

**BEFORE THE
PUBLIC UTILITIES COMMISSION
OF RHODE ISLAND**

CITY OF NEWPORT) DOCKET NO. 4355

**DIRECT TESTIMONY
OF
JEROME D. MIERZWA**

**ON BEHALF OF THE
DIVISION OF PUBLIC UTILITIES AND CARRIERS**

DECEMBER 6, 2012

EXETER

ASSOCIATES, INC.
10480 Little Patuxent Parkway
Suite 300
Columbia, Maryland 21044

BEFORE THE
PUBLIC UTILITIES COMMISSION
OF RHODE ISLAND

CITY OF NEWPORT) DOCKET NO. 4355

DIRECT TESTIMONY OF JEROME D. MIERZWA

I. Introduction

1

2 Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS
3 ADDRESS?

4 A. My name is Jerome D. Mierzwa. I am a principal and President of Exeter
5 Associates, Inc. My business address is 10480 Little Patuxent Parkway,
6 Suite 300, Columbia, Maryland 21044. Exeter specializes in providing public
7 utility-related consulting services.

8 Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
9 EXPERIENCE.

10 A. I graduated from Canisius College in Buffalo, New York, in 1981 with a
11 Bachelor of Science Degree in Marketing. In 1985, I received a Masters
12 Degree in Business Administration with a concentration in finance, also from
13 Canisius College. In July 1986, I joined National Fuel Gas Distribution
14 Corporation ("NFG Distribution") as a Management Trainee in the Research
15 and Statistical Services Department ("RSS"). I was promoted to Supervisor
16 RSS in January 1987. While employed with NFG Distribution, I conducted
17 various financial and statistical analyses related to the Company's market
18 research activity and state regulatory affairs. In April 1987, as part of a
19 corporate reorganization, I was transferred to National Fuel Gas Supply

1 Corporation's ("NFG Supply") rate department where my responsibilities
2 included utility cost of service and rate design analysis, expense and revenue
3 requirement forecasting and activities related to federal regulation. I was also
4 responsible for preparing NFG Supply's Purchase Gas Adjustment ("PGA")
5 filings and developing interstate pipeline and spot market supply gas price
6 projections. These forecasts were utilized for internal planning purposes as
7 well as in NFG Distribution's purchased gas cost proceedings.

8 In April 1990, I accepted a position as a Utility Analyst with Exeter
9 Associates, Inc. In December 1992, I was promoted to Senior Regulatory
10 Analyst. Effective April 1, 1996, I became a principal of Exeter Associates.
11 Since joining Exeter Associates, my assignments have included water utility
12 class cost of service and rate design analysis, evaluating the gas purchasing
13 practices and policies of natural gas utilities, sales and rate forecasting,
14 performance-based incentive regulation, revenue requirement analysis, the
15 unbundling of utility services and the evaluation of customer choice natural
16 gas transportation programs.

17 Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY
18 PROCEEDINGS ON UTILITY RATES?

19 A. Yes. I have provided testimony on more than 100 occasions in proceedings
20 before the Federal Energy Regulatory Commission ("FERC"), utility regulatory
21 commissions in Delaware, Georgia, Illinois, Indiana, Louisiana, Maine,
22 Montana, Nevada, New Jersey, Ohio, Pennsylvania, Texas and Virginia, as
23 well as before this Commission.

24 Q. HAVE YOU PREVIOUSLY TESTIFIED ON WATER UTILITY ISSUES
25 BEFORE THIS COMMISSION?

1 A. Yes. I was asked by the Division of Public Utilities and Carriers (“the
2 Division”) to testify on water utility issues in City of Newport-Water Division
3 (“Newport”) Docket Nos. 2985 and 4355. I was also asked by the Division to
4 testify on cost allocation and rate design issues in Pawtucket Water Supply
5 Board Docket Nos. 2674 and 3945, Kent County Water Authority Docket Nos.
6 2555 and 3311, and Providence Water Supply Board Docket Nos. 2048, 3163
7 and 3832.

8 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

9 A. My testimony addresses the class cost of service study presented by Newport
10 in this proceeding.

11 Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?

12 A. Following this introductory section, my testimony is divided into three
13 additional sections. The first section provides an overview of cost of service
14 methodologies. Next, I provide a brief history of prior Newport proceedings
15 which are relevant to this proceeding. In the final section, I address
16 Newport’s cost of service study.

17

18 **II. Overview of Cost of Service Methodologies**

19 Q. WHAT IS THE OBJECTIVE OF A COST OF SERVICE STUDY?

20 A. A cost of service study is conducted to assist a utility or commission in
21 determining the level of costs properly recoverable from each of the various
22 classes to which the utility provides service. Allocation of recoverable costs
23 to each class of service is generally based on cost causation principles.

24 Q. WHAT ARE THE PRIMARY COST OF SERVICE STUDY
25 METHODOLOGIES UTILIZED FOR WATER UTILITIES?

1 A. The two most commonly used and widely recognized methods of allocating
2 costs to customer classes for water utilities are the base-extra capacity
3 method and the commodity-demand method. Both of these methods are set
4 forth in the American Water Works Association's ("AWWA") *Principles of*
5 *Water Rates, Fees and Charges* ("AWWA M1 Manual").

6 Q. PLEASE SUMMARIZE EACH OF THESE METHODS.

7 A. Under the base-extra capacity method, investment and costs are first
8 classified into four primary functional cost categories: base or average
9 capacity, extra capacity, customer, and direct fire protection. Customer costs
10 are commonly further divided between meter and service related and account
11 or bill related costs. Extra capacity costs may also be divided between
12 maximum day and maximum hour costs. Once investment and costs are
13 classified to these functional categories, they are then allocated to customer
14 classes. Base costs are allocated according to average water use, and extra
15 capacity costs are allocated on the basis of the excess of peak demands over
16 average demands. Meter and service related customer costs are allocated
17 on the basis of relative meter and service investment or a proxy thereof.
18 Account related customer costs are allocated in proportion to the number of
19 customers or the number of bills. The cost of service study presented by
20 Newport in this proceeding utilizes the base extra-capacity methodology.

21 The commodity-demand method follows the same general procedures.
22 However, usage related costs are classified as commodity and demand
23 related rather than as base and extra capacity related. Commodity related
24 costs are allocated to customer classes on the basis of total water use (which
25 is equivalent to average demand), and demand related costs are allocated on

1 the basis of each class' contribution to peak demand rather than on the basis
2 of class demands in excess of average use.
3

4 **III. Cost of Service Study History**

5 Q. PLEASE PROVIDE A BRIEF HISTORY BEHIND THE COST OF
6 SERVICE STUDY FILED BY NEWPORT IN THIS PROCEEDING.

7 A. Pursuant to a prior Commission directive, Newport filed a cost allocation and
8 customer demand study on November 2, 2009 in Docket No. 4128.
9 Newport's filing in Docket No. 4128 did not seek an increase in operating
10 revenues. The Parties to that proceeding – the Division, the Portsmouth
11 Water and Fire District ("PWFD") and the Navy – raised a number of issues
12 related to the cost allocations and class demand factors included in Newport's
13 study. The Parties were able to resolve their cost allocation issues and
14 agreed upon a Cost Allocation Model. However, the Parties were unable to
15 agree upon the class demand factors proposed by Newport due to
16 discrepancies in the daily customer usage data upon which those demand
17 factors were determined. The Parties agreed that Newport's then current
18 rates would not change until Newport's next general rate case filing, and that
19 Newport would continue to collect daily customer usage data during the
20 summer of 2010, and potentially the summer of 2011. The Parties further
21 agreed to certain criteria with respect to whether it would be appropriate to
22 include the customer usage data collected by Newport in a future cost of
23 service study. Additionally, Newport would present a cost of service study in
24 its next general rate filing utilizing the daily customer usage data Newport
25 provided the data met the agreed upon criteria. Newport was not precluded

1 from filing a general rate case with no change in rate structure if an
2 acceptable study was not completed. The agreement among the Parties in
3 Docket No. 4128 was memorialized in a settlement agreement which was
4 approved by the Commission.

5 Q. DID NEWPORT FILE A GENERAL RATE CASE AFTER DOCKET
6 NO. 4128?

7 A. Yes. On April 18, 2011, Newport filed a general rate case with the
8 Commission to increase revenues in Docket No. 4243. Newport also
9 proposed a four-year rate plan which would allow Newport to use an
10 abbreviated process to increase rates to collect additional operating revenues
11 to support increased debt service for treatment plant capital improvements.
12 The customer usage data collected by Newport during the summer of 2010
13 did not meet the criteria set forth in the settlement agreement approved in
14 Docket No. 4128 and, therefore, no cost of service study was filed in Docket
15 No. 4243. As a result, Newport proposed an across-the-board increase in
16 rates. The Parties to Docket No. 4243 reached a settlement agreement
17 which was approved by the Commission that provided for a rate increase of
18 \$2.2 million effective December 1, 2011. Also approved was Newport's multi-
19 year rate plan to reflect increases in debt service for the design and
20 construction of a new Lawton Valley Water Treatment Plant and
21 improvements to the Station One Water Treatment Facility (collectively
22 "Treatment Plant Projects").

23 Q. WHAT HAS NEWPORT PROPOSED IN THIS DOCKET?

24 A. Newport has filed a cost of service study ("2012 Study") generally using the
25 Cost Allocation Model agreed to by the Parties to Docket No. 4128. The 2012

1 Study includes class demand factors based on daily customer usage data
2 from the summers of 2011 and 2012. Unlike data from the summer of 2010,
3 the customer usage data from the summers of 2011 and 2012 met the criteria
4 set forth in the settlement approved in Docket No. 4128. Newport's
5 presentation reflects \$2.3 million in additional debt service costs related to
6 Treatment Plant projects as a proxy for the next phase of its approved multi-
7 year rate plan. Newport has not yet filed its debt service compliance filing
8 with the Commission to reflect specifics regarding the debt issuance, so
9 Newport is not yet officially asking to increase its revenue requirement, but
10 the \$2.3 million reflects Newport's estimate of what the compliance filing will
11 evidence when made. It is my understanding that the filing will be made in
12 the near future. Except for the increase in debt service, the costs and
13 consumption data reflected in the 2012 Study are those from Docket No.
14 4243.

15
16 **IV. Evaluation of Newport's Cost of Service Study**

- 17 Q. HAS NEWPORT PROPOSED ANY CHANGES TO THE COST
18 ALLOCATION MODEL AGREED TO BY THE PARTIES IN DOCKET
19 NO. 4128?
- 20 A. Yes. In the Cost Allocation Model, treatment capital costs were allocated to
21 the Base/Extra Capacity categories and then to each customer class
22 (Newport retail, PWFD, the Navy and Fire) based on the historical Base and
23 Extra Capacity demands of each class. In the 2012 Study, treatment capital
24 costs are allocated directly to each customer class based on each class'
25 proportion share of Base (average day) and Extra Capacity (peak day)

1 treatment capacity that they (PWFD and the Navy) indicated would be
2 required when the Treatment Plant Projects are complete.

3 Q. WHY HAS NEWPORT PROPOSED THIS CHANGE?

4 A. Prior to designing its Treatment Plant Projects, Newport requested that
5 PWFD and the Navy provide projections of their average day and peak day
6 demands for the next 20 years, and Newport used this information to design
7 its Treatment Plant Project capacity. Thus Newport's proposed allocation of
8 treatment capital costs is based on the anticipated investment necessary to
9 serve PWFD and the Navy.

10 Q. DO YOU AGREE WITH NEWPORT'S PROPOSED ALLOCATION OF
11 TREATMENT CAPITAL COSTS?

12 A. Not at this time. Treatment Plant Project costs represent only a portion of
13 Newport's treatment capital investment because Newport has previously
14 made substantial treatment plant investment in addition to that associated
15 with the new facilities. In addition, the Treatment Plant Project facilities are
16 not anticipated to be in service until at least 2015. Therefore, I recommend
17 that any potential change to the allocation of treatment capital costs be
18 deferred until a time closer to the in-service date of the Treatment Plant
19 Projects.

20 Q. ARE YOU PROPOSING ANY OTHER CHANGES TO NEWPORT'S
21 2012 STUDY?

22 A. Yes. However, these changes are simply to reflect corrections to the
23 formulas and/or cell references in the spreadsheets used to create the 2012
24 Study and to maintain consistency in the billing determinants used to design

1 rates. The changes are not conceptual changes to the Cost Allocation Model
2 agreed to in Docket No. 4128.

3 Q. PLEASE IDENTIFY YOUR PROPOSED CHANGES.

4 A. My proposed changes are as follows:

- 5 • HJS Schedule B-2. The "Pumping" line item in the "ALLOCATION
6 RESULTS" section under the "Base," "Cost Category," and "Rate
7 Year" columns included an incorrect cell reference. Correcting the
8 cell reference increases the \$30,213 shown on HJS Schedule B-2
9 to \$66,442;
- 10 • The 2012 Study prepared by Newport utilizes customer usage data
11 approved in Docket No. 4243. However, Newport has updated
12 customer number of account data to reflect more recent
13 information. For consistency, the customer account data utilized in
14 the 2012 Study should be the same as that approved in Docket No.
15 4243; and
- 16 • HJS Schedule B-7 Update. The last four line items in the
17 "Production Peaks" column reference the FY 2011 value, while the
18 first four line items reflect an average of FY 2008 – FY 2010 data.
19 The last four line items should be modified to reflect an average of
20 FY 2008 – FY 2010 data. Newport has conceptually agreed to this
21 change.

22 Q. HAVE YOU PREPARED A REVISED COST OF SERVICE STUDY TO
23 REFLECT YOUR RECOMMENDATIONS AND CORRECTIONS?

24 A. Yes. A revised cost of service study reflecting my recommended allocation of
25 treatment capital costs, spreadsheet formula/cell corrections and change to

1 customer account billing determinants is attached to my testimony. This
2 revised study utilizes the same schedule number sequencing as Newport,
3 with the exception that I have substituted the abbreviation "JDM" for "HJS."
4 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?
5 A. Yes, it does.

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Newport Water Cost of Service Model

Index of Model Schedules

Summary Schedules

- JDM Schedule A-1 Revenue Requirements
- JDM Schedule A-2 Cost of Service Rates and Charges
- JDM Schedule A-3 Bill Impacts
- JDM Schedule A-4 Revenue Proof

COS Model Schedules

- JDM Schedule B-1 Base Extra Capacity Cost Allocations
- JDM Schedule B-2 Allocation of Costs to Water Rate Classes
- JDM Schedule B-3 Cost Allocation Bases
- JDM Schedule B-4 Allocation Analyses
- JDM Schedule B-5 Capital Functionalization
- JDM Schedule B-6 Water Demand History
- JDM Schedule B-7 Water Production Peaking Analysis
- JDM Schedule B-8 Billed Demand Peaking Analysis: Determination of Customer Class Peakir
- JDM Schedule B-9 System Demands Imposed by Each Customer Class' Peaking Behavior
- JDM Schedule B-10 Summary of Peak Load Distributions (by Rate Class and Base/Extra-Capac
- JDM Schedule B-11 Fire Protection Demand Analysis

Supporting Data

- JDM Schedule D-1 Water Accounts, by Size and Class
- JDM Schedule D-2 Fire Protection Accounts
- JDM Schedule D-3 Production Summary
- JDM Schedule D-4 Demand Summary
- JDM Schedule D-5 Development of Pumping Costs
- JDM Schedule D-6 Debt Service Restricted Account Cashflow
- JDM Schedule D-7 Demand Factor Calculations

	Rate Year Approved in Docket 4243	Test Year FY 2013 Approved in Docket 4243	Adjustments To Test Year	Proposed Rate Year
O&M COSTS				
Administration				
Salaries & Wages	\$ 273,889	\$ 273,889		\$ 273,889
AFSCME retro	-	-		-
NEA retro	-	-		-
AFSCME benefits on retro pay	-	-		-
NEA benefits on retro pay	-	-		-
Standby Salaries	12,500	12,500		12,500
Accrued Benefits Buyout	175,000	175,000		175,000
Employee Benefits	128,202	128,202		128,202
Retiree Insurance Coverage	514,000	514,000		514,000
Workers Compensation	85,000	85,000		85,000
Annual Leave Buyback	2,400	2,400		2,400
Advertisement	9,000	9,000		9,000
Membership Dues & Subscriptions	2,500	2,500		2,500
Conferences & Training	4,000	4,000		4,000
Tuition Reimbursement	2,000	2,000		2,000
Consultant Fees	233,033	233,033		233,033
Postage	1,000	1,000		1,000
Fire & Liability Insurance	76,468	76,468		76,468
Telephone & Communication	5,500	5,500		5,500
Water	1,942	1,942		1,942
Electricity	5,805	5,805		5,805
Natural Gas	7,252	7,252		7,252
Property Taxes	226,774	226,774		226,774
Legal & Administrative				
Audit Fees	4,349	4,349		4,349
OPEB Contribution	-	-		-
City Counsel	4,649	4,649		4,649
Citizens Survey	-	-		-
City Clerk	3,381	3,381		3,381
City Manager	54,131	54,131		54,131
Human Resources	30,121	30,121		30,121
City Solicitor	20,459	20,459		20,459
Finance Adimistrative 80%	19,822	19,822		19,822
Finance Adimistrative 5%	7,020	7,020		7,020
Purchasing	18,314	18,314		18,314
Assessment	5,973	5,973		5,973
Collections	46,979	46,979		46,979
Accounting 5%	10,679	10,679		10,679
Accounting	70,516	70,516		70,516
Public Safety	-	-		-
Facilities Maintenance	13,266	13,266		13,266
Data Processing	143,888	143,888		143,888
Mileage Allowance	2,000	2,000		2,000
Gasoline & Vehicle Allowance	7,508	7,508		7,508
Repairs & Maintenance	1,200	1,200		1,200
Regulatory Expense	10,000	10,000		10,000
Regulatory Assessment	48,096	48,096		48,096
Office Supplies	20,000	20,000		20,000
Self Insurance	10,000	10,000		10,000
Unemployment Claims	12,000	12,000		12,000
Subtotal:	\$ 2,330,614	\$ 2,330,614	\$ -	\$ 2,330,614

	Rate Year Approved in Docket 4243	Test Year FY 2013 Approved in Docket 4243	Adjustments To Test Year	Proposed Rate Year
Customer Service				
Salaries & Wages	\$ 256,335	\$ 256,335		\$ 256,335
Overtime	10,200	10,200		10,200
Collections	-	-		-
Temp Salaries	10,200	10,200		10,200
Injury Pay	-	-		-
Employee Benefits	168,793	168,793		168,793
Annual Leave Buyback	5,000	5,000		5,000
Copying & binding	500	500		500
Conferences & Training	5,000	5,000		5,000
Support Services	26,002	26,002		26,002
Postage	31,706	31,706		31,706
Gasoline & Vehicle Allowance	33,421	33,421		33,421
Repairs & Maintenance	40,000	40,000		40,000
Meter Maintenance	10,000	10,000		10,000
Operating Supplies	5,000	5,000		5,000
Uniforms & protective Gear	1,000	1,000		1,000
Customer Service Supplies	10,343	10,343		10,343
Subtotal:	\$ 613,500	\$ 613,500	\$ -	\$ 613,500
Source of Supply - Island				
Salaries & Wages	\$ 258,897	\$ 258,897		\$ 258,897
Overtime	28,903	28,903		28,903
Temp Salaries	10,000	10,000		10,000
Injury Pay	-	-		-
Employee Benefits	134,334	134,334		134,334
Annual Leave Buyback	6,300	6,300		6,300
Electricity	42,108	42,108		42,108
Gas/Vehicle Maintenance	58,648	58,648		58,648
Repairs & Maintenance	7,425	7,425		7,425
Reservoir Maintenance	16,000	16,000		16,000
Operating Supplies	7,750	7,750		7,750
Uniforms & protective Gear	700	700		700
Chemicals	72,735	72,735		72,735
Subtotal:	\$ 643,800	\$ 643,800	\$ -	\$ 643,800
Source of Supply - Mainland				
Overtime	\$ 4,617	\$ 4,617		\$ 4,617
Temp Salaries	13,000	13,000		13,000
Permanent Part time	15,264	15,264		15,264
Employee Benefits	2,525	2,525		2,525
Electricity	120,189	120,189		120,189
Repairs & Maintenance	7,200	7,200		7,200
Reservoir Maintenance	4,500	4,500		4,500
Operating Supplies	630	630		630
Subtotal:	\$ 167,925	\$ 167,925	\$ -	\$ 167,925

	Rate Year Approved in Docket 4243	Test Year FY 2013 Approved in Docket 4243	Adjustments To Test Year	Proposed Rate Year
Station One				
Salaries & Wages	\$446,983	\$446,983		\$446,983
Overtime	60,021	60,021		60,021
Holiday Pay	17,045	17,045		17,045
Employee Benefits	\$278,523	\$278,523		\$278,523
Annual Leave Buyback	5,000	5,000		5,000
Conferences & Training	4,500	4,500		4,500
Fire & Liability Insurance	12,687	12,687		12,687
Electricity	\$252,674	\$252,674		\$252,674
Natural Gas	24,250	24,250		24,250
Rental of Equipment	600	600		600
Sewer Charge	293,020	293,020		293,020
Gas/Vehicle Maintenance	7,583	7,583		7,583
Repairs & Maintenance	\$25,000	\$25,000		\$25,000
Operating Supplies	\$25,210	\$25,210		\$25,210
Uniforms & protective Gear	1,062	1,062		1,062
Station One Pumping	\$22,428	\$22,428		\$22,428
Chemicals	354,210	354,210		354,210
Subtotal:	\$ 1,830,796	\$ 1,830,796	\$ -	\$ 1,830,796
Lawton Valley				
Salaries & Wages	\$459,704	\$459,704		\$459,704
Overtime	37,657	37,657		37,657
Holiday Pay	16,760	16,760		16,760
Employee Benefits	\$287,143	\$287,143		\$287,143
Annual Leave Buyback	3,966	3,966		3,966
Conferences & Training	3,000	3,000		3,000
Fire & Liability Insurance	18,614	18,614		18,614
Electricity	\$132,551	\$132,551		\$132,551
Natural Gas	29,909	29,909		29,909
Rental of Equipment	500	500		500
Sewer Charge	360,640	360,640		360,640
Gas/Vehicle Maintenance	7,882	7,882		7,882
Repairs & Maintenance	\$34,048	\$34,048		\$34,048
Operating Supplies	\$18,475	\$18,475		\$18,475
Uniforms & protective Gear	1,542	1,542		1,542
LV Pumping	\$31,646	\$31,646		\$31,646
Chemicals	169,977	169,977		169,977
Subtotal:	\$ 1,614,015	\$ 1,614,015	\$ -	\$ 1,614,015
Laboratory				
Salaries & Wages	\$ 104,358	\$ 104,358		\$ 104,358
Employee Benefits	64,208	64,208		64,208
Annual Leave Buyback	2,750	2,750		2,750
Repairs & Maintenance	1,700	1,700		1,700
Regulatory Assessment	32,000	32,000		32,000
Laboratory Supplies	18,684	18,684		18,684
Subtotal:	\$ 223,700	\$ 223,700	\$ -	\$ 223,700

	Rate Year Approved in Docket 4243	Test Year FY 2013 Approved in Docket 4243	Adjustments To Test Year	Proposed Rate Year
Transmission & Distribution				
Salaries & Wages	\$ 418,161	\$ 418,161		\$ 418,161
Overtime	52,364	52,364		52,364
Temp Salaries	10,000	10,000		10,000
Injury Pay	-	-		-
Employee Benefits	251,514	251,514		251,514
Annual Leave Buyback	10,943	10,943		10,943
Conferences & Training	4,000	4,000		4,000
Contract Services	12,430	12,430		12,430
Fire & Liability Insurance	18,748	18,748		18,748
Electricity	18,762	18,762		18,762
Heavy Equipment Rental	8,260	8,260		8,260
Gas/Vehicle Maintenance	110,305	110,305		110,305
Repairs & Maintenance	26,000	26,000		26,000
Main Maintenance	35,000	35,000		35,000
Hydrant Maintenance	35,000	35,000		35,000
Service Maintenance	30,000	30,000		30,000
Operating Supplies	10,000	10,000		10,000
Uniforms & protective Gear	1,761	1,761		1,761
Subtotal:	\$ 1,053,248	\$ 1,053,248	\$ -	\$ 1,053,248
Fire Protection				
Repair & Maintenance - Equipment	\$ 13,500	\$ 13,500		\$ 13,500
Subtotal:	\$ 13,500	\$ 13,500	\$ -	\$ 13,500
Total O&M Costs	\$ 8,491,098	\$ 8,491,098	\$ -	\$ 8,491,098

	Rate Year Approved in Docket 4243	Test Year FY 2013 Approved in Docket 4243	Adjustments To Test Year	Proposed Rate Year
CAPITAL COSTS				
Contribution to Capital Spending Acct.	\$ 2,500,000	\$ 2,500,000		\$ 2,500,000
Contribution to Debt Service Acct.	\$1,589,369	\$5,861,869	(\$2,285,789)	\$3,576,079
Total Capital Costs	\$ 4,089,369	\$ 8,361,869	\$ (2,285,789)	\$ 6,076,079
Operating Revenue Allowance	\$ 254,733	\$ 254,733		\$ 254,733
Total Costs before Offsets	\$ 12,835,200	\$17,107,700	\$ (2,285,789)	\$ 14,821,910
OFFSETS				
Nonrate Revenues				
Sundry charges	\$ 104,000	\$ 104,000		\$ 104,000
WPC cost share on customer service	296,856	296,856		296,856
Middletown cost share on customer service	143,506	143,506		143,506
Rental of Property	108,167	108,167		108,167
Water Penalty	47,500	47,500		47,500
Miscellaneous	8,600	8,600		8,600
Investment Interest Income	3,900	3,900		3,900
Water Quality Protection Fees	22,500	22,500		22,500
Total Nonrate Revenues	\$ 735,029	\$ 735,029	\$ -	\$ 735,029
Net Costs to Be Recovered through Rates	\$ 12,100,171	\$16,372,671	\$ (2,285,789)	\$ 14,086,881

Rate Year O&M costs are those approved in Docket No. 4243.

Newport Water
 Cost Of Service Analysis
 JDM Schedule A-2
 Cost of Service Rates and Charges

		(1)					
		Docket 4243					
		Rates	Cost of Service	Proposed Rates	% Change	Projected Revenues	
Base Charge (per bill)							
Monthly							
5/8		\$ 18.75	\$ 7.7242	\$ 7.72	-59%	\$10,196	
3/4		\$ 18.75	7.8121	7.81	-58%	6,000	
1		\$ 18.75	8.5395	8.54	-54%	16,908	
1.5		\$ 18.75	10.3843	10.38	-45%	22,181	
2		\$ 18.75	12.1709	12.17	-35%	31,401	
3		\$ 18.75	21.9398	21.94	17%	13,164	
4		\$ 18.75	24.5777	24.58	31%	3,539	
5		\$ 18.75	28.0949	28.09	50%	337	
6		\$ 18.75	30.7328	30.73	64%	8,113	
8		\$ 18.75	37.7672	37.77	101%	453	
10		\$ 18.75	50.5171	50.52	169%	606	
						112,899	
Quarterly							
5/8		\$ 18.75	\$ 10.5609	10.56	-44%	446,724	
3/4		\$ 18.75	10.8246	10.82	-42%	104,523	
1		\$ 18.75	13.0067	13.01	-31%	20,342	
1.5		\$ 18.75	18.5412	18.54	-1%	13,795	
2		\$ 18.75	23.9008	23.90	27%	5,641	
3		\$ 18.75	53.2077	53.21	184%	3,618	
4		\$ 18.75	61.1214	61.12	226%	733	
5		\$ 18.75	71.6730	71.67	282%	0	
6		\$ 18.75	79.5868	79.59	324%	1,273	
8		\$ 18.75	100.6900	100.69	437%	0	
10		\$ 18.75	138.9396	138.94	641%	0	
						\$ 709,548	
						\$822,447	
Volume Charge (per 1,000 gallons)							
Retail							
Residential		\$ 6.43	\$ 8.1735	8.17	27%	5,150,357	
Non-Residential		\$ 6.43	\$ 9.0706	9.07	41%	4,532,078	
						\$ 9,682,435	
Wholesale							
Navy		\$ 3.9540	\$ 5.2605	5.26	33%	941,485	
Portsmouth Water & Fire District		\$ 3.152	\$ 4.1660	4.17	32%	1,785,202	
						\$ 2,726,687	
Fire Protection							
Public (per hydrant)							
		\$ 1,065.00	\$ 672.57	672.57	-37%	\$ 696,111	
Private (by Connection Size) (2)							
	Connection Size	Existing Charge					
		Differential					
	<2		\$21.00	\$ 18.84	\$ 18.85	-10%	
	2	6.19	\$88.00	\$ 78.96	\$ 78.96	-10%	316
	4	38.32	\$541.00	\$ 281.37	\$ 281.37	-48%	17,445
	6	111.31	\$1,083.00	\$ 669.06	\$ 669.06	-38%	163,919
	8	237.21	\$2,478.00	\$ 1,337.73	\$ 1,337.73	-46%	82,939
	10	426.58	\$4,091.00	\$ 2,343.56	\$ 2,343.56	-43%	-
	12	689.04	\$6,568.00	\$ 3,737.60	\$ 3,737.60	-43%	7,475
						\$ 272,095	
Total Projected Rate Revenues						\$ 14,086,876	

(1) From JDM Schedule B-2, 'Allocation of Costs to Water Rate Classes'.
 (2) From JDM Schedule D-2, 'Fire Protection Accounts'.

Customer Class	Monthly Consumption (gallons)	Proposed 5/8 Inch Meter			Proposed 3/4 Inch Meter			Proposed 1 Inch Meter			Proposed 1.5 Inch Meter			Proposed 2 Inch Meter			Proposed 3 Inch Meter		
		Bill at Current Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change
Residential (Monthly)	1,000	\$25.18	\$15.90	-36.9%	\$15.99	-\$9.19	-36.5%	\$16.71	-\$8.47	-33.6%	\$18.56	-\$6.62	-26.3%	\$20.34	-\$4.84	-19.2%	\$30.11	-\$4.93	19.6%
	2,000	\$31.61	\$24.07	-23.8%	\$24.16	-\$7.45	-23.6%	\$24.89	-\$6.72	-21.3%	\$26.73	-\$4.88	-15.4%	\$28.52	-\$3.09	-9.8%	\$38.29	-\$6.68	21.1%
	4,000	\$44.47	\$40.42	-9.1%	\$40.51	-\$3.96	-8.9%	\$41.23	-\$3.24	-7.3%	\$43.08	-\$1.39	-3.1%	\$44.86	\$0.39	0.9%	\$54.63	\$10.16	22.9%
	5,000	\$50.90	\$48.59	-4.5%	\$48.68	-\$2.22	-4.4%	\$49.41	-\$1.49	-2.9%	\$50.35	\$0.35	0.7%	\$53.04	\$2.14	4.2%	\$62.81	\$11.91	23.4%
	7,500	\$66.98	\$69.03	3.1%	\$69.11	\$2.14	3.2%	\$69.84	\$2.87	4.2%	\$71.69	\$4.71	7.0%	\$73.47	\$6.50	9.7%	\$83.24	\$16.27	24.8%
	10,000	\$83.05	\$89.46	8.3%	\$89.55	\$6.50	7.8%	\$90.27	\$7.22	8.7%	\$92.12	\$9.07	10.9%	\$93.91	\$10.86	13.1%	\$103.67	\$20.62	24.8%
	15,000	\$115.20	\$130.33	13.1%	\$130.41	\$15.21	13.2%	\$131.14	\$15.94	13.8%	\$132.99	\$17.79	15.4%	\$134.77	\$19.57	17.0%	\$144.54	\$29.34	25.5%
	20,000	\$147.35	\$171.19	16.2%	\$171.28	\$23.93	16.2%	\$172.01	\$24.66	16.7%	\$173.85	\$26.50	18.0%	\$175.64	\$28.29	19.2%	\$185.41	\$38.06	25.8%
	25,000	\$179.50	\$212.06	32.5%	\$212.15	\$32.65	18.2%	\$212.88	\$33.38	18.6%	\$214.72	\$35.22	19.6%	\$216.51	\$37.01	20.6%	\$226.28	\$46.78	26.1%
	30,000	\$211.65	\$252.93	41.2%	\$253.02	\$41.37	19.5%	\$253.74	\$42.09	19.9%	\$255.59	\$43.94	20.8%	\$257.37	\$45.72	21.6%	\$267.14	\$55.49	26.2%
Residential(Quarterly)	1,000	\$25.18	\$18.73	-25.6%	\$19.00	-\$6.18	-24.6%	\$21.18	-\$4.00	-15.9%	\$26.71	\$1.53	6.1%	\$32.07	\$6.89	27.4%	\$61.38	\$36.20	143.8%
	2,000	\$31.61	\$26.91	-14.9%	\$27.17	-\$4.44	-14.0%	\$29.35	-\$2.26	-7.1%	\$34.89	\$3.28	10.4%	\$40.25	\$8.64	27.3%	\$69.55	\$37.94	120.0%
	3,000	\$38.04	\$35.08	-7.8%	\$35.35	-\$2.69	-7.1%	\$37.53	-\$0.51	-1.3%	\$43.06	\$5.02	13.2%	\$48.42	\$10.38	27.3%	\$77.73	\$39.69	104.3%
	4,000	\$44.47	\$43.25	-2.7%	\$43.52	-\$0.95	-2.1%	\$45.70	\$1.23	2.8%	\$51.23	\$6.76	15.2%	\$56.59	\$12.12	27.3%	\$85.90	\$41.43	93.2%
	5,000	\$50.90	\$51.43	1.0%	\$51.69	\$0.79	1.6%	\$53.87	\$2.97	5.8%	\$59.41	\$8.51	16.7%	\$64.77	\$13.87	27.2%	\$94.07	\$43.17	84.8%
	15,000	\$115.20	\$133.16	15.6%	\$133.43	\$18.23	15.8%	\$135.61	\$20.41	17.7%	\$141.14	\$25.94	22.5%	\$146.50	\$31.30	27.2%	\$175.81	\$60.61	52.6%
	60,000	\$404.55	\$500.97	23.8%	\$501.23	\$96.68	23.9%	\$503.41	\$98.86	24.4%	\$508.95	\$104.40	25.8%	\$514.31	\$109.76	27.1%	\$543.62	\$139.07	34.9%
	80,000	\$533.15	\$664.44	24.6%	\$664.70	\$131.55	24.7%	\$666.88	\$133.73	25.1%	\$672.42	\$139.27	26.1%	\$677.78	\$144.63	27.1%	\$707.08	\$173.93	32.6%
	100,000	\$661.75	\$827.91	25.1%	\$828.17	\$166.42	25.1%	\$830.35	\$168.60	25.5%	\$835.89	\$174.14	26.3%	\$841.25	\$179.50	27.1%	\$870.55	\$208.80	31.6%
	120,000	\$790.35	\$991.38	25.4%	\$991.64	\$201.29	25.5%	\$993.82	\$203.47	25.7%	\$999.36	\$209.01	26.4%	\$1,004.72	\$214.37	27.1%	\$1,034.02	\$243.67	30.8%

Customer Class	Monthly Consumption (gallons)	Proposed 5/8 Inch Meter			Proposed 3/4 Inch Meter			Proposed 1 Inch Meter			Proposed 1.5 Inch Meter			Proposed 2 Inch Meter			Proposed 3 Inch Meter		
		Bill at Current Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change	Bill at Proposed Rates	Dollar Change	Percent Change
Commercial (Monthly)	2,000	\$31.61	\$25.87	-18.2%	\$25.95	-\$5.66	-17.9%	\$26.68	-\$4.93	-15.6%	\$28.53	-\$3.08	-9.8%	\$30.31	-\$1.30	-4.1%	\$40.08	\$8.47	26.8%
	5,000	\$50.90	\$53.08	4.3%	\$53.16	\$2.26	4.4%	\$53.89	\$2.99	5.9%	\$55.74	\$4.84	9.5%	\$57.52	\$6.62	13.0%	\$67.29	\$16.39	32.2%
	10,000	\$83.05	\$98.43	18.5%	\$98.52	\$15.47	18.6%	\$99.25	\$16.20	19.5%	\$101.09	\$18.04	21.7%	\$102.88	\$19.83	23.9%	\$112.65	\$29.60	35.6%
	25,000	\$179.50	\$234.49	30.6%	\$234.58	\$55.08	30.7%	\$235.30	\$55.80	31.1%	\$237.15	\$57.65	32.1%	\$238.93	\$59.43	33.1%	\$248.70	\$69.20	38.6%
	30,000	\$211.65	\$279.84	32.2%	\$279.93	\$68.28	32.3%	\$280.66	\$69.01	32.6%	\$282.50	\$70.85	33.5%	\$284.29	\$72.64	34.3%	\$294.06	\$82.41	38.9%
	40,000	\$275.95	\$370.55	34.3%	\$370.63	\$94.68	34.3%	\$371.36	\$95.41	34.6%	\$373.21	\$97.26	35.2%	\$374.99	\$99.04	35.9%	\$384.76	\$108.81	39.4%
	50,000	\$340.25	\$461.25	35.6%	\$461.34	\$121.09	35.6%	\$462.07	\$121.82	35.8%	\$463.91	\$123.66	36.3%	\$465.70	\$125.45	36.9%	\$475.47	\$135.22	39.7%
	75,000	\$501.00	\$688.02	37.3%	\$688.10	\$187.10	37.3%	\$688.83	\$187.83	37.5%	\$690.68	\$189.68	37.9%	\$692.46	\$191.46	38.2%	\$702.23	\$201.23	40.2%
	100,000	\$661.75	\$914.78	38.2%	\$914.87	\$253.12	38.2%	\$915.60	\$253.85	38.4%	\$917.44	\$255.69	38.6%	\$919.23	\$257.48	38.9%	\$929.00	\$267.25	40.4%
	Customer Class Commercial with 6" Fire Connection(Monthly Account)	120,000	\$996.60	\$1,181.16	18.5%	\$1,182.21	\$185.61	18.6%	\$1,190.94	\$194.34	19.5%	\$1,213.08	\$216.48	21.7%	\$1,234.52	\$237.92	23.9%	\$1,351.75	\$355.15
Base Charge and Commodity Charges		\$1,083.00	\$669.06	-38.2%	\$669.06	-\$413.94	-38.2%	\$669.06	-\$413.94	-38.2%	\$669.06	-\$413.94	-38.2%	\$669.06	-\$413.94	-38.2%	\$669.06	-\$413.94	-38.2%
Fire Protection Charge		\$2,079.60	\$1,850.21	-11.0%	\$1,851.27	-\$228.33	-11.0%	\$1,860.00	-\$219.60	-10.6%	\$1,882.14	-\$197.46	-9.5%	\$1,903.57	-\$176.03	-8.5%	\$2,020.80	-\$58.80	-2.8%
Total Annual Charges																			

Newport Water
 Cost Of Service Analysis
 JDM Schedule A-3
 Bill Impacts - Cost of Service Rates
 Page 2 of 2

Customer Class	Monthly Consumption (gallons)	Bill at Current Rates	Proposed		Percent Change
			Bill at Proposed Rates	Dollar Change	
Portsmouth (Monthly)	10,000,000	\$31,539	\$41,684	\$10,146	32.2%
	20,000,000	\$63,059	\$83,344	\$20,285	32.2%
	38,000,000	\$119,795	\$158,332	\$38,537	32.2%
	40,000,000	\$126,099	\$166,664	\$40,565	32.2%
	75,000,000	\$236,419	\$312,473	\$76,054	32.2%
	150,000,000	\$472,819	\$624,922	\$152,103	32.2%
Navy (Monthly)	10,000,000	\$39,559	\$52,910	\$13,351	33.7%
	20,000,000	\$79,099	\$105,815	\$26,716	33.4%
	38,000,000	\$150,252	\$200,205	\$49,953	33.2%
	50,000,000	\$197,719	\$263,331	\$65,613	33.2%
	75,000,000	\$296,569	\$394,845	\$98,276	33.1%
	100,000,000	\$395,419	\$526,359	\$130,940	33.1%

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule A-4
 Revenue Proof

	Rate Year Revenue	
	Existing Rates	Proposed Rates
REVENUES		
Water Rates		
Base Charge (Billing Charge)	\$ 1,207,950	\$ 709,548
Volume Charge		
Residential	4,051,749	5,150,357
Commercial	3,212,730	4,532,078
Navy	707,651	941,485
Portsmouth Water & Fire District	1,350,692	1,785,202
Fire Protection		
Public	1,102,275	696,111
Private	466,001	272,095
Total Rate Revenues	\$ 12,099,048	\$ 14,086,876
Other Operating Revenues		
Sundry charges	\$ 104,000	104,000
WPC cost share on customer service	\$ 296,856	296,856
Middletown cost share on customer service	\$ 143,506	143,506
Rental of Property	\$ 108,167	108,167
Total Other Operating Revenues	\$ 652,529	652,529
Total Operating Revenues	\$ 12,751,577	\$ 14,739,405
Add: Non-Operating Revenues		
Water Penalty	47,500	47,500
Miscellaneous	8,600	8,600
Investment Interest Income	3,900	3,900
Water Quality Protection Fees	22,500	22,500
Total Non Operating Revenues	\$ 82,500	\$ 82,500
Total Revenues	\$ 12,834,077	\$ 14,821,905
COSTS		
Departmental O&M	\$ (8,491,098)	(8,491,098)
Capital Costs		
Contribution to Capital Spending Acct.	(2,500,000)	(2,500,000)
Contribution to Debt Service Acct.	(3,576,079)	(\$3,576,079)
Total Capital Costs	\$ (6,076,079)	(6,076,079)
Operating Revenue Allowance	(254,733)	(254,733)
Total Costs	\$ (14,821,910)	\$ (14,821,910)
Revenue Surplus (Deficit)	\$ (1,987,833)	\$ (5)

Rate Year
\$ 273,889
\$ -
\$ -
\$ -
\$ -
\$ 12,500
\$ 175,000
\$ 128,202
\$ 514,000
\$ 85,000
\$ 2,400
1,190,991

Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Non-Administrative Wages & Salaries	60%	24%	4%	6%	5%	2%	0%	100%
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Non-Administrative Wages & Salaries	60%	24%	4%	6%	5%	2%	0%	100%
Non-Administrative Wages & Salaries	60%	24%	4%	6%	5%	2%	0%	100%
Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%

Operation & Maintenance Costs

- Administration
- Salaries, Wages, & Benefits
- Salaries & Wages
- AFSCME retro
- NEA retro
- AFSCME benefits on retro pay
- NEA benefits on retro pay
- Standby Salaries
- Accrued Benefits Buyout
- Employee Benefits
- Retiree Insurance Coverage
- Workers Compensation
- Annual Leave Buyback
- Subtotal

	Rate Year	Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
All Other Administrative Costs										
Advertisement	9,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Membership Dues & Subscriptions	2,500	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Conferences & Training	4,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Tuition Reimbursement	2,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Consultant Fees	233,033	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Postage	1,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Fire & Liability Insurance	76,468	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Telephone & Communication	5,500	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Water	1,942	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Electricity	5,805	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Natural Gas	7,252	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Property Taxes	226,774	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Legal & Administrative	-									
Audit Fees	4,349	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
OPEB Contribution	-	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
City Counsel	4,649	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Citizens Survey	-	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
City Clerk	3,381	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
City Manager	54,131	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Human Resources	30,121	Non-Administrative Wages & Salaries	60%	24%	4%	6%	5%	2%	0%	100%
City Solicitor	20,459	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Finance Administrative 80%	19,822	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Finance Administrative 5%	7,020	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Purchasing	18,314	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Assessment	5,973	Capital Costs	65%	26%	4%	0%	3%	0%	0%	100%
Collections	46,979	100% Billing	0%	0%	0%	0%	100%	0%	0%	100%
Accounting 5%	10,679	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Accounting	70,516	Non-Administrative Wages & Salaries	60%	24%	4%	6%	5%	2%	0%	100%
Public Safety	-	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Facilities Maintenance	-	Total Non-Admin Costs Before Offsets	68%	21%	4%	4%	4%	1%	1%	100%
Data Processing	13,266	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Mileage Allowance	143,888	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Gasoline & Vehicle Allowance	2,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Repairs & Maintenance	7,508	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Regulatory Expense	1,200	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Regulatory Assessment	10,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Office Supplies	48,096	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Self Insurance	20,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Unemployment Claims	10,000	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%
Subtotal	1,139,623	Non Admin less electricity & chemicals	65%	19%	3%	5%	5%	2%	1%	100%

	Rate Year	Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
	2,330,614 x									
Customer Service										
Salaries & Wages	281,735	Customer Service Salaries and Wages	0%	0%	0%	46%	41%	13%	0%	100%
Benefits	168,793	Customer Service Salaries and Wages	0%	0%	0%	46%	41%	13%	0%	100%
Copying & binding	500	100% billing (based on budget analysis)					100%			100%
Conferences & Training	5,000	100% billing (based on budget analysis)					100%			100%
Support Services	26,002	100% billing (software support & printing/mailling)					100%			100%
Postage	31,706	100% billing (based on budget analysis)					100%			100%
Gasoline & Vehicle Allowance	33,421	Customer Service Salaries and Wages	0%	0%	0%	46%	41%	13%	0%	100%
Repairs & Maintenance	40,000	100% metering (meter repairs)				100%				100%
Meter Maintenance	10,000	100% metering (based on budget analysis)				100%				100%
Operating Supplies	5,000	100% metering (based on budget analysis)				100%				100%
Uniforms & protective Gear	1,000	100% metering (based on budget analysis)				100%				100%
Customer Service Supplies	10,343	100% billing (based on budget analysis)				100%				100%
Subtotal	613,500 x						100%			
Source of Supply - Island										
Salaries & Wages	\$ 258,897	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Overtime	\$ 28,903	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Temp Salaries	\$ 10,000	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Injury Pay	\$ -	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Employee Benefits	\$ 134,334	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Annual Leave Buyback	\$ 6,300	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Electricity	\$ 42,108	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Gas/Vehicle Maintenance	\$ 58,648	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Repairs & Maintenance	\$ 7,425	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Reservoir Maintenance	\$ 16,000	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Operating Supplies	\$ 7,750	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Uniforms & protective Gear	\$ 700	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Chemicals	\$ 72,735	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Subtotal	\$ 643,800 x									
Source of Supply - Mainland										
Overtime	\$ 4,617	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Temp Salaries	\$ 13,000	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Permanent Part time	\$ 15,264	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Employee Benefits	\$ 2,525	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Electricity	\$ 120,189	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Repairs & Maintenance	\$ 7,200	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Reservoir Maintenance	\$ 4,500	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Operating Supplies	\$ 630	Average Day Demand Patterns	100%	0%	0%	0%	0%	0%	0%	100%
Subtotal	\$ 167,925 x									

	Rate Year	Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
Station One (Excludes pumping and chemicals)										
Salaries & Wages	\$ 446,983		62%	38%	0%	0%	0%	0%	0%	100%
Overtime	\$ 60,021		62%	38%	0%	0%	0%	0%	0%	100%
Holiday Pay	\$ 17,045		62%	38%	0%	0%	0%	0%	0%	100%
Employee Benefits	\$ 278,523		62%	38%	0%	0%	0%	0%	0%	100%
Annual Leave Buyback	\$ 5,000		62%	38%	0%	0%	0%	0%	0%	100%
Conferences & Training	\$ 4,500		62%	38%	0%	0%	0%	0%	0%	100%
Fire & Liability Insurance	\$ 12,687		62%	38%	0%	0%	0%	0%	0%	100%
Electricity	\$ 252,674		100%	0%	0%	0%	0%	0%	0%	100%
Natural Gas	\$ 24,250		62%	38%	0%	0%	0%	0%	0%	100%
Rental of Equipment	\$ 600		62%	38%	0%	0%	0%	0%	0%	100%
Sewer Charge	\$ 293,020		100%	0%	0%	0%	0%	0%	0%	100%
Gas/Vehicle Maintenance	\$ 7,583		62%	38%	0%	0%	0%	0%	0%	100%
Repairs & Maintenance	\$ 25,000		62%	38%	0%	0%	0%	0%	0%	100%
Operating Supplies	\$ 25,210		62%	38%	0%	0%	0%	0%	0%	100%
Uniforms & protective Gear	\$ 1,062		62%	38%	0%	0%	0%	0%	0%	100%
Station One Pumping	\$ 22,428		52%	32%	17%	0%	0%	0%	0%	100%
Station One Chemicals	\$ 354,210		100%	0%	0%	0%	0%	0%	0%	100%
Subtotal	\$ 1,830,796									
Lawton Valley (Excludes pumping and chemicals)										
Salaries & Wages	\$459,704		62%	38%	0%	0%	0%	0%	0%	100%
Overtime	\$37,657		62%	38%	0%	0%	0%	0%	0%	100%
Holiday Pay	\$16,760		62%	38%	0%	0%	0%	0%	0%	100%
Employee Benefits	\$287,143		62%	38%	0%	0%	0%	0%	0%	100%
Annual Leave Buyback	\$3,966		62%	38%	0%	0%	0%	0%	0%	100%
Conferences & Training	\$3,000		62%	38%	0%	0%	0%	0%	0%	100%
Fire & Liability Insurance	\$18,614		62%	38%	0%	0%	0%	0%	0%	100%
Electricity	\$132,551		100%	0%	0%	0%	0%	0%	0%	100%
Natural Gas	\$29,909		62%	38%	0%	0%	0%	0%	0%	100%
Rental of Equipment	\$500		62%	38%	0%	0%	0%	0%	0%	100%
Sewer Charge	\$360,640		100%	0%	0%	0%	0%	0%	0%	100%
Gas/Vehicle Maintenance	\$7,882		62%	38%	0%	0%	0%	0%	0%	100%
Repairs & Maintenance	\$34,048		62%	38%	0%	0%	0%	0%	0%	100%
Operating Supplies	\$18,475		62%	38%	0%	0%	0%	0%	0%	100%
Uniforms & protective Gear	\$1,542		62%	38%	0%	0%	0%	0%	0%	100%
Lawton Valley Pumping	\$31,646		62%	38%	0%	0%	0%	0%	0%	100%
Lawton Valley Chemicals	\$169,977		52%	32%	17%	0%	0%	0%	0%	100%
Subtotal	\$1,614,015									

	Rate Year	Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
Laboratory										
Salaries & Wages	\$ 104,358	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
Employee Benefits	\$ 64,208	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
Annual Leave Buyback	\$ 2,750	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
Repairs & Maintenance	\$ 1,700	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
Regulatory Assessment	\$ 32,000	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
Laboratory Supplies	\$ 18,684	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
Subtotal	\$ 223,700									
Transmission and Distribution										
Salaries & Wages	\$ 418,161	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Overtime	\$ 52,364	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Temp Salaries	\$ 10,000	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Injury Pay	\$ -	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Employee Benefits	\$ 251,514	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Annual Leave Buyback	\$ 10,943	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Conferences & Training	\$ 4,000	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Contract Services	\$ 12,430	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Fire & Liability Insurance	\$ 18,748	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Electricity	\$ 18,762	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Heavy Equipment Rental	\$ 8,260	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Gas/Vehicle Maintenance	\$ 110,305	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Repairs & Maintenance	\$ 26,000	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Main Maintenance	\$ 35,000	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Hydrant Maintenance	\$ 35,000	100% Fire	0%	0%	0%	0%	0%	0%	100%	100%
Service Maintenance	\$ 30,000	100% Services	0%	0%	0%	0%	0%	100%	0%	100%
Operating Supplies	\$ 10,000	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Uniforms & protective Gear	\$ 1,761	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
Subtotal	\$ 1,053,248									
Fire Protection	\$ 13,500	100% Fire	0%	0%	0%	0%	0%	0%	100%	100%
Total O&M Costs	\$ 8,491,098									

Base Extra Capacity Cost Allocations

Rate Year	Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
Rate Year	Allocation Notes	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total % Allocated
1,395,751	100% Base	100%	0%	0%	0%	0%	0%	0%	100%
1,609,150	Maximum Day Demand Patterns	62%	38%	0%	0%	0%	0%	0%	100%
508,569	Maximum Day Demand Patterns	62%	38%	0%	0%	0%	0%	0%	100%
654,700	Maximum Day Demand Patterns	62%	38%	0%	0%	0%	0%	0%	100%
64,843	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
1,565,588	Maximum Hour Demand Patterns	52%	32%	17%	0%	0%	0%	0%	100%
25,119	100% Fire	0%	0%	0%	0%	0%	0%	100%	100%
22,481	100% Meters	0%	0%	0%	100%	0%	0%	0%	100%
22,481	100 % Services	0%	0%	0%	0%	0%	100%	0%	100%
207,398	100% Billing	0%	0%	0%	0%	100%	0%	0%	100%
6,076,079									
254,733	100% base	100%							100%
14,821,910									

Total Capital Costs

Revenue Allowance

Total Costs before Offsets

OFFSETS

Nonrate Revenues

Sundry charges	104,000
WPC cost share on customer service	296,856
Middletown cost share on customer service	143,506
Rental of Property	108,167
Water Penalty	47,500
Miscellaneous	8,600
Investment Interest Income	3,900
Water Quality Protection Fees	22,500
Total Nonrate Revenues	735,029
Net Costs To Recover Through Rates	\$ 14,086,881

Non Admin less electricity & chemicals
 50/50 Split between Metering and Billing
 50/50 Split between Metering and Billing
 Non Admin less electricity & chemicals
 Non Admin less electricity & chemicals
 Non Admin less electricity & chemicals
 Non Admin less electricity & chemicals
 100% Base

Total Nonrate Revenues

Net Costs To Recover Through Rates

	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$ Allocated
Salaries, Wages, & Benefits	178,264	51,725	8,810	14,025	13,881	4,725	2,459	273,889
Administration	-	-	-	-	-	-	-	-
Salaries & Wages	-	-	-	-	-	-	-	-
AFSCME retro	-	-	-	-	-	-	-	-
NEA retro	-	-	-	-	-	-	-	-
AFSCME benefits on retro pay	-	-	-	-	-	-	-	-
NEA benefits on retro pay	-	-	-	-	-	-	-	-
Standby Salaries	8,136	2,361	402	640	634	216	112	12,500
Accrued Benefits Buyout	105,219	41,613	6,267	9,839	9,014	2,869	178	175,000
Employee Benefits	83,442	24,211	4,124	6,565	6,498	2,211	1,151	128,202
Retiree Insurance Coverage	309,044	122,224	18,408	28,900	26,474	8,427	523	514,000
Workers Compensation	51,107	20,212	3,044	4,779	4,378	1,394	87	85,000
Annual Leave Buyback	1,562	453	77	123	122	41	22	2,400
Subtotal	736,774	262,798	41,132	64,871	61,000	19,883	4,532	1,190,991

Operation & Maintenance Costs

	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$ Allocated
All Other Administrative Costs								
Advertisement	5,858	1,700	290	461	456	155	81	9,000
Memberships Dues & Subscriptions	1,627	472	80	128	127	43	22	2,500
Conferences & Training	2,603	755	129	205	203	69	36	4,000
Tuition Reimbursement	1,302	378	64	102	101	34	18	2,000
Consultant Fees	151,672	44,009	7,496	11,933	11,811	4,020	2,092	233,033
Postage	651	189	32	51	51	17	9	1,000
Fire & Liability Insurance	49,770	14,441	2,460	3,916	3,876	1,319	687	76,468
Telephone & Communication	3,580	1,039	177	282	279	95	49	5,500
Water	1,264	367	62	99	98	33	17	1,942
Electricity	3,778	1,096	187	297	294	100	52	5,805
Natural Gas	4,720	1,370	233	371	368	125	65	7,252
Property Taxes	147,599	42,827	7,295	11,612	11,493	3,912	2,036	226,774
Legal & Administrative								
Audit Fees	2,957	899	155	104	168	40	26	4,349
OPEB Contribution	-	-	-	-	-	-	-	-
City Counsel	3,161	961	166	111	179	43	27	4,649
Citizens Survey	-	-	-	-	-	-	-	-
City Clerk	2,299	699	121	81	130	31	20	3,381
City Manager	36,806	11,193	1,931	1,296	2,085	501	319	54,131
Human Resources	18,110	7,162	1,079	1,694	1,551	494	31	30,121
City Solicitor	13,911	4,231	730	490	788	189	121	20,459
Finance Administrative 80%	13,478	4,099	707	475	764	184	117	19,822
Finance Administrative 5%	4,773	1,452	250	168	270	65	41	7,020
Purchasing	12,453	3,787	653	438	705	170	108	18,314
Assessment	3,897	1,536	267	22	204	22	25	5,973
Collections	-	-	-	-	46,979	-	-	46,979
Accounting 5%	7,261	2,208	381	256	411	99	63	10,679
Accounting	42,398	16,768	2,525	3,965	3,632	1,156	72	70,516
Public Safety	-	-	-	-	-	-	-	-
Facilities Maintenance	-	-	-	-	-	-	-	-
Data Processing	9,020	2,743	473	318	511	123	78	13,266
Mileage Allowance	93,651	27,174	4,628	7,368	7,293	2,482	1,292	143,888
Gasoline & Vehicle Allowance	1,302	378	64	102	101	34	18	2,000
Repairs & Maintenance	4,887	1,418	242	384	381	130	67	7,508
Regulatory Expense	781	227	39	61	61	21	11	1,200
Regulatory Assessment	6,509	1,889	322	512	507	172	90	10,000
Office Supplies	31,304	9,083	1,547	2,463	2,438	830	432	48,096
Self Insurance	13,017	3,777	643	1,024	1,014	345	180	20,000
Unemployment Claims	6,509	1,889	322	512	507	172	90	10,000
Subtotal	7,810	2,266	386	614	608	207	108	12,000
	710,717	214,479	36,135	51,917	100,442	17,434	8,500	1,139,623

	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$ Allocated
Customer Service								
Salaries & Wages	-	-	-	128,413	116,547	36,776	-	281,735
Benefits	-	-	-	76,935	69,825	22,033	-	168,793
Copying & binding	-	-	-	-	500	-	-	500
Conferences & Training	-	-	-	-	5,000	-	-	5,000
Support Services	-	-	-	-	26,002	-	-	26,002
Postage	-	-	-	-	31,706	-	-	31,706
Gasoline & Vehicle Allowance	-	-	-	15,233	13,825	4,363	-	33,421
Repairs & Maintenance	-	-	-	40,000	-	-	-	40,000
Meter Maintenance	-	-	-	10,000	-	-	-	10,000
Operating Supplies	-	-	-	5,000	-	-	-	5,000
Uniforms & protective Gear	-	-	-	1,000	-	-	-	1,000
Customer Service Supplies	-	-	-	-	10,343	-	-	10,343
Subtotal								
Source of Supply - Island								
Salaries & Wages	258,897	-	-	-	-	-	-	258,897
Overtime	28,903	-	-	-	-	-	-	28,903
Temp Salaries	10,000	-	-	-	-	-	-	10,000
Injury Pay	-	-	-	-	-	-	-	-
Employee Benefits	134,334	-	-	-	-	-	-	134,334
Annual Leave Buyback	6,300	-	-	-	-	-	-	6,300
Electricity	42,108	-	-	-	-	-	-	42,108
Gas/Vehicle Maintenance	58,648	-	-	-	-	-	-	58,648
Repairs & Maintenance	7,425	-	-	-	-	-	-	7,425
Reservoir Maintenance	16,000	-	-	-	-	-	-	16,000
Operating Supplies	7,750	-	-	-	-	-	-	7,750
Uniforms & protective Gear	700	-	-	-	-	-	-	700
Chemicals	72,735	-	-	-	-	-	-	72,735
Subtotal								
Source of Supply - Mainland								
Overtime	4,617	-	-	-	-	-	-	4,617
Temp Salaries	13,000	-	-	-	-	-	-	13,000
Permanent Part time	15,264	-	-	-	-	-	-	15,264
Employee Benefits	2,525	-	-	-	-	-	-	2,525
Electricity	120,189	-	-	-	-	-	-	120,189
Repairs & Maintenance	7,200	-	-	-	-	-	-	7,200
Reservoir Maintenance	4,500	-	-	-	-	-	-	4,500
Operating Supplies	630	-	-	-	-	-	-	630
Subtotal								

	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$ Allocated
Station One (Excludes pumping and chemicals)								
Salaries & Wages	277,881	169,102	-	-	-	-	-	446,983
Overtime	37,314	22,707	-	-	-	-	-	60,021
Holiday Pay	10,597	6,448	-	-	-	-	-	17,045
Employee Benefits	173,153	105,371	-	-	-	-	-	278,523
Annual Leave Buyback	3,108	1,892	-	-	-	-	-	5,000
Conferences & Training	2,798	1,702	-	-	-	-	-	4,500
Fire & Liability Insurance	7,887	4,800	-	-	-	-	-	12,687
Electricity	252,674	-	-	-	-	-	-	252,674
Natural Gas	15,076	9,174	-	-	-	-	-	24,250
Rental of Equipment	373	227	-	-	-	-	-	600
Sewer Charge	293,020	-	-	-	-	-	-	293,020
Gas/Vehicle Maintenance	4,714	2,869	-	-	-	-	-	7,583
Repairs & Maintenance	15,542	9,458	-	-	-	-	-	25,000
Operating Supplies	15,673	9,537	-	-	-	-	-	25,210
Uniforms & protective Gear	660	402	-	-	-	-	-	1,062
Station One Pumping	11,619	7,071	3,739	-	-	-	-	22,428
Station One Chemicals	354,210	-	-	-	-	-	-	354,210
Subtotal								
Lawton Valley (Excludes pumping and chemicals)								
Salaries & Wages	285,789	173,915	-	-	-	-	-	459,704
Overtime	23,411	14,246	-	-	-	-	-	37,657
Holiday Pay	10,419	6,341	-	-	-	-	-	16,760
Employee Benefits	178,511	108,632	-	-	-	-	-	287,143
Annual Leave Buyback	2,466	1,500	-	-	-	-	-	3,966
Conferences & Training	1,865	1,135	-	-	-	-	-	3,000
Fire & Liability Insurance	11,572	7,042	-	-	-	-	-	18,614
Electricity	132,551	-	-	-	-	-	-	132,551
Natural Gas	18,594	11,315	-	-	-	-	-	29,909
Rental of Equipment	311	189	-	-	-	-	-	500
Sewer Charge	360,640	-	-	-	-	-	-	360,640
Gas/Vehicle Maintenance	4,900	2,982	-	-	-	-	-	7,882
Repairs & Maintenance	21,167	12,881	-	-	-	-	-	34,048
Operating Supplies	11,486	6,989	-	-	-	-	-	18,475
Uniforms & protective Gear	959	583	-	-	-	-	-	1,542
Lawton Valley Pumping	16,394	9,977	5,275	-	-	-	-	31,646
Lawton Valley Chemicals	169,977	-	-	-	-	-	-	169,977
Subtotal								

Base Extra Capacity Cost Allocations

	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$ Allocated
Laboratory								
Salaries & Wages	104,358	-	-	-	-	-	-	104,358
Employee Benefits	64,208	-	-	-	-	-	-	64,208
Annual Leave Buyback	2,750	-	-	-	-	-	-	2,750
Repairs & Maintenance	1,700	-	-	-	-	-	-	1,700
Regulatory Assessment	32,000	-	-	-	-	-	-	32,000
Laboratory Supplies	18,684	-	-	-	-	-	-	18,684
Subtotal								
Transmission and Distribution								
Salaries & Wages	216,630	131,828	69,703	-	-	-	-	418,161
Overtime	27,127	16,508	8,729	-	-	-	-	52,364
Temp Salaries	5,181	3,153	1,667	-	-	-	-	10,000
Injury Pay	-	-	-	-	-	-	-	-
Employee Benefits	130,298	79,292	41,925	-	-	-	-	251,514
Annual Leave Buyback	5,669	3,450	1,824	-	-	-	-	10,943
Conferences & Training	2,072	1,261	667	-	-	-	-	4,000
Contract Services	6,439	3,919	2,072	-	-	-	-	12,430
Fire & Liability Insurance	9,712	5,910	3,125	-	-	-	-	18,748
Electricity	9,720	5,915	3,127	-	-	-	-	18,762
Heavy Equipment Rental	4,279	2,604	1,377	-	-	-	-	8,260
Gas/Vehicle Maintenance	57,144	34,774	18,387	-	-	-	-	110,305
Repairs & Maintenance	13,469	8,197	4,334	-	-	-	-	26,000
Main Maintenance	18,132	11,034	5,834	-	-	-	-	35,000
Hydrant Maintenance	-	-	-	-	-	-	-	-
Service Maintenance	-	-	-	-	-	-	35,000	35,000
Operating Supplies	5,181	3,153	1,667	-	-	30,000	-	30,000
Uniforms & protective Gear	912	555	294	-	-	-	-	10,000
Subtotal								
Fire Protection	-	-	-	-	-	-	13,500	13,500
Total O&M Costs	4,274,700	1,020,040	173,744	276,580	273,749	93,171	48,500	6,160,484
Non-Administrative O&M								

	Base		Max Day		Max Hour		Metering		Billing		Services		Fire		Total \$	
	Base	1,395,751	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$	Allocated						
Water Supply	1,000,378	608,772	-	-	-	-	-	-	-	-	-	-	-	-	-	1,395,751
Treatment Station 1	316,168	192,401	-	-	-	-	-	-	-	-	-	-	-	-	-	1,609,150
Treatment Lawton Valley	407,014	247,686	-	-	-	-	-	-	-	-	-	-	-	-	-	508,569
Treatment Both Plants	33,592	20,442	10,809	-	-	-	-	-	-	-	-	-	-	-	-	654,700
T&D Pumping	811,058	493,563	260,966	-	-	-	-	-	-	-	-	-	-	-	-	64,843
T&D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,565,588
Fire	-	-	-	-	22,481	-	-	-	-	-	-	-	25,119	-	-	25,119
Meters	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,481
Services	-	-	-	-	-	-	-	22,481	-	-	-	22,481	-	-	-	22,481
Billing	-	-	-	-	-	-	-	-	207,398	-	-	-	-	-	-	207,398
Total Capital Costs	3,963,962	1,562,865	271,775	271,775	22,481	207,398	22,481	22,481	207,398	22,481	25,119	22,481	25,119	0%	6,076,079	100%
Revenue Allowance	65%	26%	4%	4%	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	254,733	100%
Total Costs before Offsets	8,493,394	2,582,905	445,519	445,519	299,061	481,147	115,652	115,652	481,147	115,652	73,619	73,619	73,619	1%	12,491,296	100%
OFFSETS	68%	21%	4%	4%	2%	4%	2%	2%	4%	1%	1%	1%	1%	1%	254,733	100%
Nonrate Revenues																
Sundry charges	67,690	19,641	3,345	3,345	5,325	5,271	1,794	1,794	5,271	1,794	934	934	934	0%	104,000	100%
WPC cost share on customer service	-	-	-	-	148,428	148,428	-	-	148,428	-	-	-	-	-	296,856	100%
Middletown cost share on customer service	-	-	-	-	71,753	71,753	-	-	71,753	-	-	-	-	-	143,506	100%
Rental of Property	70,402	20,428	3,479	3,479	5,539	5,482	1,866	1,866	5,482	1,866	971	971	971	0%	108,167	100%
Water Penalty	30,916	8,970	1,528	1,528	2,432	2,407	819	819	2,407	819	427	427	427	0%	47,500	100%
Miscellaneous	5,597	1,624	277	277	440	436	148	148	436	148	77	77	77	0%	8,600	100%
Investment Interest Income	2,538	737	125	125	200	198	67	67	198	67	35	35	35	0%	3,900	100%
Water Quality Protection Fees	22,500	-	-	-	-	-	-	-	-	-	-	-	-	-	22,500	100%
Total Nonrate Revenues	199,643	51,399	8,755	8,755	234,118	233,975	4,695	4,695	233,975	4,695	2,444	2,444	2,444	0%	735,029	100%
Net Costs To Recover Through Rates	\$ 8,293,751	\$ 2,531,506	\$ 436,764	\$ 436,764	\$ 64,943	\$ 247,172	\$ 110,957	\$ 110,957	\$ 247,172	\$ 110,957	\$ 71,175	\$ 71,175	\$ 71,175	\$ 71,175	\$ 11,756,267	100%

	Base	Max Day	Max Hour	Metering	Billing	Services	Fire	Total \$ Allocated
Non-Admin O&M Costs								
Less: Chemicals	\$ 4,274,700	\$ 1,020,040	\$ 173,744	\$ 276,580	\$ 273,749	\$ 93,171	\$ 48,500	\$ 6,160,484
Station One	(354,210)							\$ (354,210)
Lawton Valley	(169,977)							\$ (169,977)
Source Supply	(72,735)							\$ (72,735)
Electricity								\$ -
Source Supply	(162,297)							\$ (162,297)
Station One	-							\$ -
Lawton Valley	-							\$ -
Costs Adjusted	\$ 3,515,481	\$ 1,020,040	\$ 173,744	\$ 276,580	\$ 273,749	\$ 93,171	\$ 48,500	\$ 5,401,265
	65%	19%	3%	5%	5%	2%	1%	100%
Non-Administrative Labor								
Administration	187,962	54,538	9,290	14,788	14,637	4,982	2,593	288,789
Customer Service	0	0	0	128,413	116,547	36,776	0	281,735
Source of Supply - Island	297,800	0	0	0	0	0	0	297,800
Source of Supply - Mainland	32,881	0	0	0	0	0	0	32,881
Station One	328,899	200,149	0	0	0	0	0	529,049
Lawton Valley	322,085	196,002	0	0	0	0	0	518,087
Laboratory	107,108	0	0	0	0	0	0	107,108
Transmission/Distribution	254,607	154,939	81,922	0	0	0	0	491,468
Total	1,531,342	605,629	91,212	143,200	131,183	41,757	2,593	2,546,917
Percent	60%	24%	4%	6%	5%	2%	0%	100%

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule B-2
 Allocation of Costs to Water Rate Classes

Docket No. 4355

ALLOCATION PERCENTAGES Cost Category	Allocation Basis	Commodity Charges					Total % Allocated	
		Base Charge	Retail		Navy	Portsmouth		Fire
			Residential	Non-Residential				
Base	Average annual demand		41%	32%	9%	18%	0%	100%
Base Excluding PWFD			50%	40%	10%	0%	0%	100%
Base Excluding PWFD & 50% Navy			53%	42%	6%	0%	0%	100%
Water Quality Protection Fees			56%	44%	0%	0%	0%	100%
Total Base to Class			43%	34%	8%	15%	0%	100%
Max Day	Estimated customer peaking factors		28%	34%	5%	15%	18%	100%
Base Excluding PWFD			33%	40%	6%	0%	22%	100%
Max Day Excluding PWFD & 50% Navy			34%	41%	3%	0%	22%	100%
Total Max Day to Class			30%	36%	5%	10%	20%	100%
Max Hour	Estimated customer peaking factors		17%	25%	3%	8%	46%	100%
Base Excluding PWFD			19%	28%	4%	0%	50%	100%
Max Hour Excluding PWFD & 50% Navy			19%	28%	2%	0%	51%	100%
Total Max Hour to Class			19%	28%	2%	0%	51%	100%
Metering	Direct Assignment	100%						100%
Billing	Direct Assignment	100%						100%
Services	Direct Assignment	100%						100%
Fire	Direct Assignment						100%	100%

ALLOCATION RESULTS Cost Category	Rate Year	Commodity Charges					Total \$ Allocated	
		Base Charge	Retail		Navy	Portsmouth		Fire
			Residential	Commercial				
Base								
Base excluding T&D&WQPF & Pumping	7,108,765	2,903,978	2,302,635	610,723	1,291,431		7,108,765	
Transmission & Distribution	1,323,023	697,033	552,695	73,295	-		1,323,023	
Pumping	61,606	30,753	24,385	6,468	-		61,606	
Water Quality Protection Fees	(22,500)	(12,549)	(9,951)	-	-		(22,500)	
Revenue Offsets	(177,143)	(75,746)	(60,061)	(14,401)	(26,935)		(177,143)	
Administrative Charges	1,447,491	618,945	490,777	117,676	220,093		1,447,491	
Max Day								
Max Day Except T&D & Pumping	1,740,300	482,186	588,868	90,461	258,063	320,721	1,740,300	
Transmission & Distribution	805,116	270,156	329,927	25,341	-	179,691	805,116	
Pumping	37,490	12,196	14,894	2,288	-	8,112	37,490	
Revenue Offsets	(51,399)	(15,214)	(18,580)	(2,350)	(5,135)	(10,120)	(51,399)	
Administrative Charges	477,277	141,274	172,530	21,821	47,686	93,967	477,277	
Max Hour								
Max Hr. Except T&D & Pumping	-	-	-	-	-	-	-	
Transmission & Distribution	425,697	80,683	119,320	8,071	-	217,622	425,697	
Pumping	19,822	3,687	5,453	738	-	9,945	19,822	
Revenue Offsets	(8,755)	(1,658)	(2,452)	(173)	-	(4,472)	(8,755)	
Administrative Charges	77,268	14,633	21,640	1,528	-	39,468	77,268	
Metering	299,061	299,061	-	-	-	-	299,061	
Revenue Offsets	(234,118)	(234,118)	-	-	-	-	(234,118)	
Administrative Charges	116,787	116,787	-	-	-	-	116,787	
Services	115,652	115,652	-	-	-	-	115,652	
Revenue Offsets	(4,695)	(4,695)	-	-	-	-	(4,695)	
Administrative Charges	37,317	37,317	-	-	-	-	37,317	
Billing	481,147	481,147	-	-	-	-	481,147	
Revenue Offsets	(233,975)	(233,975)	-	-	-	-	(233,975)	
Administrative Charges	161,442	161,442	-	-	-	-	161,442	
Fire	73,619	-	-	-	-	73,619	73,619	
Revenue Offsets	(2,444)	-	-	-	-	(2,444)	(2,444)	
Administrative Charges	13,032	-	-	-	-	13,032	13,032	
Treatment Plant Capital Costs								
0	-	-	-	-	-	-	-	
0	-	-	-	-	-	-	-	
Total To Recover through Rates	\$ 14,086,881	\$ 738,618	\$ 5,150,357	\$ 4,532,078	\$ 941,485	\$ 1,785,202	\$ 939,141	\$ 14,086,881

COST OF SERVICE PER UNIT

Description of Billing Units	Metering						Total
	(1)	(2)	(2)	(2)	(2)	(3)	
Percentage of Dollars Allocated	equivalent meters x 12 months	1000's of gallons annually	1000's of gallons annually	1000's of gallons annually	1000's of gallons annually	Equivalent Connections	
Allocated Cost	\$ 181,731	\$ 5,150,357	\$ 4,532,078	\$ 941,485	\$ 1,785,202	\$ 854,934	\$ 14,086,881
Divided by: Number of Units	206,676	630,132	499,647	178,971	428,519	160,963	
Unit Cost of Service	\$0.8793	\$8.17	\$9.07	\$5.26	\$4.17	\$5.31	
	per equiv per month	per 1000 gallons	per 1000 gallons	per 1000 gallons	per 1000 gallons	Equivalent connections	

Description of Billing Units	Services		Hydrants
	No. of bills per year	Equivalent Connections	No. of Hydrants
Percentage of Dollars Allocated	2.9%	1.1%	0.6%
Allocated Cost	\$ 408,614	\$ 148,274	\$ 84,207
Divided by: Number of Units	64,799	275,077	1,035
Unit Cost of Service	\$6.3059	\$0.5390	\$81.3592
	per bill	per equiv	per Hydrant

(1) From JDM Schedule D-1, 'Water Accounts, by Size and Class'.
 (2) From JDM Schedule B-6, 'Water Demand History'.
 (3) From JDM Schedule D-2, 'Fire Protection Accounts'.

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule B-3
 Cost Allocation Bases

Allocation Basis	Used to allocate the following cost categories	Source Schedule	Base	Max Day	Max Hour	Metering	Billing	Services	Direct Fire Protection	Total % Allocated
Average Day Demand Patterns	Supply, Laboratory	N/A	100%							100%
Maximum Day Demand Patterns	Treatment	B-1	62%	38%	0%					100%
Maximum Hour Demand Patterns	Pumping, Transmission/Distribution, Storage	B-1	52%	32%	17%					100%
Fire Protection	Public/Private Fire Protection Costs	D-2							100%	100%
Non Admin less electricity & chemicals	Administration Salaries, Wages, & Benefits	B-1	65%	19%	3%	5%	5%	2%	1%	100%
Customer Service Salaries and Wages	Customer Service Salaries, Wages, & Benefits	B-4	0%	0%	0%	46%	41%	13%	0%	100%
Non-Administrative Wages & Salaries	Administrative Labor Related	B-1	60%	24%	4%	6%	5%	2%	0%	100%
Capital Costs	Certain Legal and Administrative	B-1	65%	26%	4%	0%	3%	0%	0%	0%
Total Non-Admin Costs before Offsets	Certain Legal and Administrative	B-1	68%	21%	4%	2%	4%	1%	1%	100%
Other Costs	Administration Non-Salary Costs	B-1	65%	19%	3%	5%	5%	2%	1%	100%
Treatment Plant Capital										

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule B-4
 Allocation Analyses

Administration 15-500-2200

Salaries by Staff Position	
Director of Utilities	\$ 63,851
Administrative Secretary	\$ 27,753
Deputy Director - Finance	\$ 58,372
Deputy Director - Engineering	\$ 55,027
Financial Analyst	\$ 68,886
Salary \$ Allocation Results	\$ 273,889

Resulting % Allocation of Administration Salaries, Wages, & Benefits

Allocation of Salary Costs							Total Allocated
Base	Max Day	Max Hour	Metering	Billing	Services	Direct Fire Protection	
65%	19%	3%	5%	5%	2%	1%	100%
65%	19%	3%	5%	5%	2%	1%	100%
65%	19%	3%	5%	5%	2%	1%	100%
65%	19%	3%	5%	5%	2%	1%	100%
\$ 178,264	\$ 51,725	\$ 8,810	\$ 14,025	\$ 13,881	\$ 4,725	\$ 2,459	\$ 273,889
65%	19%	3%	5%	5%	2%	1%	100%

Customer Service 15-500-2209

Salaries by Staff Position	
Meter Repairman/Reader	\$ 36,757
Meter Repairman/Reader	\$ 38,996
Principal Account Clerk	\$ 35,687
Meter Repairman/Reader	\$ 46,483
Maintenance Mechanic	\$ 45,889
SAE - Sr. Maintenance Mechanic	\$ -
Water Meter Foreman	\$ 52,523
Salary \$ Allocation Results	\$ 256,335

Resulting % Allocation of Customer Service Salaries, Wages, & Benefits

50%	50%	100%	33%	33%	34%	0%	100%
50%	50%	100%	33%	33%	34%	0%	100%
100%	100%	100%	100%	33%	34%	0%	100%
33%	33%	33%	33%	33%	34%	0%	100%
100%	100%	100%	100%	33%	34%	0%	100%
\$ 116,835	\$ 106,039	\$ 33,460	\$ 106,039	\$ 33,460	\$ 0	\$ 256,335	
46%	41%	13%	41%	13%	0%	100%	

Treatment Plant Capital

	Base (Avg. Day)	Max Day	Total
Treatment Station 1	\$ 1,609,150	\$ 1,000,378	\$ 608,772
Treatment Lawton Valley	\$ 508,569	\$ 316,168	\$ 192,401
Treatment Both Plants	\$ 654,700	\$ 407,014	\$ 247,686
	\$ 2,772,419	\$ 1,723,560	\$ 1,048,859
			\$ 2,772,419

	Residential	Non-Residential	Navy	PWFD	Fire	Treatment Plant Capacity
Capacity Reserved for Avg. Day Demand (MGD) ¹	3.02	2.39	0.95	1.64	N/A	8
% of Avg. Day Treatment Capacity	37.7%	29.9%	11.9%	20.5%	N/A	100%
Capacity Reserved for Max. Day Demand (MGD) ¹	5.12	5.05	1.395	3.00	1.44	16
% of Max. Day Treatment Capacity	31.99%	31.54%	8.72%	18.75%	9.00%	100%

Per Demand study to determine required treatment capacity after DB treatment plant projects

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule B-5
 Capital Functionalization

Functional Break Down of Existing Fixed Assets

	Supply	Treatment Station 1	Treatment Lawton Valley	Treatment Both Plants	T&D	T&D Pump	Fire	Meters	Services	Billing
TRANSMISSION/DISTRIBUTION	\$ 20,846,331				100%					100%
LAWTON VALLEY	\$ 7,116,282									100%
STATION 1	\$ 22,516,441	100%								100%
TREATMENT BOTH	\$ 9,161,055		100%							100%
STORAGE	\$ 1,060,548				100%					100%
SOURCE OF SUPPLY	\$ 19,453,649							50%		100%
METERS/SERVICES	\$ 629,135							50%		100%
T&D PUMPING	\$ 907,332				100%					100%
BILLING	\$ 2,902,066									100%
FIRE	\$ 351,481					100%				100%
WORK IN PROGRESS	\$ -									100%
Total	\$ 84,944,321									100%
LABORATORY	\$ 80,000	100%	0%	0%	0%	0%	0%	0%	0%	100%
LAND AND ROW	\$ 3,594,491	25%	8%	11%	26%	1%	0%	0%	0%	3%
Total	\$ 3,674,491									100%

Total Fixed Assets \$ 88,618,812

	Supply	Treatment Station 1	Treatment Lawton Valley	Treatment Both Plants	T&D	T&D Pump	Fire	Meters	Services	Billing	Total
TRANSMISSION/DISTRIBUTION	\$ 20,846,331				\$ 20,846,331						\$ 20,846,331
LAWTON VALLEY	\$ 7,116,282		7,116,282								\$ 7,116,282
STATION 1	\$ 22,516,441	22,516,441									\$ 22,516,441
TREATMENT BOTH	\$ 9,161,055			9,161,055							\$ 9,161,055
STORAGE	\$ 1,060,548				1,060,548						\$ 1,060,548
SOURCE OF SUPPLY	\$ 19,453,649							314,568	314,568		\$ 19,453,649
METERS/SERVICES	\$ 629,135										\$ 629,135
T&D PUMPING	\$ 907,332				907,332						\$ 907,332
BILLING	\$ 2,902,066									2,902,066	\$ 2,902,066
FIRE	\$ 351,481						351,481				\$ 351,481
WORK IN PROGRESS	\$ -										\$ -
Total	\$ 84,944,321	\$ 22,516,441	\$ 7,116,282	\$ 9,161,055	\$ 21,906,879	\$ 907,332	\$ 351,481	\$ 314,568	\$ 314,568	\$ 2,902,066	\$ 84,944,321
LABORATORY	\$ 80,000	26.51%	8.38%	10.78%	25.79%	1.07%	0.41%	0.37%	0.37%	3.42%	\$ 80,000
LAND AND ROW	\$ 3,594,491	952,802	301,132	387,658	927,008	38,395	14,873	13,311	13,311	122,803	\$ 3,594,491
Total Allocated	\$ 20,356,847	23.46%	8.37%	10.78%	25.77%	1.07%	0.41%	0.37%	0.37%	3.41%	\$ 20,356,847

Newport Water Division
Cost Of Service Analysis
JDM Schedule B-5
Capital Functionalization

Functionalization of Capital Costs

	Supply	Treatment Station 1	Treatment Lawton Valley	Treatment Both Plants	T&D	T&D Pump	Fire	Meters	Services	Billing	
Capital Spending Restricted Account	\$ 23%	26%	8%	11%	26%	1%	0%	0%	0%	3%	100%
Debt Service	\$ 23%	26%	8%	11%	26%	1%	0%	0%	0%	3%	100%
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
	2,500,000										2,500,000
	3,576,079										3,576,079
											6,076,079

	Supply	Treatment Station 1	Treatment Lawton Valley	Treatment Both Plants	T&D	T&D Pump	Fire	Meters	Services	Billing	Total
Capital Spending Restricted Account	\$ 574,281	\$ 662,084	\$ 209,251	\$ 269,376	\$ 644,160	\$ 26,680	\$ 10,335	\$ 9,250	\$ 9,250	\$ 85,334	\$ 2,500,000
Debt Service	\$ 821,470	\$ 947,066	\$ 299,319	\$ 385,324	\$ 921,427	\$ 38,163	\$ 14,784	\$ 13,231	\$ 13,231	\$ 122,064	\$ 3,576,079
	\$ 1,395,751	\$ 1,609,150	\$ 508,569	\$ 654,700	\$ 1,565,588	\$ 64,843	\$ 25,119	\$ 22,481	\$ 22,481	\$ 207,398	\$ 6,076,079

	Annual Demand in 1000s Gallons										Baseline	Rate Year	
	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	3-Year Average	Docket 4243
Residential	773,872	780,666	736,577	716,037	749,409	734,137	780,264	690,544	644,285	640,966	618,574	634,608	630,132
Commercial	580,798	583,184	663,766	573,711	493,539	456,486	505,014	519,521	457,376	502,475	472,437	477,429	499,647
Navy	307,051	348,222	511,299	417,869	373,306	278,441	247,728	225,392	173,790	137,731	222,858	178,126	178,971
Portsmouth	455,142	451,723	422,944	429,465	463,253	445,232	473,338	444,777	412,324	398,827	407,837	406,329	428,519
Total (in 1000's Gallons)	2,116,863	2,163,795	2,334,586	2,137,082	2,079,508	1,914,297	2,006,344	1,880,234	1,687,775	1,679,999	1,721,705	1,696,493	1,737,269
		2.2%	7.9%	-8.5%	-2.7%	-7.9%	4.8%	-6.3%	-10.2%	-0.5%	2.5%		

	Combined Station #1 and LV WTP Production Volumes in 1,000 gals					Peaking Comparison			
	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	Production Peaks	System Peaks Estimated from Daily Demand Data	System Diversity Ratio (1)
Annual Production	2,456,363	2,524,784	2,437,440	2,440,630	2,304,024	2,165,686	2,467,618		
Average Day Production	6,730	6,917	6,678	6,687	6,312	5,933	6,761		
Maximum Month Production	256,796	269,819	280,875	254,088	268,468	256,324	268,261		
Maximum Day Production	10,165	10,724	12,100	9,800	10,163	10,118	10,875		
Max Day Date	6/28/2007	8/4/2007	7/18/2008	8/23/2010	7/23/2011	7/7/2012			
Maximum Day Peaking Factor	1.51	1.55	1.81	1.47	1.61	1.71	1.61	1.99	1.23
Max-Day to Avg. Day/Max-Month Ratio	1.19	1.23	1.34	1.20	1.17	1.22	1.26	1.26	
Maximum Hour	13,800	15,200	13,250	10,700	12,100	12,500	13,050	13,050	
Maximum Hour Peaking Factor	2.05	2.20	1.98	1.60	1.92	2.11	1.93	2.77	1.44

Coincident Noncoincident
 Excluding Fire Protection

(1) Calculated according to AWWA M-1 Guidelines

Billed Demand Peaking Analysis: Determination of Customer Class Peaking Factors

Estimation of Each Customer Class' Peaking Factors

Customer Class	Max Day Demand Factor From Daily Read Demand Study	Max Hour Demand Factor From Daily Read Demand Study
Residential	1.82	2.43
Commercial	2.26	3.39
Navy	1.73	2.31
Portsmouth	1.99	2.65
Fire	1.99	2.77
Estimated Systemwide Peaks		

(5)

(5) Fire peaking behavior is estimated using a separate methodology demonstrated in JDM Schedule B-11, 'Fire Protection Demand Analysis'.

Rate Year Demand (1,000 gallons)						
Customer Class	Annual Demand	Average Daily Demand	Lost Water Adjustment	Adjusted Average Daily Demand	% Average Demand by Class	% Average Demand Ex PWFD & 50% PWFD
Residential	630,132	1,726	914	2,640	40.85%	53%
Commercial	499,647	1,369	724	2,093	32.39%	42%
Navy	178,971	490	65	555	8.59%	6%
Portsmouth	428,519	1,174	-	1,174	18.17%	0%
Fire					N/A	N/A
Total, w Fire Prot.	1,737,269	4,760	26%	6,462	100%	100%
<i>Production</i>	2,358,811	6,462	26.35%			

Allocation of UAW for Demand Analysis
 53.7%
 42.5%
 3.8%

Customer Class	Max Day Calculations			Max Hour Calculations			% of Daily Peaks		% of Hourly Peaks	
	Max Day Peaking Factor	Demand x Peaking Factor (3)	Incremental Peak Demand	Max Hour Peaking Factor	Demand x Peaking Factor (3)	Incremental Peak Demand	With Full PWFD & Navy	Without PWFD & 50% Navy	With Full PWFD & Navy	Without PWFD & 50% Navy
Residential	1.82	4,805	2,165	2.43	6,407	1,602	27.7%	33.6%	17.1%	19.0%
Commercial	2.26	4,737	2,644	3.39	7,106	2,369	33.8%	41.0%	25.2%	28.0%
Navy	1.73	961	406	2.31	1,282	320	5.2%	3.1%	3.4%	1.9%
Portsmouth	1.99	2,333	1,159	2.65	3,110	778	14.8%	0.0%	8.3%	0.0%
Fire		1,440	1,440		5,760	4,320	18.4%	22.3%	46.0%	51.1%
Total, w Fire Prot.		14,276	7,814		23,665	9,388	100.0%	100.0%	100.0%	100.0%
Total, without Fire Protection		12,836	6,374		17,905	5,068				

(demand is in thousands of gallons)

(1) From JDM Schedule D-4. The lost water adjustment is made to the peaking analysis so that Portsmouth will not share in that portion of certain operating costs.
 Navy allocation is reduced to 25%.

(2) From JDM Schedule B-11, Fire Protection Demand Analysis'.

Summary of Peak Load Distributions (by Rate Class and Base/Extra-Capacity Categories)

EACH RATE CLASS' SHARE OF SYSTEM PEAKS

Rate Class	Average Demand	Daily Peaks	Hourly Peaks
Retail			
7 Residential	41%	28%	17%
Commercial	32%	34%	25%
Navy	9%	5%	3%
Portsmouth	18%	15%	8%
Fire	N/A	18%	46%
	100%	100%	100%

Percentages are from JDM Schedule B-9, 'System Demands Imposed by Each Customer Class' Peaking Behavior'.

BASE/EXTRA-CAPACITY DISTRIBUTION OF SYSTEM PEAKS

	Incremental Demand	% Distribution for Max Day	% Distribution for Max Hour
Base	6,761	62.2%	51.8%
Extra Capacity			
Max Day	4,114	37.8%	31.5%
Max Hour	2,175		16.7%
Fire Protection			
Max Day	-	0.0%	0.0%
Max Hour	-		0.0%
Total%		100.0%	100.0%
Total 1,000's Gallons		10,875	13,050

Incremental demand data is from JDM Schedule B-11, 'Fire Protection Demand Analysis' and from JDM Schedule B-9, 'System Demands Imposed by Each Customer Class' Peaking Behavior'.

FIRE PROTECTION ASSUMPTIONS

Fire Protection Flow (gals per minute)	4,000
Hourly Fire Protection Flow (1000's of gallons)	240
Length of Fire Event (in hours)	6

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-1
 Water Accounts, by Size and Class

Connection Size	Meter Factors	COMMERCIAL						RESIDENTIAL						WHOLESALE (Monthly)					
		Meter Read Frequency		Equivalent Meters		Meter Read Frequency		Equivalent Meters		Meter Read Frequency		Equivalent Meters		Navy		Portsmouth			
		Monthly	Quarterly	Monthly	Quarterly	Monthly	Quarterly	Monthly	Quarterly	Monthly	Quarterly	Meters	Equivalents	Meters	Equivalents				
5/8	1.0	98	576	98	576	12	9,999	12	9,999	0	9,999	0	0	0	0	0	0		
3/4	1.1	53	173	58	190	10	2,241	11	2,465	1	2,465	1	1	0	0	0	0		
1	1.4	141	42	197	59	24	349	34	489	0	0	0	0	0	0	0	0		
1.5	1.8	145	29	261	52	30	157	54	283	3	283	5	5	0	0	0	0		
2	2.9	173	16	502	46	42	43	122	125	0	0	0	0	0	0	0	0		
3	11.0	38	6	418	66	12	11	132	121	0	0	0	0	0	0	0	0		
4	14.0	10	3	140	42	1	0	14	0	0	0	0	0	0	1	1	14		
5	18.0	1	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0		
6	21.0	11	1	231	21	1	3	21	63	10	210	210	210	0	0	0	0		
8	29.0	0	0	0	0	1	0	29	0	0	0	0	0	0	0	0	0		
10	43.5	0	0	0	0	0	0	0	0	1	44	44	44	0	0	0	0		
Total	14,468	670	846	1,923	1,052	133	12,803	429	13,545	15	260	260	260	1	1	14	14		

1,516
12,936

1,523
12,936

Equivalent Meter Units	
2,626	31,512
14,597	175,164
N/A	N/A
Total	206,676

Equivalent Billing Units	
819	9,828
13,649	54,596
375	375
Total	64,799

Billed Monthly
 Billed Quarterly
 Billed Annually

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-2
 Fire Protection Accounts

Connection Size	Existing Differential	Number of Connections	Equivalent Connections (2)	
			Number of Connections	% of Equiv Connections
6	111.31	618	68,790	
6	111.31	408	45,415	
6	111.31	9	1,002	
Subtotal: Public Hydrants			1035	115,207
				72%

Private Fire Connections

2	6.19	4	25	
4	38.32	62	2,376	
6	111.31	245	27,271	
8	237.21	62	14,707	
10	426.58	0	-	
12	689.04	2	1,378	
Subtotal: Private Fire Connections		375	45,757	28%
Total Fire Connections		1,410	160,963	100%

(1) Demand factors are based on the principles of the Hazen-Williams equation for flow through pressure conduits. For more information, see the AWWA M1 rate manual chapter on fire protection charges.

(2) Equivalent connections are arrived at by multiplying the number of connections by the demand factor.

Connection		Service Cost	No. of Services	Equivalent Connections
Size				
5/8		1,000	10,685	10,685
3/4		1,000	2,478	2,478
1		1,860	556	1,034
1.5		4,630	364	1,685
2		6,150	274	1,685
3		11,060	67	741
4		11,060	15	166
5		11,060	1	11
6		11,060	26	288
8		11,060	1	11
10		11,060	1	11
Subtotal General Service			14,468	18,795
				82%

Subtotal General Service

Private Fire Connections

2	6.150	4	25	
4	11,060	62	686	
6	11,060	245	2,710	
8	11,060	62	686	
10	11,060	0	-	
12	11,060	2	22	
Subtotal: Private Fire Connections		375	4,128	18%

Subtotal: Private Fire Connections

Annualized	12
Total Retail & Private Fire Connections	14,843
	275,077
	100%

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-3
 Production Summary

	Station #1		Lawton Valley		Combined	
	In Gallons	In 1000's	In Gallons	In 1000's	In Gallons	In 1000's
Max. Month June	1,176,356,210	1,176,356	1,280,006,852	1,280,007	2,456,363,062	2,456,363
	116,724,700	116,725	140,288,300	140,288	256,795,580	256,796
FY 07 JULY 2006 - JUNE 2007			August	August		
Max. Month August	1,268,356,660	1,268,357	1,256,427,700	1,256,428	2,524,784,360	2,524,784
	141,803,530	141,804	144,357,900	144,358	269,619,450	269,619
FY 08 JULY 2007 - JUNE 2008			July	July		
Max. Month March	1,152,697,400	1,152,697	1,284,742,500	1,284,743	2,437,439,900	2,437,440
	110,288,000	110,288	177,163,200	177,163	280,874,500	280,875
FY 09 JULY 2008 - JUNE 2009			July	July		
Max. Month October	1,333,422,150	1,333,422	1,107,207,665	1,107,208	2,440,629,815	2,440,630
	121,112,610	121,113	139,731,200	139,731	254,088,090	254,088
FY 10 JULY 2009 - JUNE 2010			August 2009	August 2009		
Max. Month July	1,242,460,000	1,242,460	1,061,564,200	1,061,564	2,304,024,200	2,304,024
	136,103,000	136,103	133,325,700	133,326	268,467,600	268,468
FY 11 JULY 2010 - JUNE 2011			August 2010	July 2010		
Max. Month July	981,876,000	981,876	1,183,810,000	1,183,810	2,165,685,750	2,165,686
	110,561,700	110,562	145,762,800	145,762	256,323,700	256,324
FY 12 JULY 2011 - JUNE 2012			July	July		

MAX DAY PRODUCTION AVAILABLE FOR SALE

	Station #1		Lawton Valley		Combined	
	Date	Max Day Production In Gallons	Date	Max Day Production In Gallons	Date	Max Day Production In Gallons
FY 07 JULY 2006 - JUNE 2007	8/2/2006	5,114,940	8/14/2006	5,958,100	6/28/2007	10,165,100
		5,115		5,958		10,165
		includes booster to LV at 1,256,000 Gallons				
FY 08 JULY 2007 - JUNE 2008	8/25/2007	6,179,670	6/10/2008	6,805,400	8/4/2007	10,723,620
		6,180		6,805		10,724
		includes booster to LV at 2,251,000 Gallons				
FY 09 JULY 2008 - JUNE 2009	7/20/2008	4,341,000	7/18/2008	7,845,700	7/18/2008	12,100,100
		4,341		7,846		12,100
		includes booster to LV at 324,000 Gallons				
FY 10 JULY 2009 - JUNE 2010	10/10/2009	4,664,000	8/27/2009	6,168,500	8/23/2010	9,800,400
		4,664		6,169		9,800
FY 11 JULY 2010 - JUNE 2011	7/4/2011	5,729,355	8/3/2011	5,654,800	7/23/2011	10,162,555
		5,729		5,655		10,163
FY 12 JULY 2011 - JUNE 2012	7/6/2012	4,624,292	7/7/2012	5,869,900	7/7/2012	10,118,190
		4,624		5,870		10,118

PEAK HOURLY FLOW

Date	Station #1	Lawton Valley
7/6/2006	5.8 MGD	8.0 MGD
8/26/2007	7.2 MGD	8.0 MGD
7/18/2008	5.25 MGD	8.0 MGD
9/2/2009	4.70 MGD	6.0 MGD
10/15/2010	6.10 MGD	6.0 MGD
7/5/2011	6.50 MGD	6.0 MGD

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-4
 Demand Summary

	FY 2009	FY 2010	FY 2011	FY 2012
Fiscal Year Annual Demand				
Residential	690,544	644,285	640,966	618,574
Commercial (includes governmental)	519,521	457,376	502,475	472,437
Navy	225,392	173,790	137,731	222,858
Portsmouth	444,777	412,324	398,827	407,837
Total 1000's Gallons	1,880,234	1,687,775	1,679,999	1,721,705
	-6.3%	-10.2%	-0.5%	2.5%

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-5
 Development of Pumping Costs

Pumping Labor and Benefits

Station One		Lawton Valley	
Labor hours per day pump	0.5000	Labor hours per day pumping	0.2500
Days per year	365	Days per year	365
Total Hours	182.5000	Total Hours	91.2500
Average per hour pay	\$23.06	Average per hour pay	\$22.07
Average per hour benefit:	\$10.82	Average per hour benefits	\$11.69
Pumping Salaries	\$4,208.45	Pumping Salaries	\$2,013.89
Pumping Benefits	\$1,974.65	Pumping Benefits	\$1,066.71

Pumping Repairs and Supplies

Station One		Lawton Valley	
50275 Repair & Maintenance - Equipment		Repair & Maintenance - Equipment	
None	\$0.00	Vendor	amount
Total Repair & Maintenance Pumping	\$0.00	NAPA Auto Partd	\$622.90
		Ralco Electric	\$328.83
		Total Repair & Maintenance Pumping	\$951.73
50311 Operating Supplies		Operating Supplies	
Vendor	amount	Vendor	amount
National Electric Testing	\$60.00	National Electric Testing	\$300.00
ABB Inc.	\$1,122.00	Ralco Electric	\$525.00
RE Erickson	\$1,140.00	Harbor Controls	\$1,000.00
Ralco	\$268.00		
Total - Operating Supplies - Pumping	\$2,590.00	Total Operating Supplies Pumping	\$1,825.00

Pumping Electricity

Station One		Lawton Valley	
Annual Pumping Power	\$13,655	Annual Pumping Power	\$25,789

Total Pumping Costs

Station One		Lawton Valley	
Pumping Salaries	\$4,208	Pumping Salaries	\$2,014
Pumping Benefits	\$1,975	Pumping Benefits	\$1,067
Total Repair & Maintenance Pumping	\$0	Total Repair & Maintenance Pumping	\$952
Total - Operating Supplies - Pumping	\$2,590	Total Operating Supplies Pumping	\$1,825
Annual Pumping Power	\$13,655	Annual Pumping Power	\$25,789
Total Annual Pumping Costs	\$22,428	Total Annual Pumping Costs	\$31,646

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-6
 Debt Service Restricted Account Cashflow

	July	August	September	October	November	December	January	February	March	April	May	June
FY 2012												
Debt Service Account												
Beginning Cash Balance	\$ 1,889,949	\$ 1,889,964	\$ 2,325,118	\$ 1,789,176	\$ 1,952,744	\$ 1,555,935	\$ 1,688,396	\$ 1,820,952	\$ 1,953,399	\$ 1,795,553	\$ 1,928,001	\$ 2,060,448
Additions												
From Rates		\$335,137	\$167,569	\$167,569	\$167,569	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447
Interest Income	15	17	18	14	15	14	708					
Total Additions	\$ 15	\$ 335,154	\$ 167,587	\$ 167,583	\$ 167,584	\$ 132,461	\$ 132,358	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447
Deductions												
Existing Debt Service			703,529	4,015	564,393				290,293			
Proposed Debt Service			703,529	4,015	564,393				290,293			
Total Deductions	\$ -	\$ -	\$ 703,529	\$ 4,015	\$ 564,393	\$ -	\$ -	\$ -	\$ 290,293	\$ -	\$ -	\$ -
Ending Cash Balance	\$ 1,889,964	\$ 2,325,118	\$ 1,789,176	\$ 1,952,744	\$ 1,555,935	\$ 1,688,396	\$ 1,820,952	\$ 1,953,399	\$ 1,795,553	\$ 1,928,001	\$ 2,060,448	\$ 2,192,896

Annual Contribution From Rates
 \$ 1,764,974

Annual Debt Service Payments
 \$ 1,862,229

	July	August	September	October	November	December	January	February	March	April	May	June
FY 2013												
Debt Service Account												
Beginning Cash Balance	\$ 2,192,896	\$ 2,325,343	\$ 2,457,790	\$ 1,070,862	\$ 1,203,310	\$ 1,335,757	\$ 1,468,205	\$ 1,600,652	\$ 1,733,099	\$ 1,163,231	\$ 1,461,238	\$ 1,759,244
Additions												
From Rates	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$132,447	\$298,007	\$298,007	\$298,007
Interest Income												
Total Additions	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 132,447	\$ 298,007	\$ 298,007	\$ 298,007
Deductions												
Existing Debt Service			1,452,264						267,365			
Proposed Debt Service (\$53.1 M Loan)			67,111						404,951			
Total Deductions	\$ -	\$ -	\$ 1,519,375	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 702,316	\$ -	\$ -	\$ -
Ending Cash Balance	\$ 2,325,343	\$ 2,457,790	\$ 1,070,862	\$ 1,203,310	\$ 1,335,757	\$ 1,468,205	\$ 1,600,652	\$ 1,733,099	\$ 1,163,231	\$ 1,461,238	\$ 1,755,244	\$ 2,057,251

% Increase in DS Allowance
 125%

Annual Contribution From Rates
 \$ 2,086,046

Annual Debt Service
 \$ 2,221,691

(1) Estimated debt service on \$53M borrowing projected to close in June 2012.

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-6
 Debt Service Restricted Account Cashflow

	July	August	September	October	November	December	January	February	March	April	May	June
FY 2014												
0%												
% Increase in DS Allowance Debt Service Account												
Beginning Cash Balance	\$ 2,057,251	\$ 2,355,257	\$ 2,653,264	\$ 1,116,713	\$ 1,414,719	\$ 1,712,726	\$ 2,010,732	\$ 2,308,739	\$ 2,606,746	\$ 1,539,682	\$ 1,837,689	\$ 2,135,696
From Rates	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007	\$298,007
Interest Income	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007	\$ 298,007
Total Additions												
Deductions												
To Capital Restricted Acct.			1,074,138						284,800			
Existing Debt Service			710,288						776,557			
Proposed Debt Service (\$53.1 M Loan)												
Proposed Debt Service (\$26.9 M Loan)			50,122						303,713			
Total Deductions	\$ -	\$ -	\$ 1,834,568	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,365,070	\$ -	\$ -	\$ -
Ending Cash Balance	\$ 2,355,257	\$ 2,653,264	\$ 1,116,713	\$ 1,414,719	\$ 1,712,726	\$ 2,010,732	\$ 2,308,739	\$ 2,606,746	\$ 1,539,682	\$ 1,837,689	\$ 2,135,696	\$ 2,433,702

Annual Contribution From Rates
\$3,576,079

Annual Debt Service
\$ 3,199,628

	July	August	September	October	November	December	January	February	March	April	May	June
FY 2015												
91%												
% Increase in DS Allowance Debt Service Account												
Beginning Cash Balance	\$ 2,433,702	\$ 3,002,910	\$ 3,572,119	\$ 38,594	\$ 607,801	\$ 1,177,009	\$ 1,746,215	\$ 2,315,516	\$ 2,884,723	\$ 1,736,288	\$ 2,305,496	\$ 2,874,703
From Rates	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193	\$569,193
Interest Income	15	17	260,018	14	15	14	108	15	15	15	15	15
Total Additions	\$ 569,208	\$ 569,210	\$ 829,211	\$ 569,207	\$ 569,208	\$ 569,206	\$ 569,301	\$ 569,208	\$ 569,208	\$ 569,208	\$ 569,208	\$ 569,208
Deductions												
Existing Debt Service			1,091,978						271,435			
Proposed Debt Service (\$53.1 M Loan)			2,721,710						762,552			
Proposed Debt Service (\$26.9 M Loan)			532,511						582,418			
Proposed Debt Service (\$5.0 M Loan)			16,637						101,238			
Total Deductions	\$ -	\$ -	\$ 4,362,736	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,717,643	\$ -	\$ -	\$ -
Ending Cash Balance	\$ 3,002,910	\$ 3,572,119	\$ 38,594	\$ 607,801	\$ 1,177,009	\$ 1,746,215	\$ 2,315,516	\$ 2,884,723	\$ 1,736,288	\$ 2,305,496	\$ 2,874,703	\$ 3,443,911

Annual Contribution From Rates
\$6,830,311

Annual Debt Service
\$ 6,080,379

Newport Water Division
 Cost Of Service Analysis
 JDM Schedule D-7
 Demand Factor Calculations

Demand Factors For COS Model	Residential	Non-Residential	Navy	PWFD
Summer 2011 Max. Day Demand Factor	1.78	2.18	1.49	1.91
Summer 2012 Max. Day Demand Factor	1.86	2.35	1.97	2.07
Two Year Average Max. Day Demand Factor	1.82	2.26	1.73	1.99
Summer 2011 Max. Hour Demand Factor	2.37	3.27	1.99	2.54
Summer 2012 Max. Hour Demand Factor	2.49	3.52	2.62	2.75
Two Year Average Max. Hour Demand Factor	2.43	3.39	2.31	2.65

Newport Water Division
 Cost Of Service Analysis
 HJS Schedule D-7
 Demand Factor Calculations

Summer 2011

	Residential	Commercial	Navy	PWFD
Annual Average Day ¹	16,973	58,419	421,795	1,128,293
Daily Read Maximum Day ²	30,139	127,359	630,462	2,153,297
Maximum Day Demand Factor	1.78	2.18	1.49	1.91

1-Total Consumption by Daily Read Accounts for 12 Mo. Including Daily Sample Period/365

2 - Class maximum day from daily read data

Max Day Diversity Factor Calculation	Residential	Commercial	Navy	PWFD	
Class Average Day (mgd)	2.60	1.94	0.51	1.13	
Class MD Demand Factor	1.78	2.18	1.49	1.91	Total MD Demand
Max Day Demand (Avg. Day X MD Demand Factor)	4.62	4.23	0.76	2.15	11.8
System Average Day (mgd)	6.2				
System Maximum Day (mgd)	10.2				
System Maximum Hour (mgd)	12.1				
Noncoincident MD Capacity Factor	11.8	/	6.2	=	1.90
Coincident MD Capacity Factor	10.2	/	6.2	=	1.65
System MD Diversity	1.90	/	1.65	=	1.16

Maximum Hour Demand Factor Calculation

	Residential	Commercial	Navy	PWFD
MD Capacity Factor	1.78	2.18	1.49	1.91
Estimated Maximum-Hour (MH)/MD Ratio ³	1.33	1.50	1.33	1.33
Calculated MH Capacity Factor	2.37	3.27	1.99	2.54

Max Hour Diversity Factor Calculation

	Residential	Commercial	Navy	PWFD	
Class Average Day (mgd)	2.60	1.94	0.51	1.13	
Class MH Demand Factor	2.37	3.27	1.99	2.54	Total MH Demand
Max Hour Demand (Avg. Day X MH Demand Factor)	6.2	6.3	1.0	2.9	16.38
System Average Day (mgd)	6.2				
System Maximum Day (mgd)	10.2				
System Maximum Hour (mgd)	12.1				
Noncoincident MH Capacity Factor	16.4	/	6.2	=	2.65
Coincident MH Capacity Factor	12.1	/	6.2	=	1.96
System MH Diversity	2.65	/	1.96	=	1.35

3- MH/MD Ratio Assumptions:

- Residential =24 hr. / 18 hr.
- Commercial =24 hr. / 16 hr.
- Navy =24 hr. / 18 hr.
- PWFD =24 hr. / 18 hr.

Newport Water Division
 Cost Of Service Analysis
 HJS Schedule D-7
 Demand Factor Calculations

Summer 2012

	Residential	Commercial	Navy	PWFD
Annual Average Day ¹	16,366	57,808	616,576	1,127,654
Daily Read Maximum Day ²	30,513	135,620	1,213,663	2,329,051
Maximum Day Demand Factor	1.86	2.35	1.97	2.07

1-Total Consumption by Daily Read Accounts for 12 Mo. Including Daily Sample Period/365

2 - Class maximum day from daily read data

Max Day Diversity Factor Calculation

	Residential	Commercial	Navy	PWFD	
Class Average Day (mgd)	2.37	1.76	0.66	1.13	
Class MD Demand Factor	1.86	2.35	1.97	2.07	Total MD Demand
Max Day Demand (Avg. Day X MD Demand Factor)	4.42	4.12	1.29	2.33	12.2
System Average Day (mgd)	5.9				
System Maximum Day (mgd)	10.1				
System Maximum Hour (mgd)	12.6				
Noncoincident MD Capacity Factor	12.2	/	5.9	=	2.06
Coincident MD Capacity Factor	10.1	/	5.9	=	1.71
System MD Diversity	2.06	/	1.71	=	1.20

Maximum Hour Demand Factor Calculation

	Residential	Commercial	Navy	PWFD
MD Capacity Factor	1.86	2.35	1.97	2.07
Estimated Maximum-Hour (MH)/MD Ratio ³	1.33	1.50	1.33	1.33
Calculated MH Capacity Factor	2.49	3.52	2.62	2.75

Max Hour Diversity Factor Calculation

	Residential	Commercial	Navy	PWFD	
Class Average Day (mgd)	2.37	1.76	0.66	1.13	
Class MH Demand Factor	2.49	3.52	2.62	2.75	Total MH Demand
Max Hour Demand (Avg. Day X MH Demand Factor)	5.90	6.19	1.72	3.11	16.91
System Average Day (mgd)	5.9				
System Maximum Day (mgd)	10.1				
System Maximum Hour (mgd)	12.6				
Noncoincident MH Capacity Factor	16.91	/	5.9	=	2.86
Coincident MH Capacity Factor	12.6	/	5.9	=	2.13
System MH Diversity	2.86	/	2.13	=	1.34

3- MH/MD Ratio Assumptions:

- Residential =24 hr. / 18 hr.
- Commercial =24 hr. / 16 hr.
- Navy =24 hr. / 18 hr.
- PWFD =24 hr. / 18 hr.