15*
19.02	19.01	18.27	18.27	18.27	18.27	18.27	18.27	18.27	18.28	18.36	18.18	18.50	18.55	18.59	18.70	*20.00*	*21.00*	Common Shs Outst'g C	*23.00*
11.2	13.1	15.5	33.1	18.5	17.3	15.4	19.6	19.7	23.5	33.4	26.2	28.7	29.1	21.2	20.4	*Bold figures are*		Avg Ann'l P/E Ratio	*22.0*
.65	.68	.88	2.15	.95	.94	.88	1.04	1.05	1.27	1.77	1.58	1.91	1.85	1.33	1.31	*Value Line*		Relative P/E Ratio	*1.45*
4.3%	3.9%	3.0%	2.1%	3.0%	3.4%	3.5%	3.0%	2.4%	2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	*estimates*		Avg Ann'l Div'd Yield	*2.6%*
						149.7	166.9	180.1	189.2	206.6	220.3	216.1	215.6	239.0	261.6	*285*	*310*	Revenues ($mill)	*375*
						16.7	16.0	20.7	22.2	19.3	20.2	15.2	15.8	20.9	22.3	*26.0*	*29.0*	Net Profit ($mill)	*37.0*
						36.2%	42.1%	41.6%	40.8%	39.4%	39.5%	40.4%	38.8%	41.1%	41.1%	*41.0%*	*40.0%*	Income Tax Rate	*40.0%*
						1.6%	2.1%	1.6%	2.1%	2.7%	2.3%	2.0%	--	2.0%	2.0%	*3.0%*	*4.0%*	AFUDC % to Net Profit	*5.0%*
						45.6%	43.7%	42.6%	41.8%	47.7%	46.0%	49.4%	53.7%	56.6%	55.0%	*54.5%*	*54.0%*	Long-Term Debt Ratio	*51.0%*
						54.4%	56.3%	57.4%	58.2%	52.3%	54.0%	50.6%	46.3%	43.4%	45.0%	*45.5%*	*46.0%*	Common Equity Ratio	*49.0%*
						306.0	328.3	341.2	391.8	453.2	470.9	499.6	550.7	607.9	610.2	*685*	*745*	Total Capital ($mill)	*900*
						428.5	456.8	484.8	541.7	645.5	684.2	718.5	785.5	756.2	831.6	*890*	*950*	Net Plant ($mill)	*1150*
						6.9%	6.5%	7.6%	7.0%	5.7%	5.8%	4.4%	4.3%	4.9%	5.2%	*5.0%*	*5.0%*	Return on Total Cap'l	*6.0%*
						10.0%	8.7%	10.6%	9.7%	8.2%	8.0%	6.0%	6.2%	7.9%	8.1%	*8.5%*	*8.5%*	Return on Shr. Equity	*8.5%*
						10.0%	8.7%	10.6%	9.7%	8.2%	8.0%	6.0%	6.2%	7.9%	8.1%	*8.5%*	*8.5%*	Return on Com Equity	*8.5%*
						4.7%	3.6%	5.6%	5.2%	3.5%	3.3%	1.2%	1.2%	3.1%	3.2%	*3.5%*	*4.0%*	Retained to Com Eq	*3.5%*
						53%	58%	47%	46%	57%	59%	80%	80%	61%	60%	*56%*	*54%*	All Div'ds to Net Prof	*56%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $358.1 mill. Due in 5 Yrs $21.2 mill.
LT Debt $335.4 mill. LT Interest $18.6 mill.
(Total interest coverage: 4.6x) (55% of Cap'l)

Leases, Uncapitalized: Annual rentals $4.7 mill.

Pension Assets $75.5 mill. **Oblig.** $141.0 mill.

Pfd Stock None.

Common Stock 20,020,372 shs.

MARKET CAP: $525 million (Small Cap)

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	26.7	2.5	2.1
Other	42.2	40.4	32.1
Current Assets	68.9	42.9	34.2
Accts Payable	7.4	8.5	10.9
Debt Due	0.8	20.7	22.7
Other	20.1	19.9	25.5
Current Liab.	28.3	49.1	59.1
Fix. Chg. Cov.	276%	247%	231%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '09-'11 to '16-'18
Revenues	6.0%	4.5%	*4.0%*
"Cash Flow"	6.0%	2.5%	*5.0%*
Earnings	2.0%	-3.0%	*7.5%*
Dividends	5.0%	5.0%	*4.5%*
Book Value	5.5%	4.5%	*5.0%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	40.4	54.1	70.3	50.8	215.6
2011	43.7	59.0	73.9	62.4	239.0
2012	51.2	65.6	82.4	62.4	261.6
2013	50.1	*70.0*	*94.9*	*70.0*	*285*
2014	*60.0*	*75.0*	*100*	*75.0*	*310*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	.05	.24	.44	.11	.84
2011	.03	.29	.44	.35	1.11
2012	.06	.28	.53	.31	1.18
2013	.07	*.32*	*.58*	*.33*	*1.30*
2014	*.10*	*.35*	*.60*	*.35*	*1.40*

Cal-endar	QUARTERLY DIVIDENDS PAID B■ Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.165	.165	.165	.165	.66
2010	.17	.17	.17	.17	.68
2011	.173	.173	.173	.173	.69
2012	.1775	.1775	.1775	.1775	.71
2013	.1825	.1825			

BUSINESS: SJW Corporation engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 227,000 connections that serve a population of approximately one million people in the San Jose area and 8,700 connections that serve approximately 36,000 residents in a service area in the region between San Antonio and Austin, Texas. The company offers nonregulated water-related services, including water system operations, cash remittances, and maintenance contract services. SJW also owns and operates commercial real estate investments. Has about 375 employees. Chrm.: Charles J. Toeniskoetter. Inc.: CA. Address: 110 W. Taylor Street, San Jose, CA 95110. Tel.: (408) 279-7800. Int: www.sjwater.com.

SJW has a major rate case pending. The utility filed a petition seeking higher tariffs in early 2012 with the California Public Utility Commission (CPUC). SJW is seeking to raise rates by 21.5% in 2013, 4.9% in 2014, and 12.6% in 2016, respectively. The CPUC has been reasonable in its past few rate cases, (with the exception of the allowed return on equity), but clearly SJW is asking for large amounts of money. Cases such as these are a challenge to regulators. There is a lot of political pressure to keep rates low, but SJW has presented a good case as to why it needs the funds. For example, expenses experienced large increases in 2012 as the cost of purchasing water alone, by far the largest expense, rose by more than 20%.

We think share net can rise by double digits this year. While the CPUC is considering the case, SJW was allowed to implement higher rates on an interim basis. The company's share net can increase by 10%, to $1.30, even though there was a dilutive equity offering this April that increased the number of shares outstanding by 8%.

Next year is a bit of a question mark. While SJW is collecting higher rates on an interim basis, we have a good idea of what its earnings will be. In 2014, however, our forecast is more tenuous. The bottom line will depend to a great degree on what the CPUC's final ruling is. Currently, we estimate a relatively reasonable ruling, one that should enable the company's share net to rise by a solid 8%, to $1.40.

Capital expenditures will be burdensome. Like most utilities, much of SJW's infrastructure is outdated and in need of modernization. The company estimates that it will have to spend $100 million annually over the next five-year period for this purpose. Internally generated funds will fall far short of covering the bill. Thus, large amounts of debt and equity offerings will be required.

These shares are timely. However, while earnings will probably do well due to the interim rate hikes, long-term total returns potential is subpar. Another negative is the chance of a harsh regulatory ruling on the pending rate case, which could impair the company's potential profit growth.

James A. Flood *July 19, 2013*

(A) Diluted earnings. Excludes nonrecurring losses : '03, $1.97; '04, $3.78; '05, $1.09; '06, $16.36; '08, $1.22; '10, 46¢. Next earnings report due late August. Quarterly egs. may not add due to rounding.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for stock splits.

Company's Financial Strength	B+
Stock's Price Stability	80
Price Growth Persistence	60
Earnings Predictability	80

YORK WATER NDQ-YORW

RECENT PRICE 19.74 | P/E RATIO 25.3 (Trailing: 26.7 Median: 25.0) | RELATIVE P/E RATIO 1.44 | DIV'D YLD 2.8% | VALUE LINE

TIMELINESS 4 New 7/19/13
SAFETY 2 New 7/19/13
TECHNICAL 3 New 7/19/13
BETA .70 (1.00 = Market)

High:	13.4	13.5	14.0	17.9	21.0	18.5	16.5	18.0	18.0	18.1	18.5	19.8
Low:	8.2	9.3	11.0	11.7	15.3	15.5	6.2	9.7	12.8	15.8	16.8	17.6

2016-18 PROJECTIONS

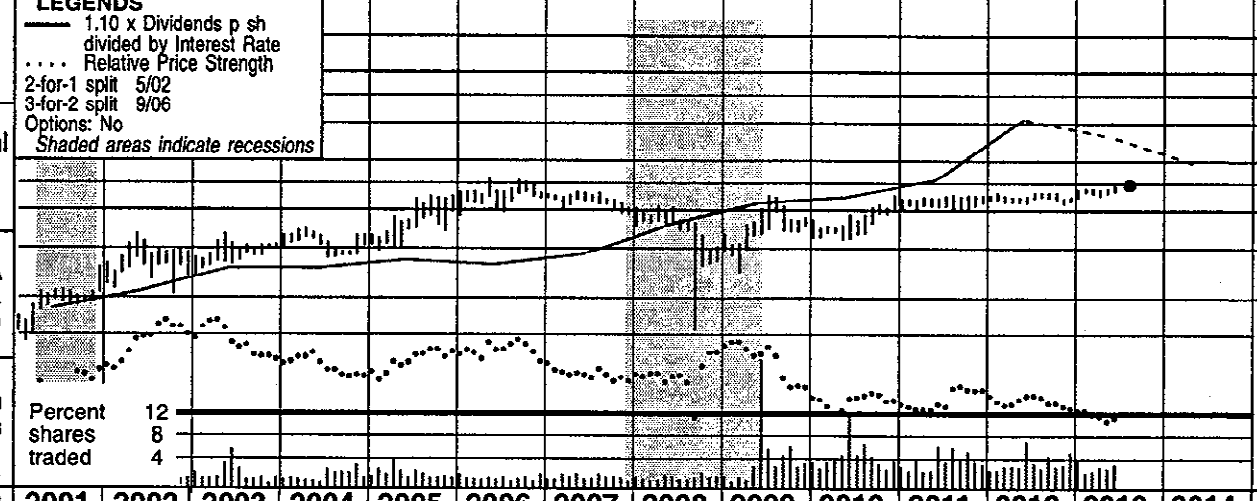
	Price	Gain	Ann'l Total Return
High	25	(+25%)	8%
Low	17	(-15%)	Nil

Insider Decisions

	A	S	O	N	D	J	F	M	A
to Buy	0	2	4	0	0	4	0	0	4
Options	0	0	0	0	0	0	0	0	0
to Sell	0	0	0	0	1	0	0	0	1

Institutional Decisions

	3Q2012	4Q2012	1Q2013
to Buy	27	26	33
to Sell	28	27	21
Hld's(000)	3279	3178	3375



Target Price Range 2016 | 2017 | 2018
64 48 40 32 24 20 16 12 8 6

% TOT. RETURN 6/13

	THIS STOCK	VL ARITH.* INDEX
1 yr.	8.8	27.2
3 yr.	45.8	65.6
5 yr.	52.9	84.5

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	© VALUE LINE PUB. LLC	16-18
--	--	--	--	2.05	2.05	2.17	2.18	2.58	2.56	2.79	2.89	2.95	3.07	3.18	3.21	*3.40*	*3.50*	Revenues per sh	*3.55*
--	--	--	--	.59	.57	.65	.65	.79	.77	.86	.88	.95	1.07	1.09	1.12	*1.20*	*1.30*	"Cash Flow" per sh	*1.40*
--	--	--	--	.43	.40	.47	.49	.56	.58	.57	.57	.64	.71	.71	.72	*.78*	*.85*	Earnings per sh A	*.90*
--	--	--	--	.34	.35	.37	.39	.42	.45	.48	.49	.51	.52	.53	.54	*.55*	*.57*	Div'd Decl'd per sh B	*.65*
--	--	--	--	.75	.66	1.07	2.50	1.69	1.85	1.69	2.17	1.18	.83	.74	.94	*.90*	*.80*	Cap'l Spending per sh	*.90*
--	--	--	--	3.79	3.90	4.06	4.65	4.85	5.84	5.97	6.14	6.92	7.19	7.45	7.73	*8.05*	*8.35*	Book Value per sh	*8.60*
--	--	--	--	9.46	9.55	9.63	10.33	10.40	11.20	11.27	11.37	12.56	12.69	12.79	12.92	*13.00*	*13.20*	Common Shs Outst'g C	*14.00*
--	--	--	--	17.8	26.9	24.5	25.7	26.3	31.2	30.3	24.6	21.9	20.7	23.9	24.4	*Bold figures are*		Avg Ann'l P/E Ratio	*22.5*
--	--	--	--	.91	1.47	1.40	1.36	1.40	1.68	1.61	1.48	1.46	1.32	1.50	1.55	*Value Line*		Relative P/E Ratio	*1.50*
--	--	--	--	4.4%	3.3%	3.2%	3.1%	2.9%	2.5%	2.8%	3.5%	3.6%	3.5%	3.1%	3.1%	*estimates*		Avg Ann'l Div'd Yield	*3.2%*

CAPITAL STRUCTURE as of 3/31/13
Total Debt $85.0 mill. Due in 5 Yrs $19.5 mill.
LT Debt $84.9 mill. LT Interest $5.2 mill.
(Total interest coverage: 2.9x)
(46% of Cap'l)

Pension Assets 12/12 $22.7 mill.
Oblig. $34.7 mill.

Pfd Stock None

Common Stock 12,932,111 shs.
as of 5/8/13

MARKET CAP: $250 million (Small Cap)

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014		16-18
20.9	22.5	26.8	28.7	31.4	32.8	37.0	39.0	40.6	41.4	*44.0*	*46.0*		Revenues ($mill)	*50.0*
4.4	4.8	5.8	6.1	6.4	6.4	7.5	8.9	9.1	9.3	*10.2*	*11.3*		Net Profit ($mill)	*12.6*
34.8%	36.7%	36.7%	34.4%	36.5%	36.1%	37.9%	38.5%	35.3%	37.6%	*36.0%*	*36.0%*		Income Tax Rate	*36.0%*
--	--	--	7.2%	3.6%	10.1%	--	1.2%	1.1%	1.1%	*1.0%*	*1.0%*		AFUDC % to Net Profit	*1.0%*
43.4%	42.5%	44.1%	48.3%	46.5%	54.5%	45.7%	48.3%	47.1%	46.0%	*45.0%*	*45.0%*		Long-Term Debt Ratio	*43.0%*
56.6%	57.5%	55.9%	51.7%	53.5%	45.5%	54.3%	51.7%	52.9%	54.0%	*55.0%*	*55.0%*		Common Equity Ratio	*57.0%*
69.0	83.6	90.3	126.5	125.7	153.4	160.1	176.4	180.2	184.8	*190*	*197*		Total Capital ($mill)	*220*
116.5	140.0	155.3	174.4	191.6	211.4	222.0	228.4	233.0	240.3	*245*	*250*		Net Plant ($mill)	*265*
8.5%	7.6%	8.4%	6.2%	6.7%	5.7%	6.2%	6.5%	6.4%	6.4%	*6.5%*	*7.0%*		Return on Total Cap'l	*7.0%*
11.4%	10.0%	11.6%	9.3%	9.5%	9.2%	8.6%	9.8%	9.5%	9.3%	*9.5%*	*10.0%*		Return on Shr. Equity	*10.0%*
11.4%	10.0%	11.6%	9.3%	9.5%	9.2%	8.6%	9.8%	9.5%	9.3%	*9.5%*	*10.0%*		Return on Com Equity	*10.0%*
2.6%	2.1%	3.0%	2.2%	1.7%	1.4%	1.9%	2.7%	2.5%	2.4%	*3.0%*	*3.0%*		Retained to Com Eq	*3.0%*
77%	79%	74%	77%	82%	85%	78%	72%	73%	74%	*71%*	*67%*		All Div'ds to Net Prof	*72%*

CURRENT POSITION ($MILL.)	2011	2012	3/31/13
Cash Assets	4.0	4.0	4.6
Accounts Receivable	6.0	6.4	5.6
Other	1.4	1.2	1.5
Current Assets	11.4	11.6	11.7
Accts Payable	1.1	1.1	.9
Debt Due	.1	.1	.1
Other	4.1	4.3	4.9
Current Liab.	5.3	5.5	5.9
Fix. Chg. Cov.	160%	156%	154%

ANNUAL RATES of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '10-'12 to '16-'18
Revenues	4.5%	3.5%	*2.0%*
"Cash Flow"	6.5%	6.5%	*4.0%*
Earnings	5.5%	4.5%	*4.0%*
Dividends	1.5%	3.0%	*3.5%*
Book Value	7.0%	6.0%	*2.5%*

Cal-endar	QUARTERLY REVENUES ($ mill.) Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	9.0	9.7	10.5	9.8	39.0
2011	9.6	10.5	10.5	10.0	40.6
2012	9.6	10.4	11.0	10.4	41.4
2013	10.1	*11.0*	*11.7*	*11.2*	*44.0*
2014	*10.5*	*11.5*	*12.2*	*11.8*	*46.0*

Cal-endar	EARNINGS PER SHARE A Mar.31	Jun. 30	Sep. 30	Dec. 31	Full Year
2010	.15	.18	.21	.17	.71
2011	.17	.19	.19	.16	.71
2012	.15	.17	.22	.18	.72
2013	.17	*.19*	*.21*	*.21*	*.78*
2014	*.19*	*.21*	*.23*	*.22*	*.85*

Cal-endar	QUARTERLY DIVIDENDS PAID B Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2009	.126	.126	.126	.126	.504
2010	.128	.128	.128	.128	.512
2011	.131	.131	.131	.131	.524
2012	.134	.134	.134	.134	.535
2013	.138	.138	.138		

BUSINESS: The York Water Company is the oldest investor-owned regulated water utility in the United States. It has operated continuously since 1816. As of December 31, 2012, the company's average daily availability was 35.0 million gallons and its service territory had an estimated population of 189,000. Has more than 63,000 customers. Residential customers accounted for 63% of 2012 revenues; commercial and industrial (29%); other (8%). It also provides sewer billing services. Incorporated: PA. York had 103 full-time employees at 12/31/12. President/CEO: Jeffrey R. Hines. Officers/directors own 1.2% of the common stock (3/13 proxy). Address: 130 East Market Street York, Pennsylvania 17401. Telephone: (717) 845-3601. Internet: www.yorkwater.com.

We are initiating coverage of The York Water Company this week in *The Value Line Investment Survey.* It is a regulated water utility that purifies and distributes drinking water to more than 63,000 customers in Pennsylvania. The company was founded in 1816.

The equity has performed well of late. Over the past three months, the stock price has advanced about 8%. In comparison, the S&P 500 Index is up approximately 4% over the same time frame. In our view, the outperformance stemmed from some investors seeking more stable stocks during the recent period of increased volatility on Wall Street. On that note, shares of York Water are now trading near their 52-week high.

York stock now seems richly valued. The equity was recently trading at more than 25 times our 2013 share-earnings estimate, which is higher than its historical average, as well as the multiple we project to the 2016–2018 time frame. All told, at this time, we see little reason to take a position here. According to our proprietary Ranking System for Timeliness, York shares will underperform the broader market return over the next six to 12 months. In addition, looking long term, the issue is already trading well within our projected Target Price Range for 2016-2018. We also estimate that the dividend payout will only increase at a modest annual pace.

The company's near- and long-term prospects aren't compelling, though it does have an important rate case pending. In order to recoup capital investments that stemmed from maintenance outlays, York submitted a request to the Pennsylvania Utility Commission for an increase in water rates of $7.1 million per year. We think that York will be successful, at least partly so, in getting the hike approved, which will help revenues and profits. Furthermore, and most important, water is one of the most essentials part of life. Water providers, therefore, are almost as critical, and demand for water ought to continue to grow along with the population. However, in order to keep the water flowing, York will have to invest heavily in improving its infrastructure, which will hamper profits. All told, we project only modest annual share-net gains.

Ian Gendler *July 19, 2013*

(A) Diluted earnings. Next earnings report due early August.
(B) Dividends historically paid in mid-January, April, July, and October.
(C) In millions, adjusted for splits.

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	60
Earnings Predictability	100

Tidewater Utilities, Inc.
Current Institutional Holdings and Individual Holdings
the Proxy Group of Nine Water Companies

	1	2
	September 16, 2013 Percentage of Institutional Holdings	September 16, 2013 Percentage of Individual Holdings (1)
Proxy Group of Nine Water Companies		
American States Water Co.	62.97 %	37.03 %
American Water Works Co., Inc.	81.42	18.58
Aqua America, Inc.	47.22	52.78
Artesian Resources Corp.	38.33	61.67
California Water Service Group	56.90	43.10
Connecticut Water Service, Inc.	41.47	58.53
Middlesex Water Company	38.97	61.03
SJW Corporation	53.13	46.87
York Water Company	25.89	74.11
Average	49.59 %	50.41 %

Notes:
(1) (1 - column 1).

Source of Information: pro.edgar-online.com, September 16, 2013

Tidewater Utilities, Inc.
Summary of Risk Premium Models for the
Proxy Group of Nine Water Companies

	Proxy Group of Nine Water Companies
Predictive Risk Premium Model ™ (PRPM™) (1)	11.58 %
Risk Premium Using an Adjusted Market Approach (2)	10.20 %
Average	11.24 %

Notes:
(1) From page 2 of this Schedule.
(2) From page 3 of this Schedule.

Tidewater Utilities, Inc.
Derivation of Common Equity Cost Rate
Using the Predictive Risk Premium Model ™ (PRPM ™)
Proxy Group of Nine Water Companies (1)

	American States Water Co.	American Water Works Co., Inc.	Aqua America, Inc.	Artesian Resources Corp.	California Water Service Group	Connecticut Water Service, Inc.	Middlesex Water Company	SJW Corporation	York Water Company
GARCH Coefficient (2)	1.494542055	5.25701212	2.215676779	2.092556717	1.750966173	1.704143916	1.925262119	1.308692643	1.903646787
Average Variance (2)	0.39%	0.32%	0.48%	0.31%	0.31%	0.29%	0.27%	0.42%	0.47%
PRPM™ Derived Risk Premium (2)	7.27%	22.38%	13.51%	7.97%	6.80%	5.99%	6.40%	6.81%	11.19%
Risk-Free Rate (3)	4.31%	4.31%	4.31%	4.31%	4.31%	4.31%	4.31%	4.31%	4.31%
Indicated Cost of Common Equity	11.58%	26.69%	17.82%	12.28%	11.11%	10.30%	10.71%	11.12%	15.50%
								Average	14.12%
								Median	11.58%

Notes:
(1) PRPM™ calculated from first available trading month through August 2013.
(2) Based upon data from CRSP(R) Data © 2012, Center For Research in Security Prices (CRSP(R)), The University of Chicago Booth School of Business.
(3) From note 3 on page 2 of Schedule 8.

Tidewater Utilities, Inc.
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Nine Water Companies
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	5.08 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	0.27 (2)
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	5.35 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	-0.04 (3)
5.	Adjusted Prospective Bond Yield	5.31 %
6.	Equity Risk Premium (4)	4.89
7.	Risk Premium Derived Common Equity Cost Rate	10.20 %

Notes:
(1) Six quarter average consensus forecast ending with Q4 of 2013 of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 9 and 10 of this Schedule).
(2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.27% from page 4 of this Schedule.
(3) Adjustment to reflect the A1/A2 Moody's bond rating of the proxy group of nine water companies as shown on page 4 of this Schedule. The 4 basis point adjustment is derived by taking 1/6 of the spread between Aa2 and A2 Public Utility Bonds (1/6 * 0.24% = 0.04%).
(4) From page 7 of this Schedule.

Tidewater Utilities, Inc.
Comparison of Bond Ratings, Business Risk and Financial Risk Profiles for the
Proxy Group of Nine Water Companies

	Moody's Bond Rating September 2013		Standard & Poor's Bond Rating September 2013			
Proxy Group of Nine Water Companies	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)	Credit Rating	Numerical Weighting (1)
American States Water Co. (2)	A2	6.0	A+	5.0	A+	5.0
American Water Works Co., Inc. (3)	A1	5.0	A	6.0	BBB+	8.0
Aqua America, Inc. (4)	NR	- -	AA-	4.0	A+	5.0
Artesian Resources Corp.	NR	- -	NR	- -	NR	- -
California Water Service Group (5)	NR	- -	AA-	4.0	A+	5.0
Connecticut Water Service, Inc. (6)	NR	- -	A	6.0	A	6.0
Middlesex Water Company	NR	- -	A	6.0	A-	7.0
SJW Corporation (7)	NR	- -	A	6.0	A	6.0
York Water Company	NR	- -	A-	7.0	A-	7.0
Average	A1/A2	5.5	A+/A	5.5	A	6.1

Notes: (1) From page 5 of this Schedule.
(2) Ratings are those of Golden State Water Company.
(3) Ratings are those of Pennsylvania and New Jersey American Water.
(4) Ratings are those of Aqua Pennsylvania, Inc.
(5) Ratings are those of California Water Service Co.
(6) Ratings are those of Connecticut Water Company.
(7) Ratings are those of San Jose Water Co.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Numerical Assignment for Moody's and Standard & Poor's Bond Ratings

Moody's Bond Rating	Numerical Bond Weighting	Standard & Poor's Bond Rating
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-

Moody's
Comparison of Interest Rate Trends
for the Three Months Ending August 2013 (1)

Months	Corporate Bonds	Public Utility Bonds			Spread - Corporate v. Public Utility Bonds			Spread - Public Utility Bonds	
	Aaa Rated	Aa Rated	A Rated	Baa Rated	Aa (Pub. Util.) over Aaa (Corp.)	A (Pub. Util.) over Aaa (Corp.)	Baa (Pub. Util.) over Aaa (Corp.)	A over Aa	Baa over A
August-13	4.54 %	4.53 %	4.73 %	5.28 %					
July-13	4.34	4.44	4.68	5.21					
June-13	4.27	4.27	4.53	5.08					
Average of Last 3 Months	4.38 %	4.41 %	4.65 %	5.19 %	0.03 %	0.27 %	0.81 %	0.24 %	0.54 %

Notes: (1) All yields are distributed yields.

Source of Information: Mergent Bond Record, September 2013, Vol. 80, No. 9.

Tidewater Utilities, Inc.
Judgment of Equity Risk Premium for
the Proxy Group of Nine Water Companies

Line No.		Proxy Group of Nine Water Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	5.07 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	4.70
3.	Average equity risk premium	4.89 %

Notes: (1) From page 8 of this Schedule.
(2) From page 11 of this Schedule.

Tidewater Utilities, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Nine Water Companies

Line No.		Proxy Group of Nine Water Companies
	Based on SBBI Valuation Yearbook Data:	
1.	Ibbotson Equity Risk Premium (1)	6.55 %
2.	Ibbotson Equity Risk Premium based on PRPM™ (2)	9.20
	Based on Value Line Summary and Index:	
3.	Equity Risk Premium Based on Value Line Summary and Index (3)	5.97
4.	Conclusion of Equity Risk Premium (4)	7.24 %
5.	Adjusted Value Line Beta (5)	0.70
6	Beta Adjusted Equity Risk Premium	5.07 %

Notes:
(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2013 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation minus the arithmetic mean monthly yield of Moody's Aaa and Aa corporate bonds from 1926 - 2012. (11.83% - 5.28% = 6.55%).
(2) The Predictive Risk Premium Model (PRPM™) is discussed in Ms. Ahern's accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM™ is derived by applying the PRPM™ to the monthly risk premiums between Ibbotson large company common stock monthly returns minus the average Aaa and Aa corporate monthly bond yields, from January 1928 through June 2013.
(3) The equity risk premium based on the Value Line Summary and Index is derived from taking the projected 3-5 year total annual market return of 11.05% (described fully in note 1 of page 2 of Schedule 8) and subtracting the average consensus forecast of Aaa corporate bonds of 5.08% (Shown on page 3 of this Schedule). (11.05% - 5.08% = 5.97%)
(4) Average of Lines 1, 2, & 3.
(5) Median beta derived from page 1 of Schedule 8.

Sources of Information:
Ibbotson® SBBI® 2013 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation, Morningstar, Inc., 2013 Chicago, IL.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, September 1, 2013

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions[1]

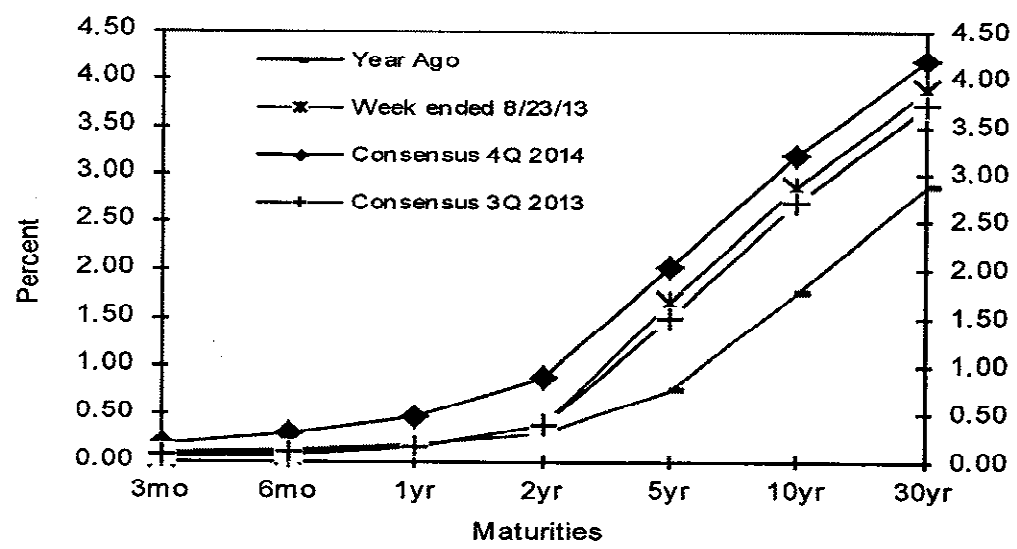
Interest Rates	History: Average For Week Ending Aug. 23	Aug. 16	Aug. 9	Aug. 2	Average For Month July	June	May	Latest Q 2Q 2013	Consensus Forecasts-Quarterly Avg. 3Q 2013	4Q 2013	1Q 2014	2Q 2014	3Q 2014	4Q 2014
Federal Funds Rate	0.09	0.08	0.09	0.09	0.09	0.09	0.11	0.12	0.1	0.2	0.2	0.2	0.2	0.2
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.3	3.3	3.3	3.3	3.3	3.3
LIBOR, 3-mo.	0.26	0.26	0.27	0.27	0.27	0.27	0.28	0.28	0.3	0.3	0.3	0.3	0.4	0.4
Commercial Paper, 1-mo.	0.05	0.06	0.05	0.05	0.06	0.07	0.07	0.07	0.1	0.1	0.1	0.2	0.2	0.2
Treasury bill, 3-mo.	0.04	0.05	0.05	0.04	0.04	0.05	0.04	0.05	0.1	0.1	0.1	0.1	0.1	0.2
Treasury bill, 6-mo.	0.07	0.08	0.08	0.07	0.07	0.09	0.08	0.09	0.1	0.1	0.1	0.2	0.2	0.3
Treasury bill, 1 yr.	0.14	0.12	0.12	0.11	0.12	0.14	0.12	0.13	0.2	0.2	0.2	0.3	0.4	0.5
Treasury note, 2 yr.	0.38	0.34	0.32	0.32	0.34	0.33	0.25	0.27	0.4	0.4	0.5	0.6	0.8	0.9
Treasury note, 5 yr.	1.64	1.50	1.38	1.40	1.40	1.20	0.84	0.92	1.5	1.6	1.7	1.8	1.9	2.0
Treasury note, 10 yr.	2.86	2.73	2.62	2.64	2.58	2.30	1.93	2.00	2.7	2.8	2.9	3.0	3.1	3.2
Treasury note, 30 yr.	3.87	3.77	3.68	3.69	3.61	3.40	3.11	3.15	3.7	3.8	3.9	4.0	4.1	4.2
Corporate Aaa bond	4.67	4.56	4.43	4.42	4.34	4.27	3.89	3.96	4.5	4.6	4.7	4.8	4.9	5.0
Corporate Baa bond	5.55	5.44	5.34	5.32	5.32	5.19	4.73	4.84	5.4	5.5	5.6	5.7	5.7	5.8
State & Local bonds	4.91	4.80	4.73	4.70	4.56	4.27	3.72	3.97	4.6	4.6	4.7	4.8	4.8	4.9
Home mortgage rate	4.58	4.40	4.40	4.39	4.37	4.07	3.54	3.69	4.4	4.5	4.6	4.7	4.8	4.9

Key Assumptions	History: 3Q 2011	4Q 2011	1Q 2012	2Q 2012	3Q 2012	4Q 2012	1Q 2013	2Q 2013	Consensus Forecasts-Quarterly 3Q 2013	4Q 2013	1Q 2014	2Q 2014	3Q 2014	4Q 2014
Major Currency Index	69.9	72.4	72.9	73.9	74.0	73.2	74.7	76.4	76.7	77.1	77.5	77.8	78.0	78.0
Real GDP	1.4	4.9	3.7	1.2	2.8	0.1	1.1	2.5	2.3	2.6	2.7	2.8	2.9	2.9
GDP Price Index	2.5	0.5	2.0	1.8	2.3	1.1	1.3	0.8	1.8	1.7	1.9	1.9	2.0	2.0
Consumer Price Index	2.9	1.4	2.3	1.0	2.1	2.2	1.4	0.0	2.5	1.9	2.0	2.0	2.2	2.2

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data for interest rates except LIBOR is from Federal Reserve Release (FRSR) H.15. LIBOR quotes available from *The Wall Street Journal*. Interest rate definitions are the same as those in FRSR H.15. Treasury yields are reported on a constant maturity basis. Historical data for the Fed's Major Currency Index is from FRSR H.10 and G.5. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS).

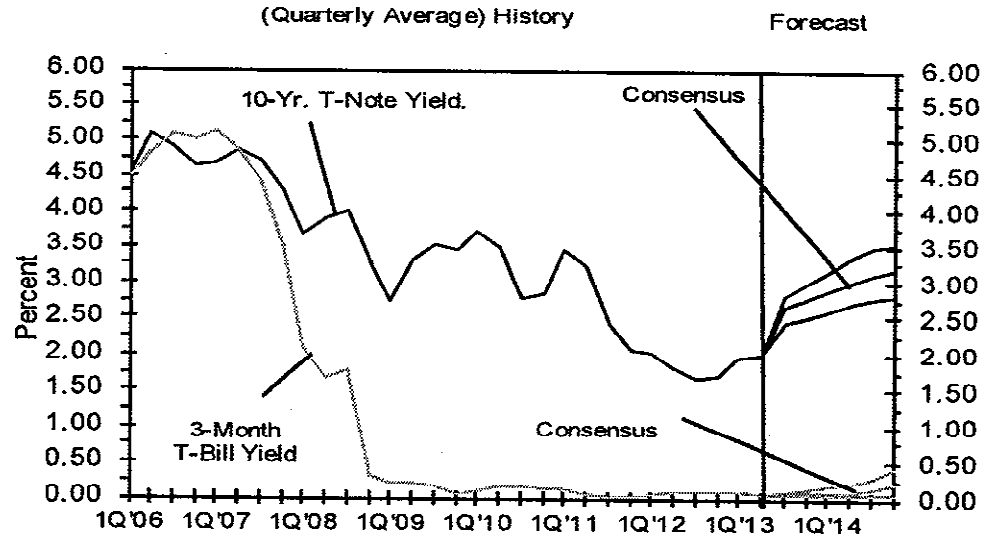
U.S. Treasury Yield Curve

Week ended August 23, 2013 and Year Ago vs. 3Q 2013 and 4Q 2014 Consensus Forecasts



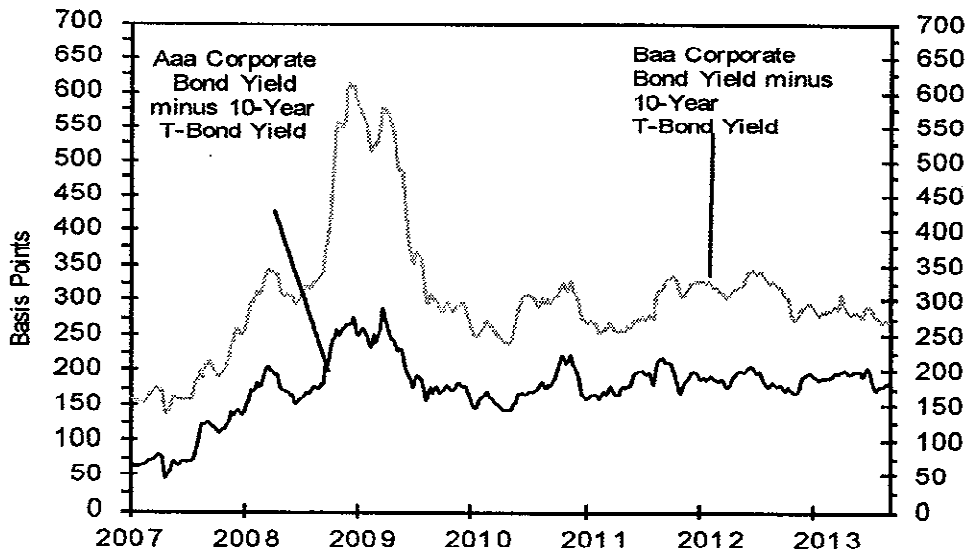
U.S. 3-Mo. T-Bills & 10-Yr. T-Note Yield

(Quarterly Average) History



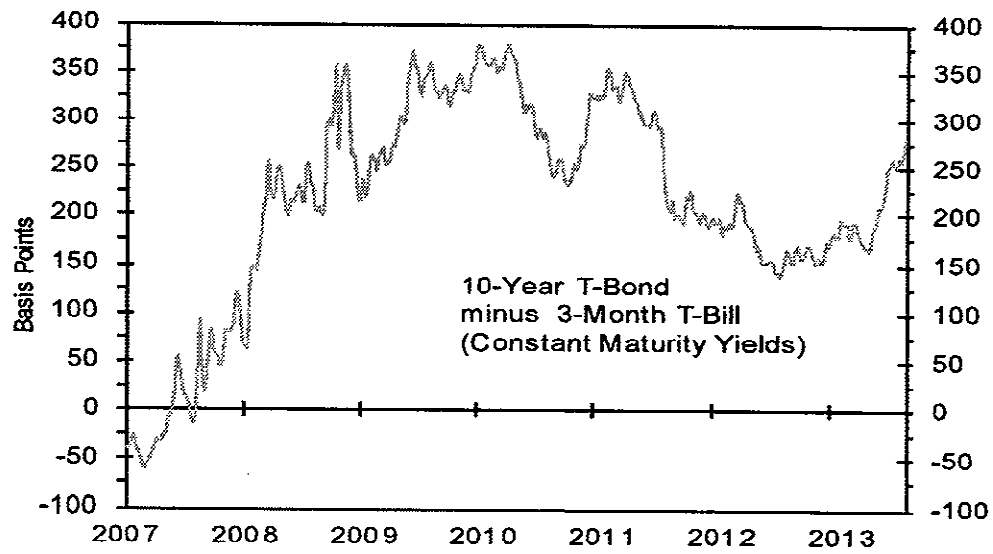
Corporate Bond Spreads

As of week ended August 23, 2013



U.S. Treasury Yield Curve

As of week ended August 23, 2013



Long-Range Forecasts:

The table below contains results of our semi-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are estimates for the years 2015 through 2019 and averages for the five-year periods 2015-2019 and 2020-2024. Apply these projections cautiously. Few economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year					Five-Year Averages	
Interest Rates		**2015**	**2016**	**2017**	**2018**	**2019**	**2015-2019**	**2020-2024**
1. Federal Funds Rate	**CONSENSUS**	**0.8**	**2.0**	**3.1**	**3.6**	**3.9**	**2.7**	**3.8**
	Top 10 Average	1.6	3.4	4.3	4.4	4.6	3.7	4.6
	Bottom 10 Average	0.2	0.8	1.7	2.5	3.1	1.7	2.9
2. Prime Rate	**CONSENSUS**	**3.9**	**5.1**	**6.1**	**6.6**	**6.9**	**5.7**	**6.8**
	Top 10 Average	4.7	6.5	7.3	7.6	7.6	6.7	7.5
	Bottom 10 Average	3.3	3.9	4.8	5.5	6.1	4.7	6.0
3. LIBOR, 3-Mo.	**CONSENSUS**	**1.1**	**2.4**	**3.3**	**3.9**	**4.1**	**3.0**	**4.1**
	Top 10 Average	2.0	3.8	4.6	4.8	4.9	4.0	4.9
	Bottom 10 Average	0.5	1.1	2.0	2.8	3.3	1.9	3.0
4. Commercial Paper, 1-Mo.	**CONSENSUS**	**1.0**	**2.3**	**3.2**	**3.7**	**3.9**	**2.8**	**3.7**
	Top 10 Average	1.7	3.4	4.3	4.5	4.6	3.7	4.5
	Bottom 10 Average	0.5	1.2	2.1	2.8	3.1	1.9	2.8
5. Treasury Bill Yield, 3-Mo.	**CONSENSUS**	**0.9**	**2.0**	**3.1**	**3.5**	**3.8**	**2.7**	**3.7**
	Top 10 Average	1.7	3.4	4.3	4.5	4.6	3.7	4.5
	Bottom 10 Average	0.2	0.8	1.7	2.4	2.9	1.6	2.7
6. Treasury Bill Yield, 6-Mo.	**CONSENSUS**	**1.0**	**2.2**	**3.2**	**3.7**	**3.9**	**2.8**	**3.9**
	Top 10 Average	1.8	3.5	4.4	4.7	4.7	3.8	4.6
	Bottom 10 Average	0.3	1.0	1.8	2.6	3.0	1.7	2.8
7. Treasury Bill Yield, 1-Yr.	**CONSENSUS**	**1.2**	**2.4**	**3.3**	**3.8**	**4.0**	**2.9**	**4.0**
	Top 10 Average	2.1	3.6	4.5	4.8	4.9	4.0	4.8
	Bottom 10 Average	0.4	1.1	1.9	2.7	3.1	1.9	3.0
8. Treasury Note Yield, 2-Yr.	**CONSENSUS**	**1.6**	**2.7**	**3.6**	**4.1**	**4.2**	**3.2**	**4.2**
	Top 10 Average	2.4	3.8	4.7	5.0	5.1	4.2	5.0
	Bottom 10 Average	0.8	1.6	2.4	3.0	3.3	2.2	3.1
10. Treasury Note Yield, 5-Yr.	**CONSENSUS**	**2.3**	**3.3**	**4.1**	**4.4**	**4.6**	**3.8**	**4.5**
	Top 10 Average	3.2	4.4	5.1	5.3	5.5	4.7	5.3
	Bottom 10 Average	1.5	2.3	3.1	3.4	3.6	2.8	3.5
11. Treasury Note Yield, 10-Yr.	**CONSENSUS**	**3.2**	**4.1**	**4.6**	**4.9**	**5.0**	**4.4**	**4.9**
	Top 10 Average	4.0	5.0	5.5	5.8	5.9	5.3	5.7
	Bottom 10 Average	2.5	3.2	3.6	3.8	4.0	3.4	4.0
12. Treasury Bond Yield, 30-Yr.	**CONSENSUS**	**4.2**	**4.8**	**5.4**	**5.6**	**5.7**	**5.2**	**5.6**
	Top 10 Average	5.0	5.9	6.4	6.6	6.8	6.1	6.5
	Bottom 10 Average	3.5	3.9	4.4	4.6	4.7	4.2	4.7
13. Corporate Aaa Bond Yield	**CONSENSUS**	**4.9**	**5.5**	**6.0**	**6.2**	**6.3**	**5.8**	**6.3**
	Top 10 Average	5.6	6.5	7.0	7.1	7.3	6.7	7.1
	Bottom 10 Average	4.1	4.5	5.1	5.3	5.4	4.9	5.4
13. Corporate Baa Bond Yield	**CONSENSUS**	**5.8**	**6.6**	**7.1**	**7.4**	**7.5**	**6.9**	**7.4**
	Top 10 Average	6.6	7.6	8.0	8.3	8.5	7.8	8.3
	Bottom 10 Average	5.1	5.6	6.2	6.4	6.5	5.9	6.5
14. State & Local Bonds Yield	**CONSENSUS**	**4.4**	**5.1**	**5.5**	**5.6**	**5.7**	**5.2**	**5.6**
	Top 10 Average	5.2	6.1	6.5	6.5	6.6	6.2	6.4
	Bottom 10 Average	3.8	4.1	4.6	4.7	4.9	4.4	4.8
15. Home Mortgage Rate	**CONSENSUS**	**4.8**	**5.6**	**6.2**	**6.4**	**6.5**	**5.9**	**6.5**
	Top 10 Average	5.7	6.6	7.1	7.4	7.4	6.8	7.3
	Bottom 10 Average	4.1	4.6	5.1	5.4	5.5	5.0	5.5
A. FRB - Major Currency Index	**CONSENSUS**	**78.6**	**79.1**	**79.3**	**79.6**	**79.6**	**79.2**	**80.0**
	Top 10 Average	82.7	83.7	84.7	85.2	85.3	84.3	85.9
	Bottom 10 Average	74.4	74.2	73.9	73.9	74.1	74.1	74.2
		Year-Over-Year, % Change					Five-Year Averages	
		2015	**2016**	**2017**	**2018**	**2019**	**2015-2019**	**2020-2024**
B. Real GDP	**CONSENSUS**	**3.0**	**2.9**	**2.8**	**2.7**	**2.6**	**2.8**	**2.5**
	Top 10 Average	3.5	3.3	3.2	3.1	3.1	3.2	2.9
	Bottom 10 Average	2.6	2.6	2.4	2.3	2.3	2.4	2.2
C. GDP Chained Price Index	**CONSENSUS**	**2.1**	**2.1**	**2.2**	**2.2**	**2.2**	**2.1**	**2.2**
	Top 10 Average	2.4	2.5	2.6	2.6	2.6	2.5	2.5
	Bottom 10 Average	1.6	1.7	1.8	1.8	1.8	1.7	1.9
D. Consumer Price Index	**CONSENSUS**	**2.3**	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**
	Top 10 Average	2.7	2.8	2.9	2.9	2.9	2.8	2.8
	Bottom 10 Average	1.8	1.9	1.8	1.9	2.0	1.9	2.0

Tidewater Utilities, Inc.
Derivation of Mean Equity Risk Premium Based on a Study
Using Holding Period Returns of Public Utilities

		Over A Rated Moody's Public Utility Bonds - AUS Consultants Study (1)
1.	Arithmetic Mean Holding Period Returns on the Standard & Poor's Utility Index 1926-2012 (2):	10.69 %
2.	Arithmetic Mean Yield on Moody's A Rated Public Utility Yields 1926-2012	(6.53)
3.	Historical Equity Risk Premium	4.16 %
4.	Forecasted Equity Risk Premium Based on PRPM™ (3)	5.24
5.	Average of Historical and PRPM™ Equity Risk Premium	4.70 %

Notes:
(1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2012, (AUS Consultants, 2013).
(2) Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.
(3) The Predictive Risk Premium Model (PRPM™) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A rated public utility bonds from 1928 - 2012.

Tidewater Utilities, Inc.
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

	1	2	3	4	5	6
Proxy Group of Nine Water Companies	Value Line Adjusted Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate (3)	ECAPM Cost Rate (4)	Indicated Common Equity Cost Rate (5)
American States Water Co.	0.70	7.86 %	4.31 %	9.81 %	10.40 %	
American Water Works Co., Inc.	0.65	7.86	4.31	9.42	10.11	
Aqua America, Inc.	0.60	7.86	4.31	9.03	9.81	
Artesian Resources Corp.	0.60	7.86	4.31	9.03	9.81	
California Water Service Group	0.65	7.86	4.31	9.42	10.11	
Connecticut Water Service, Inc.	0.75	7.86	4.31	10.21	10.70	
Middlesex Water Company	0.70	7.86	4.31	9.81	10.40	
SJW Corporation	0.85	7.86	4.31	10.99	11.29	
York Water Company	0.70	7.86	4.31	9.81	10.40	
Average	0.69			9.72 %	10.34 %	10.03 %
Median	0.70			9.81 %	10.40 %	10.11 %

See page 2 for notes.

Tidewater Utilities, Inc.
Development of the Market-Required Rate of Return on Common Equity Using
the Capital Asset Pricing Model for
the Proxy Group of Eight Gas Distribution Companies
Adjusted to Reflect a Forecasted Risk-Free Rate and Market Return

Notes:

(1) For reasons explained in Ms. Ahern's accompanying direct testimony, from the 13 weeks ending September 20, 2013, Value Line Summary & Index, a forecasted 3-5 year total annual market return of 11.05% can be derived by averaging the 13 weeks ending September 20, 2013 forecasted total 3-5 year total appreciation, converting it into an annual market appreciation and adding the Value Line average forecasted annual dividend yield.

The 3-5 year average total market appreciation of 41% produces a four-year average annual return of 8.97% ($(1.41^{0.25})$ - 1). When the average annual forecasted dividend yield of 2.08% is added, a total average market return of 11.05% (2.08% + 8.97%) is derived.

The 13 weeks ending September 20, 2013 forecasted total market return of 11.05% minus the risk-free rate of 4.31% (developed in Note 2) is 6.74% (11.05% - 4.31%).

The Predictive Risk Premium Model (PRPM™) market equity risk premium of 10.30% is derived by applying the PRPM™ to the monthly equity risk premium of large company common stocks over the income return on long-term U.S. Government Securities from January 1926 through June 2013.

The Morningstar, Inc. (Ibbotson Associates) calculated arithmetic mean monthly market equity risk premium of 6.55% for the period 1926-2012 results from a total market return of 11.83%% less the arithmetic mean income return on long-term U.S. Government Securities of 5.28% (11.83% - 5.28% = 6.55%).

These three expectational risk premiums are then averaged, resulting in an 7.86% market equity risk premium, which is then multiplied by the beta in column 1 of page 1 of this Schedule. ((6.74% + 10.30% + 6.55%)/3).

(2) For reasons explained in Ms. Ahern's direct testimony, the risk-free rate that Ms. Ahern relies upon for her CAPM analysis is the average forecast of 30-year Treasury Note yields per the consensus of nearly 50 economists reported in the Blue Chip Financial Forecasts dated June 1 and September 1, 2013 (see pages 9 & 10 of Schedule 7).The estimates are detailed below:

	30-Year Treasury Note Yield
Third Quarter 2013	3.70%
Fourth Quarter 2013	3.80%
First Quarter 2014	3.90%
Second Quarter 2014	4.00%
Third Quarter 2014	4.10%
Fourth Quarter 2014	4.20%
2015 – 2019	5.20%
2020 – 2024	5.60%
Average	4.31%

(3) The traditional Capital Asset Pricing Model (CAPM) is applied using the following formula:

$R_S = R_F + \beta (R_M - R_F)$

Whise R_S = Return rate of common stock
R_F = Risk Free Rate
β = Value Line Adjusted Beta
R_M = Return on the market as a whole

(4) The empirical CAPM is applied using the following formula:

$R_S = R_F + .25 (R_M - R_F) + .75 \beta (R_M - R_F)$

Whise R_S = Return rate of common stock
R_F = Risk-Free Rate
β = Value Line Adjusted Beta
R_M = Return on the market as a whole

Source of Information: Value Line Summary & Index
Blue Chip Financial Forecasts, June 1 & September 1, 2013
Value Line Investment Survey, (Standard Edition)
2013 Ibbotson® SBBI® Valuation Yearbook, Morningstar, Inc., 2013, Chicago, IL

Tidewater Utilities, Inc.
Summary of Cost of Equity Models Applied to the
Proxy Group of Non-Price-Regulated Companies
Comparable in Total Risk to the
Proxy Group of Twenty-Nine Non-Price-Regulated Companies

Principal Methods	Twenty-Nine Non-Price-Regulated Companies
Discounted Cash Flow Model (1)	11.13 %
Risk Premium Model (2)	11.07 %
Capital Asset Pricing Model (3)	10.11 %
Average	10.77 %

Notes:
(1) From page 5 of this Schedule.
(2) From page 6 of this Schedule.
(3) From page 9 of this Schedule.

Tidewater Utilities, Inc.
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

Proxy Group of Nine Water Companies	Value Line Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
American States Water Co.	0.70	0.50	3.2189	0.0635
American Water Works Co., Inc.	0.65	0.44	2.9445	0.0581
Aqua America, Inc.	0.60	0.34	2.5371	0.0501
Artesian Resources Corp.	0.60	0.32	2.7526	0.0543
California Water Service Group	0.65	0.42	2.5635	0.0506
Connecticut Water Service, Inc.	0.75	0.57	3.1136	0.0614
Middlesex Water Company	0.70	0.54	2.6524	0.0523
SJW Corporation	0.85	0.71	3.4897	0.0689
York Water Company	0.70	0.48	3.1012	0.0612
Average	0.69	0.48	2.9304	0.0578

Beta Range (+/- 2 std. Devs. of Beta)	0.36	0.60
2 std. Devs. of Beta	0.12	
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.6728	3.1880
Std. dev. of the Res. Std. Err.	0.1288	
2 std. devs. of the Res. Std. Err.	0.2576	

Tidewater Utilities, Inc.
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Nine Water Companies

Proxy Group of Twenty-Nine Non-Price-Regulated Companies	VL Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
Actavis, Inc.	0.70	0.54	3.1788	0.0627
Gallagher (Arthur J.)	0.75	0.57	2.9036	0.0573
AutoZone Inc.	0.65	0.40	2.9262	0.0577
Baxter Intl Inc.	0.70	0.50	2.8955	0.0571
Bristol-Myers Squibb	0.70	0.47	2.7937	0.0551
Brown & Brown	0.70	0.54	2.8096	0.0554
ConAgra Foods	0.65	0.41	2.7349	0.0540
Capitol Fed. Finl	0.60	0.39	2.9201	0.0576
Dun & Bradstreet	0.75	0.59	2.9549	0.0583
DaVita Inc.	0.65	0.46	2.7897	0.0550
J&J Snack Foods	0.70	0.50	3.0927	0.0610
Kroger Co.	0.60	0.36	2.8340	0.0559
Lancaster Colony	0.70	0.53	2.9432	0.0581
McKesson Corp.	0.75	0.59	3.1375	0.0619
Mercury General	0.65	0.47	3.0619	0.0604
Annaly Capital Mgmt.	0.65	0.41	2.9250	0.0577
Northwest Bancshares	0.75	0.58	2.9835	0.0589
Owens & Minor	0.75	0.56	3.0574	0.0603
Peoples United Finl	0.65	0.45	2.7599	0.0545
Raytheon Co.	0.75	0.55	2.7110	0.0535
SAIC, Inc.	0.70	0.48	2.7054	0.0534
Sherwin-Williams	0.65	0.46	2.9720	0.0586
Smucker (J.M.)	0.70	0.48	2.9317	0.0579
Silgan Holdings	0.70	0.54	2.8924	0.0571
Suburban Propane	0.75	0.54	3.0951	0.0611
Stericycle Inc.	0.65	0.47	2.8457	0.0562
Waste Connections	0.70	0.54	2.7563	0.0544
Weis Markets	0.65	0.44	2.7704	0.0547
Berkley (W.R.)	0.70	0.47	2.8399	0.0560
Average	0.69	0.49	2.9042	0.0573
Proxy Group of Nine Water Companies	0.69	0.48	2.9304	0.0578

Basis of Selection of the Group of Non-Price Regulated Companies Comparable in Total Risk to the Proxy Group of Nine Water Companies

The criteria for selection of the proxy group of twenty-nine non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The proxy group of nine non-price regulated companies were then selected based upon the unadjusted beta range of 0.36 – 0.60 and standard error of the regression range of 2.6728 – 3.1880 of the water proxy group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and standard errors of the regression.

The standard deviation of the water industry's standard error of the regression is 0.1288. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1288 = \frac{2.9304}{\sqrt{518}} = \frac{2.9304}{22.7596}$$

Source of Information: Value Line, Inc., June 15, 2013
Value Line Investment Survey (Standard Edition)

Tidewater Utilities, Inc.
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to
the Proxy Group of Nine Water Companies

Proxy Group of Twenty-Nine Non-Price-Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Reuters Mean Consensus Projected Five Year Growth Rate in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate
Actavis, Inc.	- %	14.00 %	14.00 %	15.10 %	14.12 %	14.31 %	- %	NA %
Gallagher (Arthur J.	3.22	11.50	12.00	13.00	13.17	12.42	3.42	15.84
AutoZone Inc.	-	15.00	15.00	15.80	16.10	15.48	-	NA
Baxter Intl Inc.	2.76	8.50	8.80	9.30	8.81	8.85	2.88	11.73
Bristol-Myers Squibb	3.21	10.00	8.20	4.60	8.20	7.75	3.34	11.09
Brown & Brown	1.11	13.50	13.00	11.30	13.88	12.92	1.18	14.10
ConAgra Foods	2.85	12.00	10.00	10.50	10.20	10.68	3.00	13.68
Capitol Fed. Finl	2.41	6.00	3.50	3.50	3.50	4.13	2.46	6.59
Dun & Bradstreet	1.56	5.00	8.80	9.80	8.85	8.11	1.62	9.73
DaVita Inc.	-	15.00	12.00	12.80	11.60	12.85	-	NA
J&J Snack Foods	0.81	9.00	10.00	10.00	10.00	9.75	0.85	10.60
Kroger Co.	1.60	10.50	9.00	8.70	9.07	9.32	1.68	11.00
Lancaster Colony	1.91	5.50	NA	NA	10.00	7.75	1.99	9.74
McKesson Corp.	0.67	10.50	14.00	13.00	13.00	12.63	0.71	13.34
Mercury General	5.59	8.00	2.10	2.10	2.10	3.58	5.69	9.27
Annaly Capital Mgmt.	13.57	(2.50)	NA	(1.30)	3.50	3.50	13.81	17.31
Northwest Bancshares, Inc.	7.00	8.50	5.00	5.00	5.00	5.88	7.20	13.08
Owens & Minor	2.77	6.00	9.00	9.00	9.00	8.25	2.88	11.13
Peoples United Fin	4.40	17.50	7.40	6.50	7.41	9.70	4.62	14.32
Raytheon Co.	3.04	4.50	7.00	8.80	7.05	6.84	3.15	9.99
SAIC Inc.	3.27	5.50	5.20	6.30	5.25	5.56	3.36	8.92
Sherwin-Williams	1.14	15.50	13.00	14.40	13.00	13.98	1.22	15.20
Smucker (J.M.)	1.94	8.50	7.80	8.30	7.86	8.12	2.02	10.14
Silgan Holdings	1.17	10.50	10.00	11.30	10.77	10.64	1.23	11.87
Suburban Propane	7.55	6.00	3.00	3.00	3.00	3.75	7.70	11.45
Stericycle Inc.	-	12.00	15.00	16.00	15.33	14.58	-	NA
Waste Connections	0.94	12.00	11.00	12.50	11.00	11.63	0.99	12.62
Weis Markets	2.49	3.50	NA	NA	-	1.75	2.51	4.26
Berkley (W.R.)	0.86	6.00	7.00	9.50	6.10	7.15	0.89	8.04
Average								11.40 %
Median								11.13 %

NA= Not Available
NMF= Not Meaningful Figure

(1) Ms. Ahern's application of the DCF model to the domestic, non-price regluated comparable risk companies is identical to the application of the DCF to her proxy group of water companies. She uses the 60 day average price and the spot indicated dividend as of September 16, 2013 for her dividend yield and then adjusts that yield for 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.reuters.com, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey:
www.reuters.com Downloaded on 09/16/2013
www.zacks.com Downloaded on 09/16/2013
www.yahoo.com Downloaded on 09/16/2013

Tidewater Utilities, Inc.
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

Line No.		Proxy Group of Twenty-Nine Non-Price-Regulated Companies
1.	Prospective Yield on Baa Rated Corporate Bonds (1)	6.00 %
2.	Equity Risk Premium (2)	5.07
3.	Risk Premium Derived Common Equity Cost Rate	11.07 %

Notes: (1) Average forecast based upon six quarterly estimates of Baa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1 and September 1, 2013 (see page 9 and 10 of Schedule 7). The estimates are detailed below.

Third Quarter 2013	5.40 %
Fourth Quarter 2013	5.50
First Quarter 2014	5.60
Second Quarter 2014	5.70
Third Quarter 2014	5.70
Fourth Quarter 2014	5.80
2015-2019	6.90
2020-2024	7.40
Average	6.00 %

(2) From page 8 of this Schedule.

Tidewater Utilities, Inc.
Comparison of Bond Ratings for the
Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies

Proxy Group of Twenty-Nine Non-Price-Regulated Companies	Moody's Bond Rating September 2013		Standard & Poor's Bond Rating September 2013	
	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)
Actavis, Inc.	Baa3	10.0	NR	- -
Gallagher (Arthur J.)	NR	- -	NR	- -
AutoZone Inc.	Baa2	9.0	BBB	9.0
Baxter Intl Inc.	A3	7.0	A	6.0
Bristol-Myers Squibb	A2	6.0	A+	5.0
Brown & Brown	NR	- -	NR	- -
ConAgra Foods	Baa2	9.0	BBB-	10.0
Capitol Fed. Finl	NR	- -	NR	- -
Dun & Bradstreet	NR	- -	NR	- -
DaVita Inc.	B2	15.0	B	15.0
J&J Snack Foods	NR	- -	NR	- -
Kroger Co.	Baa2	9.0	BBB	9.0
Lancaster Colony	NR	- -	NR	- -
McKesson Corp.	Baa2	9.0	A-	7.0
Mercury General	NR	- -	NR	- -
Annaly Capital Mgmt.	NR	- -	NR	- -
Northwest Bancshares	NR	- -	NR	- -
Owens & Minor	Ba1	11.0	BBB	9.0
Peoples United Finl	A2	6.0	NR	- -
Raytheon Co.	A3	7.0	A-	7.0
SAIC, Inc.	A3	7.0	NR	- -
Sherwin-Williams	A3	7.0	A	6.0
Smucker (J.M.)	A3	7.0	NR	- -
Silgan Holdings	Ba2	12.0	BB-	13.0
Suburban Propane	Ba3	13.0	BB-	13.0
Stericycle Inc.	NR	- -	NR	- -
Waste Connections	NR	- -	NR	- -
Weis Markets	NR	- -	NR	- -
Berkley (W.R.)	Baa2	9.0	BBB+	8.0
Average	Baa2	9.0	BBB	9.0

Notes:
(1) From page 5 of Schedule 7.

Source of Information:
Standard & Poor's Bond Guide August 2013
www.moodys.com; downloaded 9/16/2013

Tidewater Utilities, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Non-Price-Regulated Companies
Proxy Group of Nine Water Companies

Line No.		Proxy Group of Twenty-Nine Non-Price-Regulated Companies
	Based on SBBI Valuation Yearbook Data:	
1.	Ibbotson Equity Risk Premium (1)	6.55 %
2.	Ibbotson Equity Risk Premium based on PRPM™ (2)	9.20
	Based on Value Line Summary and Index:	
3.	Equity Risk Premium Based on Value Line Summary and Index (3)	5.97
4.	Conclusion of Equity Risk Premium (4)	7.24 %
5.	Adjusted Value Line Beta (5)	0.70
6.	Forecasted Equity Risk Premium	5.07 %

Notes:
(1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2013 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation minus the arithmetic mean monthly yield of Moody's Aaa and Aa corporate bonds from 1926 - 2012. (11.83% - 5.28% = 6.55%).
(2) The Predictive Risk Premium Model (PRPM™) is discussed in Ms. Ahern's accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM™ is derived by applying the PRPM™ to the monthly risk premiums between Ibbotson large company common stock monthly returns minus the average Aaa and Aa corporate monthly bond yields, from January 1928 through June 2013.
(3) From page 8 of Schedule 7.
(4) Average of Lines 1, 2, & 3.Average of Lines 1, 2, & 3.
(5) Median beta derived from page 9 of this Schedule.

Sources of Information:
Ibbotson® SBBI® 2012 Valuation Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation, Morningstar, Inc., 2012 Chicago, IL.

Value Line Summary and Index
Blue Chip Financial Forecasts, June 1 and September 1, 2013

Tidewater Utilities, Inc.
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Nine Water Companies

Proxy Group of Twenty-Nine Non-Price-Regulated Companies	Value Line Adjusted Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate (3)	ECAPM Cost Rate (4)	Indicated Common Equity Cost Rate (5)
Actavis, Inc.	0.70	7.86 %	4.31 %	9.81 %	10.40 %	
Gallagher (Arthur J.)	0.75	7.86	4.31	10.21	10.70	
AstraZeneca PLC (ADS)	0.75	7.86	4.31	10.21	10.70	
AutoZone Inc.	0.65	7.86	4.31	9.42	10.11	
Baxter Intl Inc.	0.70	7.86	4.31	9.81	10.40	
Bristol-Myers Squibb	0.70	7.86	4.31	9.81	10.40	
Brown & Brown	0.70	7.86	4.31	9.81	10.40	
ConAgra Foods	0.65	7.86	4.31	9.42	10.11	
Capitol Fed. Finl	0.60	7.86	4.31	9.03	9.81	
CenturyLink Inc.	0.70	7.86	4.31	9.81	10.40	
Dun & Bradstreet	0.75	7.86	4.31	10.21	10.70	
DNP Select Inc. Fund	0.70	7.86	4.31	9.81	10.40	
DaVita Inc.	0.65	7.86	4.31	9.42	10.11	
J&J Snack Foods	0.70	7.86	4.31	9.81	10.40	
DWS High Income	0.75	7.86	4.31	10.21	10.70	
Kroger Co.	0.60	7.86	4.31	9.03	9.81	
Lancaster Colony	0.70	7.86	4.31	9.81	10.40	
McKesson Corp.	0.75	7.86	4.31	10.21	10.70	
Mercury General	0.65	7.86	4.31	9.42	10.11	
Annaly Capital Mgmt.	0.65	7.86	4.31	9.42	10.11	
Northwest Bancshares	0.75	7.86	4.31	10.21	10.70	
Owens & Minor	0.75	7.86	4.31	10.21	10.70	
Peoples United Finl	0.65	7.86	4.31	9.42	10.11	
PartnerRe Ltd.	0.70	7.86	4.31	9.81	10.40	
Everest Re Group Ltd.	0.75	7.86	4.31	10.21	10.70	
RenaissanceRe Hldgs.	0.65	7.86	4.31	9.42	10.11	
Raytheon Co.	0.75	7.86	4.31	10.21	10.70	
SAIC, Inc.	0.70	7.86	4.31	9.81	10.40	
Sherwin-Williams	0.65	7.86	4.31	9.42	10.11	
Smucker (J.M.)	0.70	7.86	4.31	9.81	10.40	
Silgan Holdings	0.70	7.86	4.31	9.81	10.40	
Suburban Propane	0.75	7.86	4.31	10.21	10.70	
Stericycle Inc.	0.65	7.86	4.31	9.42	10.11	
Waste Connections	0.70	7.86	4.31	9.81	10.40	
Weis Markets	0.65	7.86	4.31	9.42	10.11	
Berkley (W.R.)	0.70	7.86	4.31	9.81	10.40	
Average	0.69			9.77 %	10.37 %	10.07 %
Median	0.70			9.81 %	10.40 %	10.11 %

Notes:
(1) From Schedule 8, page 2, note 1.
(2) From Schedule 8, page 2, note 2.
(3) Derived from the model shown on Schedule 8, page 2, note 3.
(4) Derived from the model shown on Schedule 8, page 2, note 4.
(5) Average of CAPM and ECAPM cost rates.

Tidewater Utilities, Inc.
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.		1 Market Capitalization on September 15, 2013 (1) (millions)	(times larger)	2 Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	3 Applicable Size Premium (3)	4 Spread from Applicable Size Premium for (4)
1.	Tidewater Utilities, Inc.					
a.	Based Upon the Proxy Group of Nine Water Companies	$ 111.096		10	6.03%	
2.	Proxy Group of Nine Water Companies	$ 1,560.798	14.0	6	1.72%	4.31%
		(A)	(B)	(C)	(D)	(E)

	Decile	Number of Companies (millions)	Recent Total Market Capitalization (millions)	Recent Average Market Capitalization (millions)	Size Premium (Return in Excess of CAPM) (2)
Largest	1	173	$ 10,255,341.469	$ 59,279.430	-0.37%
	2	193	2,219,118.548	$ 11,498.024	0.76%
	3	187	1,072,861.025	$ 5,737.225	0.92%
	4	202	695,897.336	$ 3,445.036	1.14%
	5	205	473,139.360	$ 2,307.997	1.70%
	6	234	377,485.205	$ 1,613.185	1.72%
	7	317	329,504.738	$ 1,039.447	1.73%
	8	329	214,084.258	$ 650.712	2.46%
	9	466	166,708.095	$ 357.743	2.70%
Smallest	10	1068	107,517.520	$ 100.672	6.03%

*From Ibbotson 2013 Yearbook

Notes:

(1) From Page 2 of this Schedule.
(2) Gleaned from Column (D) on the bottom of this page. The appropriate decile (Column (A)) corresponds to the market capitalization of the proxy group, which is found in Column 1.
(3) Corresponding risk premium to the decile is provided on Column (E) on the bottom of this page.
(4) Line No. 1a Column 3 – Line No. 2 Column 3 and Line No. 1b, Column 3 – Line No. 3 of Column 3 etc.. For example, the 4.31% in Column 4, Line No. 2 is derived as follows 4.31% = 6.03% - 1.72%.

Tidewater Utilities, Inc.
Market Capitalization of Tidewater Utilities, Inc. and
the Proxy Group of Nine Water Companies

Company	Exchange	1 Common Stock Shares Outstanding at Fiscal Year End 2012 (millions)	2 Book Value per Share at Fiscal Year End 2012 (1)	3 Total Common Equity at Fiscal Year End 2012 (millions)	4 Closing Stock Market Price on September 16, 2013	5 Market-to-Book Ratio on September 16, 2013 (2)	6 Market Capitalization on September 16, 2013 (3) (millions)
Tidewater Utilities, Inc.		NA	NA	$ 59.537 (4)	NA		
Based Upon the Proxy Group of Nine Water Companies						186.6 % (5)	$ 111.096 (6)
Proxy Group of Nine Water Companies							
American States Water Co.		19.237	$ 23.630	$ 454.579	$ 26.160	110.7 %	$ 503.245
American Water Works Co., Inc.		176.988	$ 25.115	$ 4,444.988	$ 39.290	156.4	$ 6,953.859
Aqua America, Inc.		175.209	$ 7.909	$ 1,385.704	$ 24.050	304.1	$ 4,213.778
Artesian Resources Corp.		7.838	$ 15.078	$ 118.180	$ 22.210	147.3	$ 174.084
California Water Service Group		41.908	$ 11.304	$ 473.712	$ 19.080	168.8	$ 799.609
Connecticut Water Service, Inc.		10.939	$ 17.014	$ 186.121	$ 31.040	182.4	$ 339.562
Middlesex Water Company		15.795	$ 11.499	$ 181.632	$ 19.900	173.1	$ 314.321
SJW Corporation		18.671	$ 14.708	$ 274.604	$ 26.360	179.2	$ 492.156
York Water Company		12.919	$ 7.727	$ 99.825	$ 19.860	257.0	$ 256.564
Average		53.278	$ 14.887	$ 846.594	$ 25.328	186.6 %	$ 1,560.798

NA= Not Available

Notes:
(1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 5 * Column 3.
(4) From Financial Statements of Tidewater Utilities, Inc. for Fiscal Year End 2012.
(5) The market-to-book ratio of Tidewater Utilities, Inc. on September 16, 2013 is assumed to be equal to the market-to-book ratio of the Proxy Group of Nine Water Companies at September 16, 2013.
(6) Tidewater Utilities, Inc.'s common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at September 16, 2013 of the Proxy Group of Nine Water Companies, 186.6%, and Tidewater Utilities, Inc.'s market capitalization on September 16, 2013 would therefore have been $111.096 million.

Source of Information: 2012 Annual Forms 10K
yahoo.finance.com

Tidewater Utilities, Inc.
Derivation of the Floatation Cost Adjustment to the Cost of Common Equity

Equity Issuances and Floatation Costs of the Parent Since XXXX

		[Column 1]	[Column 2]	[Column 3]	[Column 4]	[Column 5]	[Column 6]	[Column 7]	[Column 8]	[Column 9]	[Column 10]
Date	Transaction (1)	Shares Issued	Market Price per Share	Offering Price per Share	Market Pressure (2)	Underwriting Discount	Net Proceeds per Share (3)	Gross Equity Issue before Costs (4)	Total Net Proceeds (5)	Total Floatation Costs (6)	Flotation Cost Perecentage (7)
06/08/10	Primary Offfering	1,955,000	$ 15.2100	$ 15.2100	$ -	$ 0.6000	$ 14.6100	$ 29,735,550	$ 28,562,550	$ 1,173,000	3.94%
11/02/08	Primary Offfering	1,495,000	$ 18.4600	$ 18.4600	$ -	$ 0.7000	$ 17.7600	$ 27,597,700	$ 26,551,200	$ 1,046,500	3.79%
05/06/04	Primary Offfering	800,000	$ 20.0000	$ 19.8000	$ 0.2000	$ 0.7900	$ 19.0100	$ 16,000,000	$ 15,208,000	$ 792,000	4.95%
								$ 73,333,250	$ 70,321,750	$ 3,011,500	4.11%

Flotation Cost Adjustment

	Average Dividend Yield	Average Projected EPS Growth Rate	Adjusted Dividend Yield	Average DCF Cost Rate Unadjusted for Flotation (8)	DCF Cost Rate Adjusted for Flotation (9)	Flotation Cost Adjustment (10)
Proxy Group of Nine Water Companies	2.95 %	5.76 %	3.03 %	8.79 %	8.92 %	0.13 %

Notes are on page 2 of this Schedule

Tidewater Utilities, Inc.
Notes to Accompany the
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

(1) Company-provided.

(2) Column 2 – Column 3.

(3) Column 2 – the sum of columns 4 and 5.

(4) Column 1 * Column 2.

(5) Column1 * Column 6.

(6) Column1 * (the sum of columns 4 and 5).

(7) (Column 7 – Column 8) divided by Column 7.

(8) Using the average growth rate from Schedule 6.

(9) Adjustment for flotation costs based on adjusting the average DCF constant growth cost rate in accordance with the following:

$$K = \frac{D(1+0.5g)}{P(1-F)} + g,$$

where g is the growth factor and F is the percentage of flotation costs.

(10) Flotation cost adjustment of 0.13% equals the difference between the flotation adjusted average DCF cost rate of 8.92% and the unadjusted average DCF cost rate of 8.79% of the proxy group of nine water companies.

Source of Information:

Company provided information