

**IN RE: APPLICATION OF THE :
PHILADELPHIA WATER DEPARTMENT : FISCAL YEARS 2019-2021
FOR INCREASED RATES AND CHARGES :**

REBUTTAL TESTIMONY

AND EXHIBITS

OF

RICHARD A. BAUDINO

J. Kennedy and Associates, Inc.
570 Colonial Park Drive, Suite 305
Roswell, GA 30075

MAY 4, 2018

**IN RE: APPLICATION OF THE :
PHILADELPHIA WATER DEPARTMENT : FISCAL YEARS 2019-2021
FOR INCREASED RATES AND CHARGES :**

1 **Q. Please state your name and business address.**

5 Q. What is your occupation and by whom are you employed?

7 Q. Please describe your education and professional experience.

8 A. I received my Master of Arts degree with a major in Economics and a minor in
9 Statistics from New Mexico State University in 1982. I also received my Bachelor
10 of Arts Degree with majors in Economics and English from New Mexico State in
11 1979.

J. Kennedy and Associates, Inc.

1 In October 1989, I joined the utility consulting firm of Kennedy and Associates as a
2 Senior Consultant where my duties and responsibilities covered substantially the
3 same areas as those during my tenure with the New Mexico Public Service
4 Commission Staff. I became Manager in July 1992 and was named Director of
5 Consulting in January 1995. Currently, I am a consultant with Kennedy and
6 Associates.

7 Exhibit No. ____ (RAB-1) summarizes my expert testimony experience.

8 **Q. On whose behalf are you testifying?**

9 A. I am testifying on behalf of Philadelphia Large Users Group ("PLUG").

10 **Q. What is the purpose of your Rebuttal Testimony?**

11 A. I will address the cost and revenue allocation proposals sponsored by Mr. Jerome
12 Mierzwa, witness for the Public Advocate.

13 **Q. On page 3 of his Direct Testimony, Mr. Mierzwa concluded that while the**
14 **Philadelphia Water Department's ("PWD") class cost of service study**
15 **("CCOSS") was generally reasonable, the system-wide maximum day and**
16 **maximum hour extra-capacity factors "should be revised to reflect more recent**
17 **actual experience." Do you agree with Mr. Mierzwa's conclusion?**

18 A. No. The system-wide maximum day and maximum hour extra-capacity factors used
19 in the Black and Veatch CCOSS are based on the PWD's actual historical
20 experience, are reasonable, and should be adopted for purposes of the CCOSS used
21 in this proceeding. Mr. Mierzwa's recommendations should be rejected.

1 **Q. Please present and discuss the historical demands that were relied upon by**
2 **Black and Veatch to develop the maximum day and maximum hour percentages**
3 **in its CCOSS.**

4 A. Please refer to Exhibit No. ____ (RAB-2), which includes the PWD's response to PA-
5 II-8. The maximum day and maximum hour demands presented in this response
6 were referenced by Mr. Mierzwa on pages 13 and 14 of his Direct Testimony. On
7 page 1 on Exhibit No. ____ (RAB-2) the PWD presented the historical average and
8 maximum day values and ratios from 2012 through 2016. The highest maximum
9 day ratio was 1.41 and Black and Veatch used 1.40 as the maximum day factor in its
10 CCOSS consistent with the highest maximum day value in the five-year period
11 shown on page 1 of Exhibit No. ____ (RAB-2).

12 On page 2 of Exhibit No. ____ (RAB-2), the PWD presented maximum hour to
13 average day ratios for 2012 through 2016. The ratios shown in the USE row, 1.25
14 and 1.90, were relied upon by the Company in its CCOSS to develop its maximum
15 hour extra capacity allocation factors.

16 **Q. In your opinion, it is reasonable for Black and Veatch to use the maximum day**
17 **and maximum hour allocation factors shown in Exhibit No. ____ (RAB-2)**

18 A. Yes. The factors used by Black and Veatch in its CCOSS were the highest ratios in
19 the 2012-2016 study period and, as such, are the ones that are most likely to
20 represent maximum day and maximum hour demands on the PWD system. Mr.
21 Mierzwa's recommended 1.30 maximum day factor does not represent the maximum
22 day ratio that occurred during the five-year study period used by Black and Veatch.

1 **Q. Does the Direct Testimony from Black and Veatch discuss using the 1.40**
2 **maximum day and 1.90 maximum hour values shown in Exhibit No. ____ (RAB-**
3 **2)?**

4 A. No. There appears to be an inconsistency in the Black and Veatch Direct Testimony
5 with the numbers that were used in the CCOSS as pointed out by Mr. Mierzwa in his
6 Direct Testimony on pages 13 and 14. Black and Veatch's Direct Testimony may be
7 in error in its description of the maximum day and maximum hour values that were
8 used. I will review the Rebuttal Testimony from Black and Veatch after it is filed
9 and I reserve the right to amend my Rebuttal Testimony if Black and Veatch provide
10 additional evidence that would cause me to revise my conclusions.

11 **Q. On page 15, lines 8 through 10, Mr. Mierzwa testified that he developed extra-**
12 **capacity factors using the procedures described under the "AWWA Method."**
13 **Please respond to Mr. Mierzwa's use of the AWWA Method for calculating**
14 **extra-capacity factors.**

15 A. It should be noted that Appendix A of the AWWA M1 Manual provides examples of
16 how extra capacity factors may be calculated if a customer class demand study is not
17 available. The examples provided by the AWWA are by no means requirements.
18 The concluding paragraphs of Appendix A of the AWWA M1 Manual state the
19 following:

20 "The examples and explanations regarding the determination of
21 customer class maximum-day and maximum-hour peaking factors
22 discussed in this appendix are intended to add clarity to this aspect of
23 the cost-of-service process. As may be inferred from the examples,
24 to make these determinations, it is imperative that the utility
25 maintain adequate system demand and customer class billing records
26 to complete the calculations that are necessary for the development
27 of these factors.
28

An important technical decision in completing cost allocations by customer class as described in this appendix is whether to use noncoincident or coincident peaking factors by customer class in the cost-of-service analysis. The resulting allocations using the two sets of factors could be materially different, depending on the water demand characteristics of a system and its customers. Therefore, the choice of which method to use is important with respect to rate-making principles, data and costs required to conduct the analysis, and assumptions that may need to be made. *Selection of the appropriate methodology for determining customer class peaking factors should be considered on an individual utility basis.*" (italics added)¹

Q. Are the customer demand factors used in the Black and Veatch CCOSS similar to the customer demand factors used in the PWD's 2016 rate case?

A. It is my understanding that the customer demand factors are fairly similar to the 2016 rate case, although Black and Veatch updated three of these demand factors in this case. Please refer to Exhibit No. ____ (RAB-3), which contains the PWD's response to PA-ADV-35. This request from the Public Advocate sought information on changes made to the water customer class demand factors compared to the 2016 rate proceeding. The PWD responded that there were three changes as follows:

- Peaking factors for the commercial customer type were revised to reflect the inclusion of City and City leased properties.
- Allocation of fire protection.
- Private Fire City was revised to include average day metered demand.

I conclude from this response that Black and Veatch did not significantly change its water customer demand factors from the last rate proceeding.

¹ *Principles of Water Rates, Fees, and Charges, AWWA Manual M1 Sixth Edition*, American Water Works Association, Appendix A, page 321.

1 **Q. On page 16 of his Direct Testimony, Mr. Mierzwa presented the results of his**
2 **revised CCOSS. Should the Philadelphia Water Sewer and Storm Water Rate**
3 **Board ("Rate Board") accept Mr. Mierzwa's CCOSS as a basis for revenue**
4 **allocation in this proceeding?**

5 A. No. As I mentioned earlier in my Rebuttal Testimony, Mr. Mierzwa did not use the
6 appropriate maximum day factor and the appropriate customer demand factors for
7 his CCOSS analysis. Furthermore, Mr. Mierzwa did not provide any detailed
8 CCOSS results in his exhibits for the Rate Board and the parties to review. I have
9 requested Mr. Mierzwa's CCOSS and work papers, but they will not be available
10 until after my Rebuttal Testimony is filed. I reserve the right to amend my Rebuttal
11 Testimony if necessary based on further review of Mr. Mierzwa's work papers.
12 Based on my review so far, I recommend that the Rate Board utilize the Black and
13 Veatch CCOSS in this case for purposes of revenue allocation.

14 **Q. On page 18 of his Direct Testimony Mr. Mierzwa proposed an alternative**
15 **revenue allocation whereby the rate in the existing consumption block of 0 – 2**
16 **Mcf be maintained throughout the 2019 – 2021 rate period. Is this a reasonable**
17 **recommendation?**

18 A. Absolutely not. The Black and Veatch CCOSS provides no basis whatsoever for
19 holding the 0 – 2 consumption block rate constant. Furthermore, Mr. Mierzwa
20 provided the Rate Board and the parties no estimate of the rate impact on other
21 customers from this radical proposal. The Residential class is by far the largest class
22 on the PWD system with current revenues of \$161.4 million compared to total
23 current retail revenues of \$268.97 million. This means that total Residential
24 revenues represent 60% of current total retail revenues. Not all Residential class

1 consumption falls within the 0 – 2 Mcf consumption block, but as Mr. Mierzwa
2 pointed on page 18, most of it does. Thus, holding rates constant for the 0 – 2 Mcf
3 block could likely result in rate shock to other customers depending on the revenue
4 increase that is approved in this proceeding. The Rate Board should avoid the
5 possibility of this adverse outcome for non-Residential customers on PWD's system.
6 I strongly recommend that the Rate Board reject Mr. Mierzwa's alternative revenue
7 allocation proposal.

8 **Q. Can you estimate the approximate impact of Mr. Mierzwa's proposal to hold**
9 **the 0-2 Mcf Residential consumption block constant?**

10 A. I can provide the Rate Board an approximate impact from Mr. Mierzwa's proposal
11 assuming a Residential increase of 10%. I reviewed PWD Exhibit 6, which contains
12 supporting data for Black and Veatch's analyses in this proceeding. Page No. 791
13 shows that 85.26% of Residential consumption occurs in the 0 -2 Mcf rate block.
14 For purposes of my analysis here, I will assume that 85.26% of the revenues from the
15 Residential class, which includes meter revenues, is generated from usage in the 0 –
16 2 Mcf block. Thus, I estimate that 85.3% of total current Residential revenues
17 (\$161.4 million) is \$137.6 million coming from the 0 -2 Mcf rate block.

18 As a hypothetical, let us now assume that the Rate Board approves a 10% FY 2019
19 increase for the Residential class using Black and Veatch CCOSS as a guide for
20 revenue allocation. This would result in an increase to the Residential class revenue
21 requirement of \$16.14 million. If the Rate Board adopted Mr. Mierzwa's alternative
22 revenue allocation and held rates constant in the 0 – 2 Mcf block, only 14.7% of
23 Residential revenues would receive a 10% increase, which results in an increase of
24 only \$2.37 million for Residential customer usage outside the 0 – 2 Mcf block. That

1 leaves \$13.77 million of \$16.14 million to be collected from the rest of the PWD's
2 non-Residential customers.

3 Current total retail service revenues less total Residential service revenues are
4 \$107.56 million. Collecting an extra \$13.77 million from these customers would
5 result in an additional increase of 12.8% on non-Residential customers on top of the
6 cost of service increase determined by the Rate Board. If the non-Residential
7 customers would have also received a CCOSS revenue allocation of 10%, then the
8 additional 12.8% reallocated from Residential customers would result in a total
9 increase of 22.8%. Obviously this is an inequitable and unreasonable result that
10 would substantially harm non-Residential customers.

11 **Q. Does this complete your Rebuttal Testimony?**

12 A. Yes.

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PHILADELPHIA WATER DEPARTMENT : FISCAL YEARS 2019-2021
FOR INCREASED RATES AND CHARGES :**

ON BEHALF OF
THE PHILADELPHIA LARGE USERS GROUP

MAY 4, 2018

RESUME OF RICHARD A. BAUDINO

EDUCATION

New Mexico State University, M.A.

Major in Economics

Minor in Statistics

New Mexico State University, B.A.

Economics

English

Thirty-two years of experience in utility ratemaking and the application of principles of economics to the regulation of electric, gas, and water utilities. Broad based experience in revenue requirement analysis, cost of capital, rate of return, cost and revenue allocation, and rate design.

REGULATORY TESTIMONY

Preparation and presentation of expert testimony in the areas of:

Cost of Capital for Electric, Gas and Water Companies

Electric, Gas, and Water Utility Cost Allocation and Rate Design

Revenue Requirements

Gas and Electric industry restructuring and competition

Fuel cost auditing

Ratemaking Treatment of Generating Plant Sale/Leasebacks

RESUME OF RICHARD A. BAUDINO

EXPERIENCE

1989 to

Present: **Kennedy and Associates: Director of Consulting, Consultant** - Responsible for consulting assignments in revenue requirements, rate design, cost of capital, economic analysis of generation alternatives, electric and gas industry restructuring/competition and water utility issues.

1982 to

1989: **New Mexico Public Service Commission Staff: Utility Economist** - Responsible for preparation of analysis and expert testimony in the areas of rate of return, cost allocation, rate design, finance, phase-in of electric generating plants, and sale/leaseback transactions.

CLIENTS SERVED

Regulatory Commissions

Louisiana Public Service Commission
Georgia Public Service Commission
New Mexico Public Service Commission

Other Clients and Client Groups

Ad Hoc Committee for a Competitive Electric Supply System	Large Power Intervenor (Minnesota)
Air Products and Chemicals, Inc.	Tyson Foods
Arkansas Electric Energy Consumers	West Virginia Energy Users Group
Arkansas Gas Consumers	The Commercial Group
AK Steel	Wisconsin Industrial Energy Group
Armco Steel Company, L.P.	South Florida Hospital and Health Care Assn.
Assn. of Business Advocating Tariff Equity	PP&L Industrial Customer Alliance
Atmos Cities Steering Committee	Philadelphia Area Industrial Energy Users Gp.
Canadian Federation of Independent Businesses	Philadelphia Large Users Group
CF&I Steel, L.P.	West Penn Power Intervenor
Cities of Midland, McAllen, and Colorado City	Duquesne Industrial Intervenor
Climax Molybdenum Company	Met-Ed Industrial Users Gp.
Cripple Creek & Victor Gold Mining Co.	Penelec Industrial Customer Alliance
General Electric Company	Penn Power Users Group
Holcim (U.S.) Inc.	Columbia Industrial Intervenor
IBM Corporation	U.S. Steel & Univ. of Pittsburgh Medical Ctr.
Industrial Energy Consumers	Multiple Intervenor
Kentucky Industrial Utility Consumers	Maine Office of Public Advocate
Kentucky Office of the Attorney General	Missouri Office of Public Counsel
Lexington-Fayette Urban County Government	University of Massachusetts - Amherst
Large Electric Consumers Organization	WCF Hospital Utility Alliance
Newport Steel	West Travis County Public Utility Agency
Northwest Arkansas Gas Consumers	Steering Committee of Cities Served by Oncor
Maryland Energy Group	Utah Office of Consumer Services
Occidental Chemical	Healthcare Council of the National Capital Area
PSI Industrial Group	Vermont Department of Public Service

**Expert Testimony Appearances
of
Richard A. Baudino
As of May 2018**

Date	Case	Jurisdct.	Party	Utility	Subject
10/83	1803, 1817	NM	New Mexico Public Service Commission	Southwestern Electric Coop.	Rate design.
11/84	1833	NM	New Mexico Public Service Commission Palo Verde	El Paso Electric Co.	Service contract approval, rate design, performance standards for nuclear generating system
1983	1835	NM	New Mexico Public Service Commission	Public Service Co. of NM	Rate design.
1984	1848	NM	New Mexico Public Service Commission	Sangre de Cristo Water Co.	Rate design.
02/85	1906	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
09/85	1907	NM	New Mexico Public Service Commission	Jornada Water Co.	Rate of return.
11/85	1957	NM	New Mexico Public Service Commission	Southwestern Public Service Co.	Rate of return.
04/86	2009	NM	New Mexico Public Service Commission	El Paso Electric Co.	Phase-in plan, treatment of sale/leaseback expense.
06/86	2032	NM	New Mexico Public Service Commission	El Paso Electric Co.	Sale/leaseback approval.
09/86	2033	NM	New Mexico Public Service Commission	El Paso Electric Co.	Order to show cause, PVNGS audit.
02/87	2074	NM	New Mexico Public Service Commission	El Paso Electric Co.	Diversification.
05/87	2089	NM	New Mexico Public Service Commission	El Paso Electric Co.	Fuel factor adjustment.
08/87	2092	NM	New Mexico Public Service Commission	El Paso Electric Co.	Rate design.
10/87	2146	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Financial effects of restructuring, reorganization.
07/88	2162	NM	New Mexico Public Service Commission	El Paso Electric Co.	Revenue requirements, rate design, rate of return.

**Expert Testimony Appearances
of
Richard A. Baudino
As of May 2018**

Date	Case	Jurisdiction	Party	Utility	Subject
01/89	2194	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Economic development.
1/89	2253	NM	New Mexico Public Service Commission	Plains Electric G&T Cooperative	Financing.
08/89	2259	NM	New Mexico Public Service Commission	Homestead Water Co.	Rate of return, rate design.
10/89	2262	NM	New Mexico Public Service Commission	Public Service Co. of New Mexico	Rate of return.
09/89	2269	NM	New Mexico Public Service Commission	Ruidoso Natural Gas Co.	Rate of return, expense from affiliated interest.
12/89	89-208-TF	AR	Arkansas Electric Energy Consumers	Arkansas Power & Light Co.	Rider M-33.
01/90	U-17282	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
09/90	90-158	KY	Kentucky Industrial Utility Consumers	Louisville Gas & Electric Co.	Cost of equity.
09/90	90-004-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Cost of equity, transportation rate.
12/90	U-17282 Phase IV	LA	Louisiana Public Service Commission	Gulf States Utilities	Cost of equity.
04/91	91-037-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Transportation rates.
12/91	91-410-EL-AIR	OH	Air Products & Chemicals, Inc., Armco Steel Co., General Electric Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Cost of equity.
05/92	910890-EI	FL	Occidental Chemical Corp.	Florida Power Corp.	Cost of equity, rate of return.
09/92	92-032-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost of equity, rate of return, cost-of-service.
09/92	39314	ID	Industrial Consumers for Fair Utility Rates	Indiana Michigan Power Co.	Cost of equity, rate of return.

**Expert Testimony Appearances
of
Richard A. Baudino
As of May 2018**

Date	Case	Jurisdct.	Party	Utility	Subject
09/92	92-009-U	AR	Tyson Foods	General Waterworks	Cost allocation, rate design.
01/93	92-346	KY	Newport Steel Co.	Union Light, Heat & Power Co.	Cost allocation.
01/93	39498	IN	PSI Industrial Group	PSI Energy	Refund allocation.
01/93	U-10105	MI	Association of Businesses Advocating Tariff Equality (ABATE)	Michigan Consolidated Gas Co.	Return on equity.
04/93	92-1464-EL-AIR	OH	Air Products and Chemicals, Inc., Armco Steel Co., Industrial Energy Consumers	Cincinnati Gas & Electric Co.	Return on equity.
09/93	93-189-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Transportation service terms and conditions.
09/93	93-081-U	AR	Arkansas Gas Consumers	Arkansas Louisiana Gas Co.	Cost-of-service, transportation rates, rate supplements; return on equity; revenue requirements.
12/93	U-17735	LA	Louisiana Public Service Commission Staff	Cajun Electric Power Cooperative	Historical reviews; evaluation of economic studies.
03/94	10320	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric Co.	Trimble County CWIP revenue refund.
4/94	E-015/GR-94-001	MN	Large Power Intervenors	Minnesota Power Co.	Evaluation of the cost of equity, capital structure, and rate of return.
5/94	R-00942993	PA	PG&W Industrial Intervenors	Pennsylvania Gas & Water Co.	Analysis of recovery of transition costs.
5/94	R-00943001	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania charge proposals.	Evaluation of cost allocation, rate design, rate plan, and carrying
7/94	R-00942986	PA	Armco, Inc., West Penn Power Industrial Intervenors	West Penn Power Co.	Return on equity and rate of return.
7/94	94-0035-E-42T	WV	West Virginia Energy Users' Group	Monongahela Power Co.	Return on equity and rate of return.

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As of May 2018**

Date	Case	Jurisdct.	Party	Utility	Subject
8/94	8652	MD	Westvaco Corp. Co.	Potomac Edison	Return on equity and rate of return.
9/94	930357-C	AR	West Central Arkansas Gas Consumers	Arkansas Oklahoma Gas Corp.	Evaluation of transportation service.
9/94	U-19904	LA	Louisiana Public Service Commission	Gulf States Utilities	Return on equity.
9/94	8629	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Transition costs.
11/94	94-175-U	AR	Arkansas Gas Consumers	Arkla, Inc.	Cost-of-service, rate design, rate of return.
3/95	RP94-343- 000	FERC	Arkansas Gas Consumers	NorAm Gas Transmission	Rate of return.
4/95	R-00943271	PA	PP&L Industrial Customer Alliance	Pennsylvania Power & Light Co.	Return on equity.
6/95	U-10755	MI	Association of Businesses Advocating Tariff Equity	Consumers Power Co.	Revenue requirements.
7/95	8697	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Cost allocation and rate design.
8/95	95-254-TF U-2811	AR	Tyson Foods, Inc.	Southwest Arkansas Electric Cooperative	Refund allocation.
10/95	ER95-1042 -000	FERC	Louisiana Public Service Commission	Systems Energy Resources, Inc.	Return on Equity.
11/95	I-940032	PA	Industrial Energy Consumers of Pennsylvania	State-wide - all utilities	Investigation into Electric Power Competition.
5/96	96-030-U	AR	Northwest Arkansas Gas Consumers	Arkansas Western Gas Co.	Revenue requirements, rate of return and cost of service.
7/96	8725	MD	Maryland Industrial Group	Baltimore Gas & Electric Co., Potomac Electric Power Co. and Constellation Energy Corp.	Return on Equity.
7/96	U-21496	LA	Louisiana Public Service Commission	Central Louisiana Electric Co.	Return on equity, rate of return.
9/96	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.

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Date	Case	Jurisdct.	Party	Utility	Subject
1/97	RP96-199-000	FERC	The Industrial Gas Users Conference	Mississippi River Transmission Corp.	Revenue requirements, rate of return and cost of service.
3/97	96-420-U	AR	West Central Arkansas Gas Corp.	Arkansas Oklahoma Gas Corp.	Revenue requirements, rate of return, cost of service and rate design.
7/97	U-11220	MI	Association of Business Advocating Tariff Equity	Michigan Gas Co. and Southeastern Michigan Gas Co.	Transportation Balancing Provisions.
7/97	R-00973944	PA	Pennsylvania American Water Large Users Group	Pennsylvania-American Water Co.	Rate of return, cost of service, revenue requirements.
3/98	8390-U	GA	Georgia Natural Gas Group and the Georgia Textile Manufacturers Assoc.	Atlanta Gas Light	Rate of return, restructuring issues, unbundling, rate design issues.
7/98	R-00984280	PA	PG Energy, Inc. Intervenor	PGE Industrial	Cost allocation.
8/98	U-17735	LA	Louisiana Public Service Commission	Cajun Electric Power Cooperative	Revenue requirements.
10/98	97-596	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric Co.	Return on equity, rate of return.
10/98	U-23327	LA	Louisiana Public Service Commission	SWEPCO, CSW and AEP	Analysis of proposed merger.
12/98	98-577	ME	Maine Office of the Public Advocate	Maine Public Service Co.	Return on equity, rate of return.
12/98	U-23358	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity, rate of return.
3/99	98-426	KY	Kentucky Industrial Utility Customers, Inc.	Louisville Gas and Electric Co	Return on equity.
3/99	99-082	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Utilities Co.	Return on equity.
4/99	R-984554	PA	T. W. Phillips Users Group	T. W. Phillips Gas and Oil Co.	Allocation of purchased gas costs.
6/99	R-0099462	PA	Columbia Industrial Intervenor	Columbia Gas of Pennsylvania	Balancing charges.
10/99	U-24182	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Cost of debt.

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Date	Case	Jurisdct.	Party	Utility	Subject
10/99	R-00994782	PA	Peoples Industrial Intervenors	Peoples Natural Gas Co.	Restructuring issues.
10/99	R-00994781	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Restructuring, balancing charges, rate flexing, alternate fuel.
01/00	R-00994786	PA	UGI Industrial Intervenors	UGI Utilities, Inc.	Universal service costs, balancing, penalty charges, capacity Assignment.
01/00	8829	MD & United States	Maryland Industrial Gr.	Baltimore Gas & Electric Co.	Revenue requirements, cost allocation, rate design.
02/00	R-00994788	PA	Penn Fuel Transportation	PFG Gas, Inc., and	Tariff charges, balancing provisions.
05/00	U-17735	LA	Louisiana Public Service Comm.	Louisiana Electric Cooperative	Rate restructuring.
07/00	2000-080	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric Co.	Cost allocation.
07/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket E)	LA	Louisiana Public Service Commission	Southwestern Electric Power Co.	Stranded cost analysis.
09/00	R-00005654	PA	Philadelphia Industrial And Commercial Gas Users Group.	Philadelphia Gas Works	Interim relief analysis.
10/00	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring, Business Separation Plan.
11/00	R-00005277 (Rebuttal)	PA	Penn Fuel Transportation Customers	PFG Gas, Inc. and North Penn Gas Co.	Cost allocation issues.
12/00	U-24993	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/01	U-22092	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Stranded cost analysis.
04/01	U-21453 U-20925 (SC), U-22092 (SC) (Subdocket B) (Addressing Contested Issues)	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Restructuring issues.
04/01	R-00006042	PA	Philadelphia Industrial and Commercial Gas Users Group	Philadelphia Gas Works	Revenue requirements, cost allocation and tariff issues.

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As of May 2018**

Date	Case	Jurisdic.	Party	Utility	Subject
11/01	U-25687	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
03/02	14311-U	GA	Georgia Public Service Commission	Atlanta Gas Light	Capital structure.
08/02	2002-00145	KY	Kentucky Industrial Utility Customers	Columbia Gas of Kentucky	Revenue requirements.
09/02	M-00021612	PA	Philadelphia Industrial And Commercial Gas Users Group	Philadelphia Gas Works	Transportation rates, terms, and conditions.
01/03	2002-00169	KY	Kentucky Industrial Utility Customers	Kentucky Power	Return on equity.
02/03	02S-594E	CO	Cripple Creek & Victor Gold Mining Company	Aquila Networks – WPC	Return on equity.
04/03	U-26527	LA	Louisiana Public Service Commission	Entergy Gulf States, Inc.	Return on equity.
10/03	CV020495AB	GA	The Landings Assn., Inc.	Utilities Inc. of GA	Revenue requirement & overcharge refund
03/04	2003-00433	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric	Return on equity, Cost allocation & rate design
03/04	2003-00434	KY	Kentucky Industrial Utility Customers	Kentucky Utilities	Return on equity
4/04	04S-035E	CO	Cripple Creek & Victor Gold Mining Company, Goodrich Corp., Holcim (U.S.) Inc., and The Trane Co.	Aquila Networks – WPC	Return on equity.
9/04	U-23327, Subdocket B	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Fuel cost review
10/04	U-23327 Subdocket A	LA	Louisiana Public Service Commission	Southwestern Electric Power Company	Return on Equity
06/05	050045-EI	FL	South Florida Hospital and HealthCare Assoc.	Florida Power & Light Co.	Return on equity
08/05	9036	MD	Maryland Industrial Group	Baltimore Gas & Electric Co.	Revenue requirement, cost allocation, rate design, Tariff issues.
01/06	2005-0034	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity.

**Expert Testimony Appearances
of
Richard A. Baudino
As of May 2018**

Date	Case	Jurisdct.	Party	Utility	Subject
03/06	05-1278-E-PC-PW-42T	WV	West Virginia Energy Users Group	Appalachian Power Company	Return on equity.
04/06	U-25116 Commission	LA	Louisiana Public Service	Entergy Louisiana, LLC	Transmission Issues
07/06	U-23327 Commission	LA	Louisiana Public Service	Southwestern Electric Power Company	Return on equity, Service quality
08/06	ER-2006-0314	MO	Missouri Office of the Public Counsel	Kansas City Power & Light Co.	Return on equity, Weighted cost of capital
08/06	06S-234EG	CO	CF&I Steel, L.P. & Climax Molybdenum	Public Service Company of Colorado	Return on equity, Weighted cost of capital
01/07	06-0960-E-42T Users Group	WV	West Virginia Energy	Monongahela Power & Potomac Edison	Return on Equity
01/07	43112	AK	AK Steel, Inc.	Vectren South, Inc.	Cost allocation, rate design
05/07	2006-661	ME	Maine Office of the Public Advocate	Bangor Hydro-Electric	Return on equity, weighted cost of capital.
09/07	07-07-01	CT	Connecticut Industrial Energy Consumers	Connecticut Light & Power	Return on equity, weighted cost of capital
10/07	05-UR-103	WI	Wisconsin Industrial Energy Group, Inc.	Wisconsin Electric Power Co.	Return on equity
11/07	29797	LA	Louisiana Public Service Commission	Cleco Power :LLC & Southwestern Electric Power	Lignite Pricing, support of settlement
01/08	07-551-EL-AIR	OH	Ohio Energy Group	Ohio Edison, Cleveland Electric, Toledo Edison	Return on equity
03/08	07-0585, 07-0585, 07-0587, 07-0588, 07-0589, 07-0590, (consol.)	IL	The Commercial Group	Ameren	Cost allocation, rate design
04/08	07-0566	IL	The Commercial Group	Commonwealth Edison	Cost allocation, rate design
06/08	R-2008-2011621	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Cost and revenue allocation, Tariff issues
07/08	R-2008-2028394	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy	Cost and revenue allocation, Tariff issues

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Date	Case	Jurisdic.	Party	Utility	Subject
07/08	R-2008-2039634	PA	PPL Gas Large Users Group	PPL Gas	Retainage, LUFG Pct.
08/08	6680-UR-116	WI	Wisconsin Industrial Energy Group	Wisconsin P&L	Cost of Equity
08/08	6690-UR-119	WI	Wisconsin Industrial Energy Group	Wisconsin PS	Cost of Equity
09/08	ER-2008-0318	MO	The Commercial Group	AmerenUE	Cost and revenue allocation
10/08	R-2008-2029325	PA	U.S. Steel & Univ. of Pittsburgh Med. Ctr.	Equitable Gas Co.	Cost and revenue allocation
10/08	08-G-0609	NY	Multiple Intervenors	Niagara Mohawk Power	Cost and Revenue allocation
12/08	27800-U	GA	Georgia Public Service Commission	Georgia Power Company	CWIP/AFUDC issues, Review financial projections
03/09	ER08-1056	FERC	Louisiana Public Service Commission	Entergy Services, Inc.	Capital Structure
04/09	E002/GR-08-1065	MN	The Commercial Group	Northern States Power	Cost and revenue allocation and rate design
05/09	08-0532	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation
07/09	080677-EI	FL	South Florida Hospital and Health Care Association	Florida Power & Light	Cost of equity, capital structure, Cost of short-term debt
07/09	U-30975	LA	Louisiana Public Service Commission	Cleco LLC, Southwestern Public Service Co.	Lignite mine purchase
10/09	4220-UR-116	WI	Wisconsin Industrial Energy Group	Northern States Power	Class cost of service, rate design
10/09	M-2009-2123945	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Smart Meter Plan cost allocation
10/09	M-2009-2123944	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Company	Smart Meter Plan cost allocation
10/09	M-2009-2123951	PA	West Penn Power Industrial Intervenors	West Penn Power	Smart Meter Plan cost allocation
11/09	M-2009-2123948	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Smart Meter Plan cost allocation
11/09	M-2009-2123950	PA	Met-Ed Industrial Users Group Penelec Industrial Customer Alliance, Penn Power Users Group	Metropolitan Edison, Pennsylvania Electric Co., Pennsylvania Power Co.	Smart Meter Plan cost allocation

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Date	Case	Jurisdct.	Party	Utility	Subject
03/10	09-1352-	WV E-42T	West Virginia Energy Users Group	Monongahela Power	Return on equity, rate of return Potomac Edison
03/10	E015/GR- 09-1151	MN	Large Power Intervenors	Minnesota Power	Return on equity, rate of return
04/10	2009-00459	KY	Kentucky Industrial Utility Consumers	Kentucky Power	Return on equity
04/10	2009-00548 2009-00549	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
05/10	10-0261-E- GI	WV	West Virginia Energy Users Group	Appalachian Power Co./ Wheeling Power Co.	EE/DR Cost Recovery, Allocation, & Rate Design
05/10	R-2009- 2149262	PA	Columbia Industrial Intervenors	Columbia Gas of PA	Class cost of service & cost allocation
06/10	2010-00036	KY	Lexington-Fayette Urban County Government	Kentucky American Water Company	Return on equity, rate of return, revenue requirements
06/10	R-2010- 2161694	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities	Rate design, cost allocation
07/10	R-2010- 2161575	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Return on equity
07/10	R-2010- 2161592	PA	Philadelphia Area Industrial Energy Users Group	PECO Energy Co.	Cost and revenue allocation
07/10	9230	MD	Maryland Energy Group	Baltimore Gas and Electric	Electric and gas cost and revenue allocation; return on equity
09/10	10-70	MA	University of Massachusetts-Amherst	Western Massachusetts Electric Co.	Cost allocation and rate design
10/10	R-2010- 2179522	PA	Duquesne Industrial Intervenors	Duquesne Light Company	Cost and revenue allocation, rate design
11/10	P-2010- 2158084	PA	West Penn Power Industrial Intervenors	West Penn Power Co.	Transmission rate design
11/10	10-0699- E-42T	WV	West Virginia Energy Users Group	Appalachian Power Co. & Wheeling Power Co.	Return on equity, rate of Return
11/10	10-0467	IL	The Commercial Group	Commonwealth Edison	Cost and revenue allocation and rate design
04/11	R-2010- 2214415	PA	Central Pen Gas Large Users Group	UGI Central Penn Gas, Inc.	Tariff issues, revenue allocation
07/11	R-2011- 2239263	PA	Philadelphia Area Energy Users Group	PECO Energy	Retainage rate

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Date	Case	Jurisdic.	Party	Utility	Subject
08/11	R-2011-2232243	PA	AK Steel	Pennsylvania-American Water Company	Rate Design
08/11	11AL-151G	CO	Climax Molybdenum	PS of Colorado	Cost allocation
09/11	11-G-0280	NY	Multiple Intervenors	Corning Natural Gas Co.	Cost and revenue allocation
10/11	4220-UR-117	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
02/12	11AL-947E	CO	Climax Molybdenum, CF&I Steel	Public Service Company of Colorado	Return on equity, weighted cost of capital
07/12	120015-EI	FL	South Florida Hospitals and Health Care Association	Florida Power and Light Co.	Return on equity, weighted cost of capital
07/12	12-0613-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal for Century Aluminum
07/12	R-2012-2290597	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities Corp.	Cost allocation
09/12	05-UR-106	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Class cost of service, cost and revenue allocation, rate design
09/12	2012-00221 2012-00222	KY	Kentucky Industrial Utility Consumers	Louisville Gas and Electric, Kentucky Utilities	Return on equity.
10/12	9299	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design Cost of equity, weighted cost of capital
10/12	4220-UR-118	WI	Wisconsin Industrial Energy Group	Northern States Power Company	Class cost of service, cost and revenue allocation, rate design
10/12	473-13-0199	TX	Steering Committee of Cities Served by Oncor	Cross Texas Transmission, LLC	Return on equity, capital structure
01/13	R-2012-2321748 et al.	PA	Columbia Industrial Intervenors	Columbia Gas of Pennsylvania	Cost and revenue allocation
02/13	12AL-1052E	CO	Cripple Creek & Victor Gold Mining, Holcim (US) Inc.	Black Hills/Colorado Electric Utility Company	Cost and revenue allocations
06/13	8009	VT	IBM Corporation	Vermont Gas Systems	Cost and revenue allocation, rate design
07/13	130040-EI	FL	WCF Hospital Utility Alliance	Tampa Electric Co.	Return on equity, rate of return
08/13	9326	MD	Maryland Energy Group	Baltimore Gas and Electric	Cost and revenue allocation, rate design, special rider

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Date	Case	Jurisdic.	Party	Utility	Subject
08/13	P-2012-2325034	PA	PP&L Industrial Customer Alliance	PPL Electric Utilities, Corp.	Distribution System Improvement Charge
09/13	4220-UR-119	WI	Wisconsin Industrial Energy Group	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
11/13	13-1325-E-PC	WV	West Virginia Energy Users Group	American Electric Power/APCo	Special rate proposal, Felman Production
06/14	R-2014-2406274	PA	Columbia Industrial Intervenor	Columbia Gas of Pennsylvania	Cost and revenue allocation, rate design
08/14	05-UR-107	WI	Wisconsin Industrial Energy Group	Wisconsin Electric Power Co.	Cost and revenue allocation, rate design
10/14	ER13-1508 et al.	FERC	Louisiana Public Service Comm.	Entergy Services, Inc.	Return on equity
11/14	14AL-0660E	CO	Climax Molybdenum Co. and CFI Steel, LP	Public Service Co. of Colorado	Return on equity, weighted cost of capital
11/14	R-2014-2428742	PA	AK Steel	West Penn Power Company	Cost and revenue allocation
12/14	42866	TX	West Travis Co. Public Utility Agency	Travis County Municipal Utility District No. 12	Response to complain of monopoly power
3/15	2014-00371 2014-00372	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
3/15	2014-00396	KY	Kentucky Industrial Utility Customers	Kentucky Power Co.	Return on equity, weighted cost of capital
6/15	15-0003-G-42T	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Cost and revenue allocation, Infrastructure Replacement Program
9/15	15-0676-W-42T	WV	West Virginia Energy Users Gp.	West Virginia-American Water Company	Appropriate test year, Historical vs. Future
9/15	15-1256-G-390P	WV	West Virginia Energy Users Gp.	Mountaineer Gas Co.	Rate design for Infrastructure Replacement and Expansion Program
10/15	4220-UR-121	WI	Wisconsin Industrial Energy Gp.	Northern States Power Co.	Class cost of service, cost and revenue allocation, rate design
12/15	15-1600-G-390P	WV	West Virginia Energy Users Gp.	Dominion Hope	Rate design and allocation for Pipeline Replacement & Expansion Prog.
12/15	45188	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring-fence protections for cost of capital

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Date	Case	Jurisdct.	Party	Utility	Subject
2/16	9406	MD	Maryland Energy Group	Baltimore Gas & Electric	Cost and revenue allocation, rate design, proposed Rider 5
3/16	39971	GA	GA Public Service Comm. Staff	Southern Company / AGL Resources	Credit quality and service quality issues
04/16	2015-00343	KY	Kentucky Office of the Attorney General	Atmos Energy	Cost of equity, cost of short-term debt, capital structure
05/16	16-G-0058 16-G-0059	NY	City of New York	Brooklyn Union Gas Co., KeySpan Gas East Corp.	Cost and revenue allocation, rate design, service quality issues
06/16	16-0073-E-C	WV	Constellium Rolled Products Ravenswood, LLC	Appalachian Power Co.	Complaint; security deposit
07/16	9418	MD	Healthcare Council of the National Capital Area	Potomac Electric Power Co.	Cost of equity, cost of service, Cost and revenue allocation
07/16	160021-EI	FL	South Florida Hospital and Health Care Association	Florida Power and Light Co.	Return on equity, cost of debt, capital structure
07/16	16-057-01	UT	Utah Office of Consumer Svcs.	Dominion Resources, Questar Gas Co.	Credit quality and service quality issues
08/16	8710	VT	Vermont Dept. of Public Service	Vermont Gas Systems	Return on equity, cost of debt, cost of capital
08/16	R-2016-2537359	PA	AK Steel Corp.	West Penn Power Co.	Cost and revenue allocation
09/16	2016-00162	KY	Kentucky Office of the Attorney General	Columbia Gas of Ky.	Return on equity, cost of short-term debt
09/16	16-0550-W-P	WV	West Va. Energy Users Gp.	West Va. American Water Co.	Infrastructure Replacement Program Surcharge
01/17	46238	TX	Steering Committee of Cities Served by Oncor	Oncor Electric Delivery Co.	Ring fencing and other conditions for acquisition, service quality and reliability
02/17	45414	TX	Cities of Midland, McAllen, and Colorado City	Sharyland Utilities, LP and Sharyland Dist. and Transmission Services, LLC	Return on equity
02/17	2016-00370 2016-00371	KY	Kentucky Industrial Utility Customers	Louisville Gas & Electric, Kentucky Utilities	Return on equity, cost of debt, weighted cost of capital
03/17	10580	TX	Atmos Cities Steering Committee	Atmos Pipeline Texas	Return on equity, capital structure, weighted cost of capital
03/17	R-3867-2013	Quebec, Canada	Canadian Federation of Independent Businesses	Gaz Metro	Marginal Cost of Service Study

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Date	Case	Jurisdiction	Party	Utility	Subject
05/17	R-2017-2586783	PA	Philadelphia Industrial and Commercial Gas Users Gp.	Philadelphia Gas Works	Cost and revenue allocation, rate design, Interruptible tariffs
08/17	R-2017-2595853	PA	AK Steel	Pennsylvania American Water Co.	Cost and revenue allocation, rate design
8/17	17-3112-INV	VT	Vt. Dept. of Pubic Service	Green Mountain Power	Return on equity, cost of debt, weighted cost of capital
9/17	4220-UR-123	WI	Wisconsin Industrial Energy Group	Northern States Power	Cost and revenue allocation, rate design
10/17	2017-00179	KY	Kentucky Industrial Utility Customers, Inc.	Kentucky Power Co.	Return on equity, cost of short-term debt
12/17	2017-00321	KY	Office of the Attorney General	Duke Energy Kentucky, Inc.	Return on equity
1/18	2017-00349	KY	Office of the Attorney General	Atmos Energy	Return on equity, cost of debt, weighted cost of capital
5/18	Fiscal Years 2019-2021 Rates	PA	Philadelphia Large Users Group	Philadelphia Water Department	Cost and revenue allocation

PA-II-8. REFERENCE PWD STATEMENT NO. 9A, PAGE 59, LINES 15-24, AND PAGE 60, LINES 1-2. PLEASE PROVIDE THE HISTORICAL DEMANDS EXPERIENCED AND RELIED UPON TO DEVELOP THE MAXIMUM DAY AND HOUR PERCENTAGES.

RESPONSE:

The maximum day demands experienced and relied upon for the development of the maximum day extra capacity allocation factors is based on the system maximum day raw water pumping data.

Fiscal Year	Average Day	Maximum Day	Maximum Day to Average Day Ratio
2012	257.9 mgd	362.7 mgd	1.41
2013	259.8 mgd	338.6 mgd	1.30
2014	260.1 mgd	343.5 mgd	1.32
2015	250.9 mgd	305.3 mgd	1.22
2016	243.2 mgd	276.8 mgd	1.14
Peak Flow			1.41
USE			1.40

Note: These flows and supporting analysis are provided in PWD Exhibit 6 Supplemental Financial, Engineering and Other Data Black & Veatch Workpapers WCOS17_19.xls Wpltallo-3 (page 750).

The maximum hour demands experienced and relied upon for the development of the maximum hour extra capacity allocation factors are based on the system maximum hour water production data.

Fiscal Year	Average Day	Maximum Day	Maximum Hour	Maximum Day to Average Day Ratio	Maximum Hour to Average Day Ratio
2012	245.8 mgd	292.0 mgd	370.4 mgd	1.19	1.51
2013	244.5 mgd	286.2 mgd	365.0 mgd	1.17	1.49
2014	250.0 mgd	313.6 mgd	433.8 mgd	1.25	1.74
2015	230.8 mgd	291.8 mgd	365.5 mgd	1.26	1.58
2016	223.8 mgd	258.2 mgd	430.8 mgd	1.15	1.92
Peak Flow				1.26	1.92
USE				1.25	1.90

Note: These flows and supporting analysis are provided in PWD Exhibit 6 Supplemental Financial, Engineering and Other Data Black & Veatch Workpapers WCOS17_19.xls Wp1tallo-4 (page 751).

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC

1 **PA-ADV-35.** PLEASE EXPLAIN IN DETAIL THE BASIS FOR ANY CHANGES IN THE
 2 WATER CUSTOMER CLASS DEMAND FACTORS COMPARED TO THE
 3 2016 RATE PROCEEDING.

4
 5 **RESPONSE:**

6 The following water customer demand factors were changed since the last rate case:

- 7 • Commercial – the peaking factors for the commercial customer type were revised to
 8 reflect the inclusion of City and City leased properties. The following table provides the
 9 basis for the consolidated commercial customer type peaking factors.

Customer Type	Average Daily Water Use Mcf/Day	Maximum Day		Maximum Hour	
		Capacity Factor	Total Capacity	Capacity Factor	Total Capacity
			Mcf/Day		Mcf/Day
Commercial	3,470	180	6,250	270	9,370
City Leased	20	180	40	235	50
City	650	180	1,170	235	1,530
Total	4,140	180	7,460	264	10,950
USE		180		265	

- 16 • Fire Protection. Consistent with prior cost of service and rate proceedings, we used a
 17 maximum day fire demand of 1,110 thousand cubic feet per day (Mcf/Day) and a
 18 maximum hour fire demand of 2,890 Mcf/Day. These system wide fire protection
 19 demands reflect two simultaneous fires, one requiring 10,000 gallons per minute (gpm)
 20 fire flow demand for 10 hours and the second requiring 5,000 gpm for 8 hours. These
 21 demands are allocated between standard pressure public fire service and private fire
 22 service based upon equivalent 6-inch connections for each of the two fire service classes.
 23 The following table provides the basis of the allocation of fire protection capacity to
 24 public and private fire protection.

Customer Type	Equivalent 6" Meters	Distribution	Maximum Day Capacity Mcf/Day	Maximum Hour Capacity Mcf/Day
Public Fire Protection	25,364	88.1%	980	2,550
Private Fire Protection	3,410	11.9%	130	340
Total Fire Protection	28,776	100.0%	1,110	2,890

1
2 The Private Fire Capacity is further adjusted to include the average day metered demand.
3 The following table provides the total maximum day and maximum hour capacities and
4 extra capacities.

Private Fire Meter Demand	Average Daily Use	Maximum Day Capacity	Maximum Day Extra Capacity	Maximum Hour Capacity	Maximum Hour Extra Capacity
	Mcf/Day	Mcf/Day	Mcf/Day	Mcf/Day	Mcf/Day
Private Fire Protection		130	130	340	210
Metered Demand	30	30	0	30	0
Total Fire Protection	30	160	130	370	210

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12 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC
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