

PURCHASE OF SERVICE CONTRACT

The parties to this contract are the State of North Dakota, acting through its North Dakota Public Service Commission, Public Utilities Division (STATE) and PCMG and Associates, LLC. 22 Brookes Ave, Gaithersburg, MD 20877 (CONTRACTOR).

1. SCOPE OF WORK

CONTRACTOR, in exchange for the compensation paid by STATE under this Contract, agrees to provide the services enumerated below. CONTRACTOR shall be registered with the North Dakota Secretary of State and the North Dakota State Procurement Office prior to Contract execution.

CONTRACTOR agrees to perform services outlined in Section 3.01 per the schedule outlined in Section 3.05 of RFP number 408.17.07.010 and CONTRACTOR's August 31, 2017 response to RFP number 408.17.07.010 (the "CONTRACTOR's Proposal"). The written proposal provided by CONTRACTOR is attached to and incorporated into this agreement.

2. COMPENSATION

Contractual Amount

STATE shall pay for the accepted services provided by CONTRACTOR under this Contract an amount not to exceed \$80,000. For the purposes of clarity, the services included in the contractual amount are Deliverables 1 – 6 in the CONTRACTOR'S Proposal.

The Contractual Amount is firm for the duration of the Contract and constitutes the entire compensation due CONTRACTOR for performance of its obligations under this Contract, unless amended, regardless of this difficulty, materials or equipment required, including fees, licenses, overhead, profit and all other direct and indirect costs incurred by CONTRACTOR, except as provided by an amendment to this Contract.

The STATE will make payments based on a monthly payment schedule. Each billing must consist of an invoice listing hours worked at the contract rate, the staff person completing the work, and include a progress report. No payment will be made until the Project Manager has reviewed the progress report and approved the invoice.

Victor Schock – Project Manager
Public Utility Analyst – North Dakota Public Service Commission
600 E Boulevard Ave, Dept 408
Bismarck, ND 58505-0480
vschock@nd.gov
701-328-3397

The STATE will not make any advance payments before performance by the CONTRACTOR under this contract.

Payment

1. Payment made in accordance with this Compensation section shall constitute payment in full for the services and work performed and the deliverables and work(s) provided under this Contract and CONTRACTOR shall not receive any additional compensation hereunder.
2. STATE will make every attempt to make payment under this Contract within thirty (30) calendar days after receipt of an approved invoice.
3. Payment of an invoice by STATE will not prejudice STATE's right to object to or question that or any other invoice or matter in relation thereto. CONTRACTOR's invoice will be subject to reduction for amounts included in any invoice or payment made which are determined by STATE, on the basis of audits conducted in accordance with the terms of this Contract, not to constitute allowable costs. At STATE's sole discretion, all payments shall be subject to reduction for amounts equal to prior overpayments to CONTRACTOR.
4. For any amounts that are or will become due and payable to STATE by CONTRACTOR, STATE reserves the right to deduct the amount owed from the payments that are or will become due and payable to CONTRACTOR under this Contract.

Travel

CONTRACTOR acknowledges travel costs are covered by the Contractual Amount and shall include travel costs in the monthly invoices submitted to STATE.

Prepayment

STATE will not make any advance payments before performance by CONTRACTOR under this Contract.

Payment of Taxes by STATE

STATE is not responsible for and will not pay local, state, or federal taxes. STATE sales tax exemption number is E-2001, and certificates will be furnished upon request by the purchasing agency.

Taxpayer ID

CONTRACTOR'S federal employer ID number is: 30-0882662

3. TERM OF CONTRACT

This Contract begins on the date the last party has fully executed the Contract, and compensation ends on July 31, 2018.

No Automatic Renewal

This Contract will not automatically renew.

Extension Option

STATE reserves the right to extend the Contract up to three times for an additional period of time not to exceed 12 months per extension.

Renewal Option

STATE may renew this Contract upon satisfactory completion of the initial Contract term. STATE reserves the right to execute up to three options to renew this Contract under the same terms and conditions for a period of twelve months each.

4. TIME IS OF THE ESSENCE

CONTRACTOR hereby acknowledges that time is of the essence for performance under this Contract unless otherwise agreed to in writing by the parties.

5. TERMINATION OF CONTRACT

Termination by Mutual Agreement

This Contract may be terminated by mutual consent of both parties, executed in writing.

Termination without Cause

STATE may terminate this Contract in whole or in part when it has determined that continuing the Contract is no longer necessary or would not produce beneficial results commensurate with the further expenditure of public funds.

Termination for Lack of Funding or Authority

STATE by written notice to CONTRACTOR, may terminate the whole or any part of this Contract under any of the following conditions:

- 1) If funding from federal, state, or other sources is not obtained and continued at levels sufficient to allow for purchase of the services or supplies in the indicated quantities or term.
- 2) If federal or state laws or rules are modified or interpreted in a way that the services are no longer allowable or appropriate for purchase under this Contract or are no longer eligible for the funding proposed for payments authorized by this Contract.
- 3) If any license, permit, or certificate required by law or rule, or by the terms of this Contract, is for any reason denied, revoked, suspended, or not renewed.

Termination of this Contract under this subsection is without prejudice to any obligations or liabilities of either party already accrued prior to termination.

Termination for Cause

STATE may terminate this Contract effective upon delivery of written notice to CONTRACTOR, or any later date stated in the notice:

- 1) If CONTRACTOR fails to provide services required by this Contract within the time specified or any extension agreed to by STATE; or
- 2) If CONTRACTOR fails to perform any of the other provisions of this Contract, or so fails to pursue the work as to endanger performance of this Contract in accordance with its terms.

The rights and remedies of STATE provided in this subsection are not exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

6. FORCE MAJEURE

Neither party shall be held responsible for delay or default caused by fire, flood, riot, acts of God or war if the event is beyond the party's reasonable control and the affected party gives notice to the other party immediately upon occurrence of the event causing the delay or default or that is reasonably expected to cause a delay or default.

7. INDEMNITY

CONTRACTOR agrees to defend, indemnify, and hold harmless the state of North Dakota, its agencies, officers and employees (STATE), from and against claims based on the vicarious liability of the STATE or its agents, but not against claims based on the STATE's contributory negligence, comparative and/or contributory negligence or fault, sole negligence, or intentional misconduct. The legal defense provided by CONTRACTOR to the STATE under this provision shall be free of any conflicts of interest, even if retention of separate legal counsel for the STATE is necessary. An attorney appointed to represent the STATE shall first qualify as and be appointed by the North Dakota Attorney General as a Special Assistant Attorney General as required under North Dakota Century Code section 54-12-08. CONTRACTOR also agrees to defend, indemnify, and hold the STATE harmless for all costs, expenses, and attorneys' fees incurred if the STATE prevails in an action against CONTRACTOR in establishing and litigating the indemnification coverage provided herein. This obligation shall continue after the termination of this agreement.

8. INSURANCE

CONTRACTOR shall secure and keep in force during the term of this agreement and CONTRACTOR shall require from all subcontractors, prior to commencement of an agreement between Contractor and the subcontractor, to secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools or government self-retention funds, authorized to do business in North Dakota, the following insurance coverages:

- 1) Commercial general liability, including premises or operations, Contractual, and products or completed operations coverages (if applicable), with minimum liability limits of \$250,000 per person and \$1,000,000 per occurrence.
- 2) Automobile liability, including Owned (if any), Hired, and Non-Owned automobiles, with minimum liability limits of \$250,000 per person and \$1,000,000 per occurrence.
- 3) Workers compensation coverage meeting all statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of this Contract.

- 4) Employer's liability or "stop gap" insurance of not less than \$1,000,000 as an endorsement on the workers compensation or commercial general liability insurance.

The insurance coverages listed above shall meet the following additional requirements:

- 1) Any deductible or self-insured retention amount or other similar obligation under the policies shall be the sole responsibility of CONTRACTOR. The amount of any deductible or self-retention is subject to approval by the STATE.
- 2) This insurance may be in policy or policies of insurance, primary and excess, including the so-called umbrella or catastrophe form and shall be placed with insurers rated "A-" or better by A.M. Best Company, Inc., provided any excess policy follows form for coverage. Less than an "A-" rating shall be approved by the STATE. The policies shall be in form and terms approved by the STATE.
- 3) The duty to defend, indemnify, and hold harmless the STATE under this agreement shall not be limited by the insurance required in this agreement.
- 4) The State of North Dakota and its agencies, officers, and employees (STATE) shall be endorsed on the commercial general liability policy, including any excess policies (to the extent applicable), as additional insured. The STATE shall have all the benefits, rights and coverages of an additional insured under these policies that shall not be limited to the minimum limits of insurance required by this agreement or by the Contractual indemnity obligations of CONTRACTOR.
- 5) The insurance required in this agreement, through a policy or endorsement, shall include:
 - a) "Waiver of Subrogation" waiving any right to recovery the insurance company may have against the STATE;
 - b) a provision that CONTRACTOR'S insurance coverage shall be primary (i.e. pay first) as respects any insurance, self-insurance or self-retention maintained by the STATE and that any insurance, self-insurance or self-retention maintained by the STATE shall be in excess of the CONTRACTOR'S insurance and shall not contribute with it;
 - c) cross liability/severability of interest for all policies and endorsements;
 - d) The legal defense provided to the STATE under the policy and any endorsements shall be free of any conflicts of interest, even if retention of separate legal counsel for the STATE is necessary;
 - e) The insolvency or bankruptcy of the insured CONTRACTOR shall not release the insurer from payment under the policy, even when such insolvency or bankruptcy prevents the insured CONTRACTOR from meeting the retention limit under the policy.
- 6) CONTRACTOR shall furnish a certificate of insurance to the undersigned STATE representative prior to commencement of this agreement. All endorsements shall be provided as soon as practicable.

- 7) Failure to provide insurance as required in this agreement is a material breach of Contract entitling the STATE to terminate this agreement immediately.
- 8) CONTRACTOR shall provide at least 30 day notice of any cancellation or material change to these policies or endorsements.

9. WORKS FOR HIRE

CONTRACTOR acknowledges that all work(s) under this Contract is "work(s) for hire" within the meaning of the United States Copyright Act (Title 17 United States Code) and hereby assigns to STATE all rights and interests CONTRACTOR may have in the work(s) it prepares under this Contract, including any right to derivative use of the work(s). All software and related materials developed by CONTRACTOR in performance of this Contract for STATE shall be the sole property of STATE, and CONTRACTOR hereby assigns and transfers all its right, title, and interest therein to STATE. CONTRACTOR shall execute all necessary documents to enable STATE to protect STATE's intellectual property rights under this section. Notwithstanding, CONTRACTOR shall remain the owner of all intellectual property rights it possessed prior to this Agreement, as well as all modifications or adaptations made to that intellectual property during the Agreement ("CONTRACTOR Pre-Existing IP"). If any CONTRACTOR Pre-Existing IP is included as a deliverable hereunder, CONTRACTOR hereby grants the STATE a nonexclusive, royalty-free, world-wide right to use that Background IP as part of the deliverable with which it was included for the ordinary business purposes of the STATE.

10. WORK PRODUCT

All work product, equipment or materials created or purchased under this Contract belong to STATE and shall be delivered to STATE at STATE'S request upon termination of this Contract.

11. NOTICE

All notices or other communications required under this Contract shall be given by registered or certified mail and are complete on the date mailed when addressed to the parties at the following addresses:

PCMG and Associates, LLC
22 Brookes Ave
Gaithersburg, MD 20877

North Dakota Public Service Commission
600 East Boulevard Ave, Dept. 408
Bismarck, ND 58505-0480

Notice provided under this provision does not meet the notice requirements for monetary claims against the STATE found at North Dakota Century Code section 32-12.2-04.

12. CONFIDENTIALITY

CONTRACTOR shall not use or disclose any information it receives from STATE under this Contract that STATE has previously identified as confidential or exempt from mandatory public disclosure except as necessary to carry out the purposes of this Contract or as authorized in advance by STATE. STATE shall not disclose any information it receives from CONTRACTOR that CONTRACTOR has previously identified as confidential and that STATE determines in its sole discretion is protected from mandatory public disclosure under a specific exception to the North Dakota open records law, North Dakota Century Code chapter 44-04. The duty of STATE and CONTRACTOR to maintain confidentiality of information under this section continues beyond the term of this Contract.

13. COMPLIANCE WITH PUBLIC RECORDS LAW

CONTRACTOR understands that, except for disclosures prohibited in this Contract, STATE shall disclose to the public upon request any records it receives from CONTRACTOR. CONTRACTOR further understands that any records that are obtained or generated by CONTRACTOR under this Contract, except for records that are confidential under this Contract, may, under certain circumstances, be open to the public upon request under the North Dakota open records law. CONTRACTOR agrees to contact STATE immediately upon receiving a request for information under the open records law and to comply with STATE'S instructions on how to respond to the request.

14. INDEPENDENT ENTITY

CONTRACTOR is an independent entity under this Contract and is not a STATE employee for any purpose, including the application of the Social Security Act, the Fair Labor Standards Act, the Federal Insurance Contribution Act, the North Dakota Unemployment Compensation Law and the North Dakota Workforce Safety and Insurance Act. CONTRACTOR retains sole and absolute discretion in the manner and means of carrying out CONTRACTOR'S activities and responsibilities under this Contract, except to the extent specified in this Contract.

15. ASSIGNMENT AND SUBCONTRACTS

CONTRACTOR may not assign or otherwise transfer or delegate any right or duty without STATE'S express written consent. However, CONTRACTOR may enter into subcontracts provided that any subcontract acknowledges the binding nature of this Contract and incorporates this Contract, including any attachments. CONTRACTOR is solely responsible for the performance of any subcontractor. CONTRACTOR does not have authority to Contract for or incur obligations on behalf of STATE.

16. SPOILIATION – NOTICE OF POTENTIAL CLAIMS

CONTRACTOR shall promptly notify STATE of all potential claims that arise or result from this Contract. CONTRACTOR shall also take all reasonable steps to preserve all physical evidence and information that may be relevant to the circumstances

surrounding a potential claim, while maintaining public safety, and grants to STATE the opportunity to review and inspect the evidence, including the scene of an accident.

17. MERGER AND MODIFICATION

This Contract, including the following documents, constitutes the entire agreement between the parties. There are no understandings, agreements, or representations, oral or written, not specified within this Contract. This Contract may not be modified, supplemented or amended, in any manner, except by written agreement signed by both parties.

Notwithstanding anything herein to the contrary, in the event of any inconsistency or conflict among the documents making up this Contract, the documents shall control in this order of precedence:

- a. The terms of this Contract as may be amended;
- b. CONTRACTOR's written negotiated proposal dated August 31, 2017.
- c. All terms and conditions contained in any end user agreements (e.g. automated click-throughs, shrink wrap, or bonus wrap) are specifically excluded and null and void, and shall not alter the terms of this Contract.

18. SEVERABILITY

If any term of this Contract is declared by a court having jurisdiction to be illegal or unenforceable, the validity of the remaining terms is unaffected, and, if possible, the rights and obligations of the parties are to be construed and enforced as if the Contract did not contain that term.

19. APPLICABLE LAW AND VENUE

This Contract is governed by and construed in accordance with the laws of the STATE. Any action to enforce this Contract shall be adjudicated exclusively in the State District Court of Burleigh County, North Dakota. Each party consents to the exclusive jurisdiction of such court and waives any claim of lack of jurisdiction or forum non conveniens.

20. ALTERNATIVE DISPUTE RESOLUTION – JURY TRIAL

STATE does not agree to any form of binding arbitration, mediation, or other forms of mandatory alternative dispute resolution. The parties have the right to enforce their rights and remedies in judicial proceedings. STATE does not waive any right to a jury trial.

21. ATTORNEY FEES

In the event a lawsuit is instituted by STATE to obtain performance due under this Contract, and STATE is the prevailing party, CONTRACTOR shall, except when prohibited by North Dakota Century Code section 28-26-04, pay STATE'S reasonable attorney fees and costs in connection with the lawsuit.

22. NONDISCRIMINATION AND COMPLIANCE WITH LAWS

CONTRACTOR agrees to comply with all laws, rules, and policies, including those relating to nondiscrimination, accessibility and civil rights. CONTRACTOR agrees to timely file all required reports, make required payroll deductions, and timely pay all taxes and premiums owed, including sales and use taxes and unemployment compensation and workers' compensation premiums. CONTRACTOR shall have and keep current at all times during the term of this Contract all licenses and permits required by law.

23. STATE AUDIT

All records, regardless of physical form, and the accounting practices and procedures of CONTRACTOR relevant to this Contract are subject to examination by the North Dakota State Auditor, the Auditor's designee, or Federal auditors. CONTRACTOR shall maintain all such records for at least three years following completion of this Contract and be able to provide them at any reasonable time. STATE, State Auditor, or Auditor's designee shall provide reasonable notice.

24. EFFECTIVENESS OF CONTRACT

This Contract is not effective until fully executed by both parties.

CONTRACTOR

PCMG and Associates, LLC

By: Karl R. Pavlovic

Title: Karl Richard Pavlovic,
Managing Director

Date: 9/13/17

STATE OF NORTH DAKOTA

Acting through its North Dakota Public
Service Commission

By: Randy Christmann

Title: Randy Christmann, Chairman

Date: 9/20/17

By: Julie Fedorchak

Title: Julie Fedorchak, Commissioner

Date: 9/20/17

By: Brian Kroshus

Title: Brian Kroshus, Commissioner

Date: 9/20/17

PCMG and Associates, LLC

Regulatory Consultants

Response to North Dakota Public Service Commission, Public Utilities Division

RFP 408.17.07.010

Montana-Dakota Utilities Rate Increase Application

I. Introduction

PCMG and Associates, LLC

22 Brookes Avenue

Gaithersburg, MD 20877

North Dakota Certificate of Authority ID#: 42,426,800

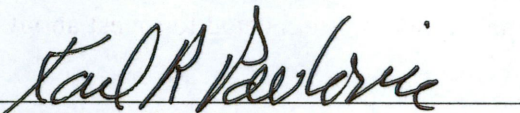
Contact:

Karl Richard Pavlovic

202-422-2720

kpavlovic@pcmgregcon.com

By signature below, PCMG confirms that it will comply with all provisions of the above referenced Request for Proposals and that neither PCMG or the individuals named in this proposal have any conflicts of interest with regard to this proposal.



Karl Richard Pavlovic

Managing Director



PCMG and Associates, LLC

Regulatory Consultants

Response to North Dakota Public Service Commission, Public Utilities Division

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Montana-Dakota Utilities Rate Increase Application

II. Understanding of Project

On July 21, 2017, Montana-Dakota Utilities Co., (MDU or Company) filed a petition with the North Dakota Public Service Commission requesting (1) an increase in its gas service operations of \$5,868,389 or 5.4% over current rates and (2) interim rate relief of \$4,561,074 (78% of the total requested increase) to be implemented pending the outcome of the. The Company's request is based on a 2018 future test year. The Company's last base rate case proceeding was approved on December 1, 2015, in the amount of \$2.6 million or 1.96%. The Company provides natural gas service to about 109,000 customers in 74 communities in North Dakota, of which 86% is residential in nature.

Company witness Nicole A. Kivisto states that the need for the increase is predicated upon new distribution investments, replacement of aging infrastructure and increased operation and maintenance expenses that the Company anticipates incurring in 2018 test year period. The primary driver of increased investment is the Company's plan to invest in infrastructure integrity initiatives through a System Safety and Integrity Program (SSIP). The SSIP is focused on the replacement of vintage steel pipe, plastic pipe, low pressure systems and relocation of inside meters. Based upon a 2018 projected average rate base, the Company is expected to invest about \$135 million.

PCMG has identified the following issues in the Company's filing.

Rate Base

Company witness Travis R. Jacobson testifies to the development of the 2018 fully projected average rate base development. The major plant investments are (1) SSIP investments of \$5.6 million and (2) increases in Distribution, General and Common plant investment categories consisting of \$15.2 million in 2017 and \$16.7 million in 2018. The Company's common gas plant associated with the North Dakota operations is allocated based upon an actual site and use basis. A review of the allocation methodology from MDU Resources (parent company) to MDU- North Dakota is required to determine whether the allocations are appropriate, reasonable and proper in setting rates for the North Dakota gas utility operations.

In Statement L, page 5, the Company has identified all the projects it plans on placing in service through 2017 and through 2018. These projects consists of plant related to growth, main replacements, general in nature, and common, routine and ordinary in scope. A review of the

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Company's past plant additions (actual vs. budgeted) should be examined to determine whether the Company's projected balances through 2018 are reasonable and achievable. This review consists of (1) examination of updates to the Company's permit process and construction program, as to the timing of projects being placed in service, (2) determination of whether plant additions are mandatory in nature and in accordance with federal, state and local law, (3) determination of the need for the plant additions to provide safe and reliable gas utility service, and (4) determination of whether capitalization of costs allocated from the parent company (MDU Resources) to MDU is proper and reasonable.

A similar review of the Company's remaining rate base components should also undertaken to determine the proper and reasonable level of costs through the end of the forecasted test year period for Materials and Supplies, Fuel Stock, Prepayments, and Customer Advances. The rate base components associated with the Company's projected UPIS such as Accumulated Depreciation, and Accumulated Deferred Income Taxes are computed based upon a recommended level of the plant balance.

Revenues

Company witness Matthew T. Shoemake testifies to the development of the Company's revenues and growth rate for the 2-year period (2016-2018), based on the calculation of customer growth and normalized and projected volumes of gas under each customer category. Mr. Shoemake computes revenue growth beginning in 2016 (per books) with total Operating Revenues of \$91.886 million, and projected added revenues through 2018 of \$112.136 million, a \$20.25 million increase. The bulk of the increase is due to increases in residential and Firm General sales. The Company projects increases in customer growth from 110,769 in the projected 2017 period to 112,516 in the projected 2018 period. The Company's Customer Care and Billing System (CC&B) is used to develop the customer growth and customer counts for each period. With respect to the development of gas volumes, the volume for each customer class is adjusted to reflect normal weather patterns based upon a 30 years weather normalization period and a 2-year average growth rate for each customer class presented as expected in the future.

A review of the Company's methodology (i.e. the CC&B) and the Company's purchased gas adjustment filings, the allocation of the cost of gas from MDU to the North Dakota operations, weather normalization, fuel cost filings and other filings is required to determine the reasonableness of the Company's projected cost of gas, and the revenues computed through 2018.

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Operation and Maintenance Expense

Company witness Travis R. Jacobson, developed the Company's O&M expense level based upon a projected average 2018 test period and identifies the following expenses that will increase over the 2016-2018 period:

- Labor and Benefits – increases in bargaining unit/non-bargaining employees – contracts negotiation, incentive compensation/bonus and commissions for 2017 and 2018 periods. Benefits include an increase in medical/dental, pension, and post-retirement; 7.20% increase in 2017, and 7.00% increase in 2018.
- Subcontract labor – reflects inflation at 2.22%.
- Materials – reflects inflation at 2.22%.
- Vehicles and Work Equipment – reflects purchases of equipment and allocated based upon expense vs. capitalized costs.
- Uncollectible – based upon a three-year average and applied to projected 2017-2018 sales and transportation revenues.
- Office Expenses – increase based upon Consumer Price Index of 2.40, software maintenance, (2.22% inflation increase),
- Rents – based upon inflation increase of 2.22%.
- Insurance – reflects an increase of 5.00% based upon recent trends.
- Regulatory Commission Expenses – costs to be amortized over three-year and reflects costs associated with depreciation studies amortized over five-years.
- Other O&M – reflects an increase of 2.22% inflation factor.

A review of the Company's projected O&M expenses from the base year 2016 through the fully projected year of 2018 encompass review and examination of trends, prior years expense levels, and the averaging out certain expenses that are deemed to be fluctuating from year to year, volatile in nature and out of the Company's control. A review of whether any of the O&M costs are allocated from MDU to the North Dakota operations are necessary, appropriate and applicable.

Cost of Capital

The Company offers two witnesses regarding cost of capital: Dr. J. Stephen Gaske on return on equity (ROE) and Tammy Nygard on capital structure and rate of return.

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Return on Equity

Dr. Gaske testifies that the authorized ROE for MDU in this docket should be 10.0 percent. He applies two forms of the discounted cash flow (DCF) model, a basic DCF and what he calls a blended growth-rate analysis. Both models use growth-rate forecasts by independent analysts as inputs, while the blended analysis also includes sustainable growth rates calculated by Dr. Gaske. Both models also use dividends paid by companies in his proxy group of natural-gas local distribution companies (LDCs) and prices of the companies' common-equity shares as inputs. In addition to the two DCF versions, Dr. Gaske uses two risk-premium analyses, a DCF market analysis for the Standard & Poor's 500, and a capital asset pricing model analysis as checks on the reasonableness of his DCF-based ROE recommendation.

Dr. Gaske's selection of his seven-member proxy group proxy group to which the various models are applied is reasonable. His inclusion of a flotation adjustment also is reasonable, but not his use of dated issuance costs in determining the size of the flotation adjustment. MDU costs, if available, are a better input, or recent costs from other companies if they are not. Dr. Gaske also includes an incorrect growth rate as he converts the dividend yields of his proxy companies to expected dividend yields, which causes the size of the adjustment to be overstated. Neither of these matters increases the ROE analyses outcomes very much, but Dr. Gaske's methods are flawed. Dr. Gaske also uses the average of high and low common-equity share prices to determine that input's value in his models, when a better method is to take an average of daily prices from a recent period such as four weeks.

Of greater importance are the sections of Dr. Gaske's testimony in which he states that his DCF ROE outcomes are insufficient as an ROE recommendation for MDU. He asserts that Federal Reserve monetary policy, expected movement in interest rates, bond yields, MDU's size relative to proxy group members sizes, and the nature of MDU's market all support increases in the outcomes of his DCF analyses as MDU's recommended ROE. Dr. Gaske's adjustments for current and projected economic conditions double count these factors. The common-equity share prices of proxy group companies reflect expected interest-rate movements and other expected general economic conditions. These common-equity share prices are a key input to the DCF models. Thus, the expected economic conditions that Dr. Gaske relies on to support increases to his DCF ROE results are already captured in the DCF model and Dr. Gaske's separate adjustment outside the model double-weights these factors.

Dr. Gaske's reliance on predictions of interest-rate increases and bond yields to develop a risk-free rate of return also inflates his CAPM ROE outcomes. These predictions have been

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consistently and significantly too high for the past few years and are not sound indicators of what the risk-free rate input to the CAPM should be. Current bond yields are the best evidence of what it is that investors expect to happen. The investors, taking into account the predictions that Dr. Gaske cites for support for his adjustments, express their beliefs about where interest rates are headed through prices that they actually pay for debt instruments. The prices, in turn, affect the yields.

Dr. Gaske's analysis of MDU as a small firm is also a significant flaw. While MDU may not have the market capitalization that other LDCs do, it is a part of MDU Resources. As such, it has access to economies of scale that come from sharing back-office and other operational systems with other parts of MDU Resources, particularly MDU's other LDCs. It also has access to the capital markets through MDU Resources. Therefore, the Company's operating costs and capital costs reflect these costs for MDU Resources, rather than for a firm with MDU's relatively low capitalization. Dr. Gaske's size adjustments (1,400 basis points in one instance) are far too large. Further analysis is needed to determine whether any size adjustments for MDU is justified.

PCMG's cost of capital witness, Dr. Marlon Griffing, relies on the DCF model as his primary ROE analytical tool. He uses a constant-growth DCF model, as well as a long-term growth form of the model. His proxy-group choice criteria are similar to those applied by Dr. Gaske, as are his sources of growth-rate estimates. His criticisms of Dr. Gaske's common-equity share prices, flotation adjustment, and dividend-yield adjustment inform Dr. Griffing's application of the DCF model. This model relies on market prices and dividends, and independent market analysts' growth-rate estimates. It is, therefore, in addition to being forward-looking, less subject to analyst judgment.

As a check on the reasonableness of his DCF ROE outcomes, Dr. Griffing uses the CAPM and the results of recent authorized ROEs from LDCs around the United States. These results from Regulatory Research Associates should not drive ROE analysis, because they represent former economic conditions. However, pragmatically, they and the CAPM results serve as indicators of how well a given ROE analysis fits into the national regulatory environment.

Capital Structure

Ms. Nygard's capital structure analysis takes Dr. Gaske's ROE analysis as one input into the calculation of a rate of return for MDU. Ms. Nygard's testimony identifies the common-

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equity, long-term debt, and short-term debt ratios, as well as the costs of the two categories of debt that are the other inputs. The Company's calculations of these ratios and costs appear to be appropriate. However, given that the test year for the case is a future year, Dr. Griffing will compare MDU projections for these ratios and costs from previous general rate cases with actual ratios and costs for the projected years. This analysis will confirm whether MDU's projections have been accurate. If they have not, then Dr. Griffing will determine ratios and costs that are a better fit for the docket.

Ms. Nygard is the appropriate witness to whom questions about actual equity issuance costs for MDU will be directed. As noted previously, these costs, not Dr. Gaske's average of the issuance costs of other LDCs dating back to 2004, are the preferred costs for calculating a flotation adjustment for MDU.

Class Cost of Service Study, Class Revenue Allocation, and Class Rate Design

In regulatory theory and practice the relationship between cost allocation and rate design and the utility's recovery of its approved revenue requirement is conceptually simple. If a utility's costs of providing service are not accurately allocated to its rate classes and rate class costs are not accurately reflected in the rate classes' tariff billing charges, then the utility will either over or under recover its costs of service or revenue requirement. The less accurately the costs are reflected in the rate classes' tariff billing charges, the greater the utility's under or over recovery of its costs will be. Regarding gas, it is important to distinguish between the production of the commodity natural gas on the one hand and the delivery (transmission and distribution) of the commodity to customers on the other, because the drivers of commodity costs are complex and difficult to forecast, while the drivers of delivery costs are simple and relatively straightforward to forecast. For distribution costs the two primary cost drivers are (1) the number of customers served by the distribution system and (2) customer demand on the distribution system; commodity volume is a lesser cost driver. In this proceeding the revenue requirement, class costs and tariff rates at issue concern MDU's gas distribution system serving its North Dakota customers. Consequently, the fundamental issue is whether MDU's proposed customer class cost allocations and tariff rates (1) accurately reflect the distribution customer costs, demand costs, and volumetric costs of its customers and (2) thus minimize the likelihood of either under or over recovery of MDU's gas distribution revenue requirement.

Company Witness Jordan R. Hatzenbuhler presents the Company's class cost study, proposed class revenue requirement allocation and proposed rate design. The class cost study follows the standard approach of functionalizing, classifying and allocating the Company's

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distribution system costs. Regarding allocation of the revenue requirement to classes, Mr. Hatzenbuhler proposes allocate the revenue requirement so has to move both the Residential and Firm General Classes to full cost service as measured by cost study's class rates of return. Regarding rate design, Mr. Hatzenbuhler proposes to increase the customer charge towards full customer cost recovery as determined by the class cost study's customer cost results.

Firmly established regulatory ratemaking theory requires that rates and charges reflect the costs incurred in providing service to the customer, modified only by compelling overriding policy considerations. The standard issues regarding rate design (class revenue distribution and rate structure) and cost allocation are:

- Have the utility's costs been assigned to the proper functions?
- Have the functionalized costs been properly classified as customer, demand or volume related based on cost causation?
- Have the functionalized and classified costs been properly assigned to customer classes or allocated using appropriate class allocators based on cost causation?
- Has the revenue requirement been properly assigned to classes giving appropriate weight to cost causation and relevant policy considerations?
- Do the class rate structures properly reflect cost causation and relevant policy considerations?

Based on a preliminary analysis of MDU's filing, PCMG has identified the following specific issues regarding MDU's class cost studies and rate design proposals:

- The embedded class cost of service study does not classify system costs and allocate costs to rate classes consistent with the principle of cost causation. Specifically, the classification of a 25 percent of the costs of mains as customer-related has no defensible basis in either theory or practice and specifically over allocates mains costs to the residential class.
- The errors in the class cost study render the resulting class return results erroneous.

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- The revenue allocation to classes based on the erroneous class return results renders the revenue allocations equally erroneous and over allocates the revenue requirement increase to the residential class.
- The calculation of class customer charges based on the cost study's erroneous customer cost results renders those class charges equally erroneous.

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III. Methodology Used for the Project

The North Dakota Public Service Commission, Public Utilities Division (Division), is soliciting proposals for (1) a thorough analysis of the rate increase application, (2) written testimony and present effective oral testimony at hearing, and (3) assistance in the preparation of pre- and post-hearing documents and possibly application dismissal documents.

Specifically regarding the analysis of the rate increase application, the Public Utilities Division requests a detailed analysis and conclusions related to the appropriate rate base, cost of capital, income, expenses, class cost of service study, revenue allocation to the classes and rate design for MDU's North Dakota natural gas operations.

The Divisions estimates (subject to change) the following schedule for this proceeding.

- Contract start: September 20, 2017
- Testimony of the selected offerer, ratepayer advocacy staff and any other intervenor :
December 1, 2017
- Rebuttal Testimony of all parties: December 22, 2017
- Surrebuttal Testimony of all parties: January 8, 2018
- Technical Hearings: Last January or early February 2018
- Initial Briefs: TBD
- Reply Briefs: TBD

Based on its analysis of the Company's application above, the PCMG project team (see Section IV below) proposes to provide the requested assistance to the Public Utilities Division through the following six work plan deliverables.

Deliverable 1 – Review, Analysis and Critique of the Company's Rate Increase Filing

PCMG will undertake a thorough analysis of the Company's application in light of (1) the evidentiary record and rate orders from prior relevant Commission Orders, (2) regulatory ratemaking theory and practice, (3) the Commission's past policy determinations with regard to gas utility rates and costs, (4) relevant North Dakota and Commission statutory and regulatory requirements, and (5) information and data received in response to identified-issue-targeted discovery prepared by PCMG. This analysis will focus on appropriate rate base, cost of capital, income, expenses, class cost of service study, revenue allocation to the classes and rate design.

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The results of this analysis will be memorialized in a report to the Division. In addition to PCMG's findings, the report will include recommendations with regard to the issues identified and thoroughly document all qualitative and quantitative analyses performed. In the event that there are delays in the discovery process, PCMG will produce a preliminary report into which findings and recommendations based on discovery can be incorporated as they become available. The report will form the initial basis for written testimony prepared in consultation with the Division (see Deliverables 2-4).

Deliverable 2 – Direct Testimony and Exhibits

PCMG will draft and finalize direct testimony and relevant exhibits in support of its conclusions and recommendations for review by the Division and respond to discovery directed to its testimony.

Deliverable 3 – Rebuttal Testimony and Exhibits

PCMG will review, analyze and summarize intervenor testimony and draft discovery regarding the positions and issues articulated therein, provide written rebuttal testimony as required, respond to any discovery directed to PCMG's testimony, and provide any other assistance required by the Division.

Deliverable 4 – Surrebuttal Testimony and Exhibits

PCMG will review, analyze and summarize Company and intervenor testimony and draft discovery regarding the positions and issues articulated therein, provide written surrebuttal testimony as required, respond to any discovery directed to PCMG's testimony, and provide any other assistance required by the Division.

Deliverable 5 – Cross-Examination and Testimony at Hearing

At hearing PCMG will assist the Division with the preparation and conduct of cross-examination of intervenor and Company witnesses, present oral testimony if required, and respond to cross-examination.

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Deliverable 6 – Assistance on Brief

PCMG will provide the Division assistance on initial and reply briefs and any other assistance required by the Division.

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IV. Experience and Qualifications

A. PCMG and Associates

PCMG and Associates LLC (PCMG) is an association of experts in utility regulation and policy, economics, accounting, and finance, with over 75 years collective experience providing assistance to counsel and expert testimony regarding the regulation of electric, gas, water, and wastewater utilities operating under local, state and federal jurisdictions. PCMG brings to client engagements a consultative collaborative approach to the identification of issues and development of positions with strict adherence to client procedures and deadlines.

PCMG was organized in the State of Maryland as a sole proprietorship on October 8, 2014 with an organizational structure consisting of a Board of Directors, Managing Director, and Members. PCMG began operation on January 1, 2015 and on July 30, 2015 re-organized as a limited liability company, retaining in all particulars the original organization structure.

PCMG is currently providing assistance to counsel and/or testimony regarding revenue requirement accounting, cost of capital, cost of service, and rate design in regulatory proceedings before the Massachusetts Department of Public Utilities, the New Jersey Board of Public Utilities, the Maryland Public Service Commission, the Maine Public Utilities Commission, the Corporation Commission of Oklahoma, the Illinois Corporation Commission, and the Pennsylvania Public Utilities Commission.

B. Project Team

Karl Richard Pavlovic, Ph.D

- (a) Senior Consultant and Project Manager
- (b) See Attachment A for resume
- (c) responsible for depreciation, class cost allocation, class revenue requirement allocation, and rate design
- (d) estimated hours: 127

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Dante Mugrace, MBA

- (a) Senior Consultant
- (b) See Attachment B for resume
- (c) responsible for rate base, income and expenses
- (d) estimated hours: 148

Marlon Griffing, Ph.D

- (a) Senior Consultant
- (b) See Attachment C for resume
- (c) responsible for cost of capital
- (d) estimated hours: 103

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V. Cost Proposal

Labor Cost:	Hours	Rate	Total
Mugrace	148	\$200	\$29,600
Griffing	103	\$200	\$20,600
Pavlovic	127	\$200	\$25,400
Total number of hours at various hourly rates			\$75,600
Direct Expenses - NA			

Other Cost

Supplies - NA

Overhead - NA

Travel

Mugrace \$1,140

Griffing \$1,175

Pavlovic \$1,250

Profit - NA

Other Pertinent Expenditures - NA

Total Cost \$77,915

List any applicable Prompt Payment Discount Terms. - NA

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KARL RICHARD PAVLOVIC, Ph.D.*Education*

Purdue University – MA and Ph.D. in Philosophy

Karl-Ruprecht Universität, Heidelberg, Germany – graduate study

Yale University – BA in Philosophy

Positions

Senior Consultant – PCMG and Associates	2015-Present
Senior Consultant – Snavely King Majoros and Associates	2010-2014
Director – FTI Consulting	2008-2010
President – DOXA, Inc	1994-2008
Partner – Snavely King and Associates	1983-1994
Assistant Professor – University of Florida-Gainesville	1978-1983

Professional Experience

Dr. Pavlovic provides clients with economic and policy analyses of commercial operations and expert testimony in support of litigation, negotiation and strategic planning. His analyses and testimony are distinguished by systematic articulation and testing of assumptions, thorough evaluation of data, innovative application of statistical tools and economic principles, and clarity and precision of presentation. In his 33 years as a consultant and expert witness, Dr. Pavlovic has provided expert testimony on the operations, costs and revenues of gas and electric utilities, the impacts of restructuring wholesale and retail electric markets, effects of mergers, the operation and competitiveness of petroleum and electric markets, the market valuation of crude oil, electric and gas reliability, and the performance of energy efficiency, renewable energy, and peak reduction programs.

Major projects directed by Dr. Pavlovic have included: analytical assistance to counsel and testimony on all aspects of the restructuring of wholesale and retail electric markets in the Eastern Interconnection; technical representation of the District of Columbia People's Counsel on DC PSC's Pepco Productivity Improvement Working Group and various PJM working groups; impact evaluation study of pilot energy efficiency and renewable energy programs in the District of Columbia; analysis of petroleum markets, expert testimony, and coordination of technical testimony in the Trans-Alaska Pipeline quality bank litigation; Independent Technical Review of the economic models used by the US Army Corps of Engineers for the Ohio River System Investment Plan; assistance to a major independent telephone company in the formulation and implementation of corporate strategic plans, applications for long-distance authority, and settlement negotiations with major domestic and foreign carriers.

By education and professional experience Dr. Pavlovic has expertise in formal and mathematical logic, statistics, economics, financial analysis, econometrics, and computer modeling.

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References

John Adragna, Attorney
McCarter & English, LLP
1015 15th Street, NW
Washington, DC 20005
(202) 303-3841
jadragna@mccarter.com

Ronald Herzfeld, Esq.
Assistant People's Counsel
Maryland Office of People's Counsel
6 St. Paul Street, Suite 2102
Baltimore, MD 21202
410-767-8150
Ronald.Herzfeld@maryland.gov

William Stevens, Assistant Attorney General
Office of Ratepayer Advocacy
Massachusetts Attorney General's Office
One Ashburton Place
Boston, MA 02108
(617) 963-2402
William.Stevens@state.ma.us

Agnes Gormley, Esq.
Deputy Public Advocate
State of Maine
Office of the Public Advocate
112 State House Station
Augusta, Maine 04333-0112
(207) 624-3687
Agnes.Gormley@maine.gov

C. Randall McCreary, Attorney
Reynolds Mirth Richards & Farmer LLP
Manulife Place
Suite 3200-10180 101 St NW
Edmonton, AB T5J 3W8
780-497-3348
rmccreary@rmrf.com

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Representative Regulatory Projects and Appearances

1. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9455
2. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 17-GREC-06
3. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 17-GREC-05
4. In re: In the matter of the application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2017) - (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9447
5. In re: PJM Interconnection, L.L.C. - PECO Energy Company Transmission Formula Rate Application (2017) - (Analysis and Advice to Counsel: accounting)
Federal Energy Regulatory Commission Docket ER17-1519-000
6. In re: Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed General Increase in Gas Rates (2017) - (Appearance: prudence/used and useful and plant accounting re. accelerated asset replacement program on behalf of the Illinois Citizens Utility Board)
IL Commerce Commission Docket No. 17-0124
7. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) - (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9443
8. In re: PJM Interconnection, L.L.C. - Rockland Electric Company Transmission Rate Application (2017) (Analysis and Advice to Counsel: accounting issues on behalf of the New Jersey Division of Rate Counsel)
Federal Energy Regulatory Commission Docket ER17-856-000

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9. In re: PJM Interconnection, L.L.C. - Mid-Atlantic Interstate Transmission, L.L.C. Transmission Formula Rate Application (2016) - (Analysis and Advice to Counsel: accounting)
Federal Energy Regulatory Commission Docket ER17-211-000
10. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9424
11. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9418
12. In re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01
13. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05
14. In re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Appearance: compliance with statutes and regulations, prudence, cost/benefit, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
NH Public Utilities Commission Docket No. DE 16-241
15. In re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel: tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
ME Public Service Commission Docket No. 2016-00035
16. In re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (2016) - (Appearance: productivity adjustments/performance based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20414

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17. In re: Emera Maine, Proposed Rate Increase in Rates (2016) - (Analysis and Advice to Counsel: evaluation of management audit of implementation of Customer Information System on behalf of the Maine Office of the Public Advocate)
ME Public Service Commission Docket No. 2015-00360
18. In. re: The Merger of the Southern Company and AGL Resources Inc.- Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Utility Holdings, Inc., d/b/a Elkton Gas (2015-2016) - (Analysis and Advice to Counsel: earnings, synergy savings, rates, operations, supply procurement, safety, and reliability on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9404
19. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of Firm Transportation Agreements with Millennium Pipeline Company, LLC (2015-2016) - (Analysis, Advice to Counsel, and Assistance on Brief: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-142
20. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015-2016) - (Analysis, Advice to Counsel, and Assistance on Brief: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-130
21. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Gaz Metro LNG, L.P.; and National Grid LNG (2015-2016) - (Analysis and Advice to Counsel: compliance with gas supply plan, rates, and reliability on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-129
22. In re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor Compliance Filing (2015) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 15-55
23. ENMAX Energy Corporation (EEC) 2015-2016 Regulated Rate Option Non-Energy Tariff Application (2015-2016) - (Appearance: cost allocation, rate design, non-energy risk on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20480

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24. In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (2014) - (Advice to Counsel: impact on customers on behalf of the New Jersey Division of Rate Counsel)
NJ Board of Public Utilities BPU Docket No. EM1406
25. In re: Application of Baltimore Gas and Electric Company For Adjustments To Its Electric and Gas Base Rates (2014) (Analysis and Advice to Counsel in Settlement: earnings, investment tracker, cost allocation and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9355
26. In re: Columbia Gas of Massachusetts CY2013 Targeted Infrastructure Reinvestment Factor Compliance Filing (2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 14-83
27. In re: Potential Business Combination of Entergy Louisiana, LLC and Entergy Gulf States Louisiana, L.L.C. (2014-2015) - (Analysis and Advice to Counsel: impact on rates and consolidation of rates on behalf of the Louisiana Public Service Commission Staff)
LA Public Service Commission Docket No.U-33244
28. In the Matter of the Application of Ohio Power Company to Adopt a Final Implementation Plan for the Retail Stability Rider (2014) - (Analysis and Advice to Counsel: rate design)
OH Public Utilities Commission Case No. 14-1186-EL-RDR
29. In re: Examination of Long-Term Natural Gas Hedging Proposals (2014-2015) - (Analysis and Advice to Counsel: natural gas procurement on behalf of the Louisiana Public Service Commission Staff)
LA Public Service Commission Docket No.R-32975-LPSC, ex parte
30. In re: 2013 Integrated Resource Planning Process for Southwestern Electric Power Company Pursuant to General Order Dated April, 20, 2012 (2014-2015 - (Analysis and Advice to Counsel: IRP design and evaluation on behalf of the Louisiana Public Service Commission Staff)
LA Public Service Commission Docket No.I-33013 SWEPCO, ex parte
31. In the Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Adopt an Infrastructure Replacement Surcharge Mechanism (2013-2014) - (Appearance: PBR tracker design/rates, prudence/used and useful, plant accounting on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9332
32. In the Matter of the Application of Baltimore Gas and Electric Company for Approval of a Gas System Strategic Infrastructure Development and Enhancement Plan and Accompanying Cost Recovery Mechanism (2013-2014) - (Appearance: PBR tracker

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design/rates, prudence/used and useful, plant accounting on behalf of the Maryland Office of People's Counsel)

MD Public Service Commission Case No. 9331

33. In the Matter of the Application of Delmarva Power & Light Company for an Increase in Electric Base Rates and Miscellaneous Tariff Changes (2013-2014) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Delaware Public Service Commission Staff)
DE Public Service Commission Docket No. 13-115
34. In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota (2013) - (Appearance: cost allocation and rate design on behalf of the North Dakota Public Service Commission Staff)
ND Public Service Commission Case No. PU-12-813
35. In the Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2013) - (Appearance: expense tracker design/rates and evaluation on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9316
36. In the Matter of the Application of Baltimore Gas and Electric Company for Adjustment in its Electric and Gas Base Rates (2012) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9299
37. In the Matter of the Application of Delmarva Power & Light Company for an Increase in Electric Base Rates and Miscellaneous Tariff Changes (2012) - (Appearance: earnings, investment tracker design/rates, cost allocation and rate design on behalf of the Delaware Public Service Commission Staff)
DE Public Service Commission Docket No. 11-528
38. ENMAX Energy Corporation (EEC) 2012-2014 Regulated Rate Option Non-Energy Tariff Application (2012-2013) - (Analysis and Advice to Counsel: rate design and non-energy risk on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Application #1608745 Proceeding 2069
39. In the Matter of the Petition of Atlantic City Electric Company for Approval of Amendments to Its Tariff to Provide for an Increase in Rates and Charges for Electric Service Pursuant to *N.J.S.A. 48:2-21* and *N.J.S.A. 48:2-21.1* and for Other Appropriate Relief (2011) - (Analysis and Advice to Counsel: depreciation on behalf of the New Jersey Division of Rate Counsel)
NJ Board of Public Utilities Docket No. ER11080469

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40. In the Matter of the Application of the Potomac Electric Power Company for Authority to Increase Existing Retail Rates and Charges for Electric Distribution Service (2011) - (Appearance: investment tracker design/rates, cost allocation and rate design on behalf of the People's Counsel for the District of Columbia)
D.C. Public Service Commission Formal Case No. 1087
41. Southern California Edison Company Transmission Owners Tariff (2011) - (Analysis and Advice to Counsel: depreciation on behalf of M-S-R Public Power Agency)
Federal Energy Regulatory Commission Docket No. ER11-2061-000
42. In the Matter of the Petition of Kansas City Power & Light Company for Determination of the Ratemaking Principles and Treatment that Will Apply to the Recovery in Rates of the Cost to be Incurred by KCP&L for Certain Electric Generation Facilities under K.S.A. 66-1239 (2011) - (Appearance: advance determination of prudence on behalf of the Kansas Citizens' Utility Ratepayer Board)
Kansas Corporation Commission Docket No. 11-KCPE-581-PRE
43. Electric Generation Plant Valuation Study (2010-2012) - (Analysis: generation plant valuation on behalf of the California Department of Water Resources)

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DANTE MUGRACE*Education*

Master Business Administration, MBA Strategic Management, Pace University, Lubin School of Business, New York, NY, 2010

Master Public Administration, MPA, Kean University, Union, NJ, 2001

Bachelor of Science, BS. Accounting, St. Peter's University, Jersey City, NJ, 1983

Position

Senior Consultant – PCMG and Associates	2014 – present
Senior Consultant – Snavelly King Majoros and Associates	2013 – 2014
Independent Consultant	2012 – 2013
Bureau Chief/Utility Rate Manager – New Jersey Board of Public Utilities	1983 – 2012

Professional Experience

Mr. Mugrace has 32 years' experience in all aspects of regulatory accounting and policy including processing, analyzing and evaluating utility rate case petitions before Public Service Commissions. Mr. Mugrace examines and evaluates rate filings, contracts, agreements and rate matters regarding utility operations and provides recommendations as to best course of action. Additionally, Mr. Mugrace analyzes and reviews utility regulatory matters and sets forth recommendations for resolution of issues, calculates total revenue requirement needed to cover operating expenses and rate of return, and researches, and evaluates regulatory utility matters to assess impact on various classes of customers, regarding rates, service, compliance and cost of service provisions, as well as annual true-up and tracking mechanisms.

Prior to undertaking consulting assignments, Mr. Mugrace was the Bureau Chief Utility Rate Manager for the New Jersey Board of Public Utilities, in which role he managed and assigned tasks to a staff of 12 professionals and supervisory personal in the daily administrative, financial and managerial functions of the Division. Mr. Mugrace's primary duties were to determine whether the utility had sufficient revenues to cover its operating expenses and earn a return on its plant investment and to ensure that the utility provided safe, reliable and continuing utility service to its customers. Mr. Mugrace set rates and charges for utility companies, which had revenues of up to \$500 million, and ensured that the revenue requirement provided for recovery of all operating expenses, return on investment and depreciation. Mr. Mugrace was also responsible for reviewing and verifying that the companies' property, plant and equipment (up to \$2.5 billion) were used and useful in providing service to its customers. Mr. Mugrace coordinated and met with the New Jersey State Department of Environmental Protection to determine whether water and wastewater utilities were complying with state regulations and were adhering to any regulatory agency directives or orders. Mr. Mugrace developed ways to minimize the rising costs of water utility services by investigating alternative rate structures, analyzing engineering mechanisms and techniques, looking into the feasibility of mergers and

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acquisitions within the water industry and reviewing financing, and rate alternatives to minimize the impact on ratepayers. Mr. Mugrace was responsible for ensuring that the rate-case process adhered the statutory timeframe for preparing, reviewing and recommending findings to the Board Commissioners on financial operations, costs, revenues and operating expenses, prior to the litigation proceedings. Mr. Mugrace also examined alternative rate recovery mechanisms and clauses, phase-ins of revenue requirements, deferral mechanisms and pass-through of rate charges. Mr. Mugrace assumed the role of Director during transition periods and Administrative changes. Finally, Mr. Mugrace conducted the recruitment and hiring of employees for placement within the Division and the Board.

Professional and Business Affiliations

- Institute of Public Utilities (IPU) Michigan State University (MSU), National Association of Regulatory Utility Commissioners (NARUC)

References

Maria Moran, Director
New Jersey Board of Public Utilities, Division of Water
(609) 292-2422
Maria.moran@bpu.state.nj.us

Fred Butler, Butler Advisor Services
(Former New Jersey Utility Commissioner)
176 Grayson Drive
Belle Mead, NJ 08502
(908) 874-6312
Frederickbutler@comcast.net

Jeanne M. Fox
Former NJBPU President and Commissioner
(973) 271-0500
Jeannefox1@aol.com

Connie Hughes
Former NJBPU President and Commissioner
(609) 366-3421
Co.hughes47@gmail.com

PCMG and Associates LLC

Jeff Genzer
Duncan, Weinberg, Genzer & Pembroke, P.C.
1615 M Street, N.W., Suite 800
Washington, D.C. 20036
(202) 467-6370
JCG@dwgp.com

Michael Schuler
Ohio Consumer Counsel
(614) 466-9547
Michael.schuler@occ.ohio.gov

Brian Weeks, Esq.
NJ Division of Rate Counsel
(609) 984-1519
bweeks@rpa.state.nj.us

William Stevens
Assistant Attorney General
Office of Ratepayer Advocacy
Massachusetts Attorney General's Office
(617) 963-2402
William.Stevens@state.ma.us

Candis Tunilo, Esq.
Assistant Consumer Advocate
Office of Consumer Advocate
555 Walnut Street 5th Floor, Forum Place
Harrisburg, PA 17101-1923
(717) 783-5048
Ctunilo@paoca.org

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Regulatory Projects and Appearances

1. In Re: Andover Utility Company – Base Rate Case Proceeding for Wastewater Services. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17070726.

In Re: Public Service Electric and Gas Company- Approval of Changes in its Electric and Gas Green Programs Recovery Charges “2017 PSE&G Green Programs Cost Recovery Filing. (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket Nos. ER17070724 and GR17070725.
2. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2016 Gas System Enhancement Program Reconciliation Filing, (Appearance: revenue requirement on behalf of the Massachusetts Attorney General’s Office of Ratepayer Advocacy).
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-05.
3. In Re; NSTAR Gas Company d/b/a Eversource Energy, 2016 Gas System Enhancement Program Reconciliation Filing (Appearance: revenue requirement on behalf of the Massachusetts Attorney General’s Office of Ratepayer Advocacy).
Commonwealth of Massachusetts Department of Public Utilities – Docket No. D.P.U. 17-GREC-06.
4. In Re: Petition of Columbia Gas of Maryland – Increase in rates for Distribution Service – (Appearance: revenue requirement on behalf of the Office of People’s Counsel) Public Service Commission of Maryland – Case No. 9447
5. In re: Petition of South Jersey Gas Company – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR17010071
6. In re: Petition of UGI Penn Natural Gas – Increase in base rates for gas services – (Appearance: revenue requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utilities Commission Docket No. R-2016-2580030
7. In re: Petition of PJM Interconnection, LLC. – Mid-Atlantic Interstate Transmission, LLC. Formula Rate Filing. (Appearance on behalf of the Pennsylvania Office of Consumer Advocate).
FERC Docket No. ER17-211-000

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8. In re: Petition of Pivotal Utility Holdings, Inc. d/b/a Elizabethtown Gas Company for approval of Increased Base Tariff Rates and Charges for Gas Service and Other Tariff Revisions (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR16090826
9. In re: Petition of SUEZ Water New Jersey, et al – Approval of a Management and Services Agreement pursuant to N.J.S.A 48: 3-7.1 (Appearance on the reasonableness of contract agreements on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WO16080806
10. In re: Petition of SUEZ Water Arlington Hills Inc. – Approval of an Increase in Rates for Wastewater Services and other Tariff Changes (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050510
11. In re: Petition of Public Service Electric and Gas Company – 2016 Marginal Adjustment Clause (MAC) (Appearance; reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR16060484
12. In re: Petition of the Mount Olive Village Sewer Company, Inc., for Approval of an Increase in Rates for Service (Appearance: revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050391
13. In re: Petition of the Mount Olive Village Water Company, Inc. for Approval of an Increase in Rates for Service (Appearance; revenue requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16050390
14. In re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Advice to Counsel: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01
15. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Appearance: computation of the revenue requirement and rate impact on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05
16. In re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Analysis and Advice to Counsel: compliance with statutes and regulations,

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review of contract, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)

NH Public Utilities Commission Docket No. DE 16-241

17. In re: Central Maine Power Company, Annual Compliance Filing and Price Change (2016) - (Analysis and Advice to Counsel; tax normalization regulatory asset on behalf of the Maine Office of the Public Advocate)
ME Public Service Commission Docket No. 2016-00035
18. In re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (Appearance: productivity adjustments/performance based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20414
19. In the Matter of Request by Emera Maine for Approval of a Rate Change (2016) - (Appearance: revenue requirement on behalf of the Maine Office of the Public Advocate)
Maine Public Utilities Commission Docket No. 15-00360)
20. In the Matter of the Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Holdings, Inc. d/b/a Elkton Gas (2015-2016) - (Analysis and advice to counsel: customer service impacts, employee impacts, supplier diversity on behalf of the Maryland Office of People's Counsel)
MD PSC Case No. 9404
21. In the Matter of the Merger of Southern Company and AGL Inc. (2015-2016) - (Appearance: customer service impacts and employee impacts on behalf of the NJ Division of Rate Counsel)
BPU Docket No. GM15101196
22. In the Matter of the United Water New Jersey, Inc., for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2015-2016) - (Appearance: revenue requirements, rate base issues and operating income on behalf of the NJ Division of Rate Counsel)
BPU Docket No. WR15101177
23. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-130

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24. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Metro LNG, L.P.; and National Grid LNG (2015) - (Analysis: review of contract and compliance of the Gas Supply Plan on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-129
25. In re: Columbia Gas of Massachusetts CY2014 Targeted Infrastructure Reinvestment Factor (TIRF) Compliance Filing (2015) - (Appearance: computation of the revenue requirement impact on the TIRF on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-55
26. In the Matter of the Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its Targeted Infrastructure Reinvestment Factor (TIRF) for CY 2013 (2014) - (Appearance: computation of the revenue requirement impact on the TIRF)
MA D.P.U. 14-83
27. In the Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (Atlantic City Electric Company) (2014-2015) - (Appearance: customer service impacts)
BPU Docket No. EM14060581
28. Public Utilities Commission of Ohio, in the Matter of the Application of Aqua Ohio, Inc. to Increase its Rates and Charges for its Waterworks Service. – Revenue and Rates (2014) - (Appearance: operating income, certain rate base issues and income taxes on behalf of the Ohio Office of Consumer Counsel)
PUCO Case No. 13-2124-WW-AIR
29. New York Public Service Commission, as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. Revenue Requirement (2013-2014) – (Appearance: revenue requirement, rate base issues and operating income on behalf of the Intervenor, the County of Westchester)
NYPSC Case Nos. 13-E-0030, 13-G-0031 and 13-S-0032, et al
30. North Dakota Public Service Commission, - Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota, On-Going Revenue Requirement (2013) - (Appearance: revenue requirement and rate base, operating income, operating and maintenance expenses on behalf of the North Dakota Public Service Commission Staff)
ND Case No. PU-12-813
31. In the Matter of the Petition of New Jersey American Water Company for Authorization to Implement a Distribution System Improvement Charge (DSIC) Order Denying Petition and Instituting Stakeholder Process (2008) - (Case manager on policy decision and revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WO08050358

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32. In the Matter of the Joint Petition of the City of Trenton, New Jersey and New Jersey-American Water Company, Inc. for Authorization of the Purchase and Sale of the Assets of the Outside Water Utility System ("OWUS") of the City of Trenton, New Jersey and for Other Relief Order Adopting Initial Decision, (2008) - (Case manager on the revenue requirement impact on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM08010063
33. In the Matter of the Petition of United Water New Jersey, United Water Toms River, United Water Lambertville, United Water Mid-Atlantic and Gaz de France for Approval as Need for a Change in Ownership and Control (2007) - (Case manager on customer impact, employee impact and impact on rates on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM06110767
34. In the Matter of the Petition of United Water Arlington Hills Sewerage, Inc. for an Increase in Rates for Waste Water Service and Other Tariff Changes (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08100929
35. In the Matter of the Petition of United Water New Jersey Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes, (2009) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08090710
36. In the Matter of the Petition of United Water Toms River, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on the revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08030139
37. In the Matter of the Joint Petitioners of New Jersey-American Water Company, Inc., S.J. Services, Inc., South Jersey Water Company, Inc. and Pennsgrove Water Supply Company, Inc. for Among Other Things Approval of a Change in Control of South Jersey Water Supply Company, Inc. and Pennsgrove Water Supply Company, Inc. (2007) - (Case manager on the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM07020076
38. In the Matter of the Petition of Aqua, New Jersey, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2008) - (Case manager on revenue requirement and the overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR0712095

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39. I/m/o the Joint Petition of Thames Water, Aqua Holdings GMBH, on Behalf of Itself and Its Parent Holdings Company, RWE Aktiengesellschaft, Thames Water Aqua US Holdings, Inc., American Water works Company Inc., Thames Water Holdings Incorporated, E'town Corporation, New Jersey-American Water Company, Inc., Elizabethtown Water Company, the Mount Holly Water Company and Applied WasteWater Management, Inc. for Confirmation that the Board of Public Utilities Does Not Have Jurisdiction Over, or, Alternatively, for Approval of a Proposed Transaction Involving, Among Other Things, the Sale by Thames Water Aqua Holdings GMBH of Up to 100% of the Shares of the Common Stock of American Waterworks Company, Inc. in One or More Public Offerings (2007) - (Case manager on revenue requirement impacts, effect on rates and effect on service on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WM06050388
40. In the Matter of the Petition of Elizabethtown Water Company for Approval of an Increase in Rates for Water Service (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR03070510
41. In the Matter of the Petition of New Jersey American Water Company, Inc. for Approval of Increased Tariff Rates and Charges for Water and Sewer Service; Increased Depreciation Rates and Other Tariff Revisions (2008) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR08010020
42. In the Matter of Middlesex Water Company for Approval of an Increase in its Rates for Water Service and Other Tariff Changes (2007) - (Case manager on overall revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR07040275
43. In the Matter of the Joint Petition of United Water New Jersey, Inc., United Water Arlington Hills, Inc., United Water Hampton, Inc., United Water Vernon Water Hills, Inc., and United Water Lambertville, Inc. for an Increase in Rates and Charges for Water Service and Other Tariff Changes and for Approval to Merge the Operations of the Joint Petitioners into and with United Water New Jersey, Inc. (2007) - (Case manager on revenue requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)
BPU Docket No. WR07020135

PCMG and Associates LLC

MARLON GRIFFING, Ph.D*Education*

Ph.D., M.A., B.A., Economics, University of Nebraska-Lincoln

Position

Senior Consultant – PCMG and Associates	2014 – present
Senior Consultant – Snavelly King Majoros and Associates	2013 – 2014
Utilities Financial Analyst – Minnesota Department of Commerce	2003 – 2013
Independent Consultant	2003
Senior Consultant – QSI Consulting	2000 – 2002
Economic Analyst – Nebraska Public Service Commission	1998 – 2000

Professional Experience

Dr. Griffing holds bachelors, masters, and doctoral degrees in economics. Dr. Griffing is well versed in microeconomics, cost/benefit analysis and econometric analysis. He has 18 years' experience as an expert witness and consultant, addressing the cost of capital, capital structure, and rate design of natural-gas and electric utilities in general rate cases, competitive effect of mergers, reliability and supply adequacy for natural-gas, electricity and oil-pipeline companies in certificate of need cases, and competitive-environment issues for telecommunications utilities. Dr. Griffing testified on cost-of-capital issues for the Minnesota Department of Commerce (DOC) from 2004-2013. He also managed the DOC's testimony in two oil-pipeline certificate-of-need cases and arbitrated a telecommunications dispute for the Nebraska Public Service Commission. Dr. Griffing has appeared over 30 times before the regulatory agencies of Maine, Minnesota, Nebraska, New Jersey, New Mexico, Oklahoma, Pennsylvania, and South Dakota.

References

Christine Juarez
 Assistant Deputy Rate Counsel
 New Jersey Division of the Rate Counsel
 140 East Front Street 4th Floor
 P.O. Box 003
 Trenton, NJ 08625
 609-633-9141
cjuarez@rpa.state.nj.us

Agnes Gormley
 Deputy Public Advocate
 Maine Office of the Public Advocate
 112 SHS
 Augusta, ME 04333-0112
 207-624-3687
Agnes.Gormley@maine.gov

PCMG and Associates LLC

Vincent C. Chavez
Head, Gas Division (Retired)
Minnesota Department of Commerce
5501 Newton Avenue
Minneapolis, MN 55419
612-481-5655

Adam Heinen
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, MN 55101
651-539-1825
Adam.Heinen@state.mn.us

Hwikwon Ham
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
Saint Paul, MN 55101-2147
651-201-2253
Hwikwon.Ham@state.mn.us

Tanya J. McCloskey
Acting Consumer Advocate
Pennsylvania Office of Consumer Advocate
Office of Attorney General
555 Walnut St., 5th Floor, Forum Place
Harrisburg, PA 17101-1923
717-783-5048
tmccloskey@paoca.org

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Regulatory Projects and Appearances

1. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 17-GREC-06
2. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2016 Gas System Enhancement Plan Reconciliation Filing (2017) - (Appearance: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 17-GREC-05
3. In re: Northern Illinois Gas Company d/b/a Nicor Gas Company Proposed General Increase in Gas Rates (2017) – (Appearance: prudence/used and useful and plant accounting on behalf of the Citizens Utility Board of Illinois)
IL Commerce Commission Docket No. 17-0124
4. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2017) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9443
5. In re: The Application of Delmarva Power and Light Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Analysis and Assistance to Counsel: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9424
6. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2016) – (Analysis and Assistance to Counsel: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9418
7. In re: Petition of Fitchburg Gas and Electric Light Company d/b/a Unitil for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Assistance to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-01

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8. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2015 Gas System Enhancement Plan Reconciliation Filing (2016) - (Analysis and Assistance to Counsel: prudence/used and useful and plant accounting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 16-GREC-05
9. In re: Petition for Approval of Gas Infrastructure Contract Between Public Service Company of New Hampshire d/b/a Eversource Energy and Algonquin Gas Transmission, LLC (2016) - (Analysis and Advice to Counsel: forecasting and cost/benefit on behalf of the New Hampshire Office of Consumer Advocate)
NY Public Utilities Commission Docket No. DE 16-241
10. In re: Bulletin 2015-10 Generic Proceeding to Establish Parameters for the Next Generation PBR Plans (Appearance: productivity adjustments/performance based ratemaking on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20414
11. In. re: The Merger of the Southern Company and AGL Resources Inc. - Joint Application of the Southern Company, AGL Resources Inc., and Pivotal Utility Holdings, Inc., d/b/a Elkton Gas (2015-2016) - (Analysis: cost of capital, credit ratings, affiliate relationships on behalf of the Maryland Office of People's Counsel)
MD Public Service Commission Case No. 9404
12. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Precedent Agreements with Millennium Pipeline Company, LLC (2015-2016) - (Analysis: gas-supply model review, forecasting on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-130
13. In re: Petition of Boston Gas Company and Colonial Gas Company d/b/a National Grid for Approval of Agreements for LNG or Liquefaction Services with GDF Suez Gas NA, LLC; Northeast Energy Center, LLC; Gaz Metro LNG, L.P.; and National Grid LNG (2015-2016) - (Analysis: gas-supply model review, forecasting, large customer loss and retention on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA D.P.U. 15-129

Cost of Capital

14. Application of Public Service Company of Oklahoma, An Oklahoma Corporation, for An Adjustment in Its Rates and Charges and the Electric Service Rules, Regulations and Conditions for Service in the State of Oklahoma (2017) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 201700151

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15. In the Matter of the Petition for Approval of SUEZ Water Arlington Hills, Inc. for Approval of an Increase in Rates for Wastewater Service and Other Tariffs (2016) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR16060510
16. In the Matter of Request by Emera Maine for Approval of a Rate Change (2016) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)
Maine Public Utilities Commission Docket No. 15-00360
17. ENMAX Energy Corporation (EEC) Regulated Rate Option Non-Energy Tariff Application (2015-2016) - (Analysis: cost of capital, risk element identification on behalf of the Alberta Utilities Consumer Advocate)
Alberta Utilities Commission Proceeding 20480
18. Pennsylvania Public Utilities Commission vs. West Penn Power Co., Pennsylvania Electric Co., Pennsylvania Power Co., and Metropolitan Edison Co. (2014-2015) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return behalf of the Office of the Pennsylvania Consumer Advocate)
PA Docket Nos. R-2014-2428742-R-2014-2428745
19. In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota (2010-2012) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/GR-10-977
20. In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Utility Service in Minnesota (2010-2011) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. E017/GR-10-239
21. In the Matter of the Petition of Northern States Power Company, a Minnesota Corporation, for Authority to Increase Rates for Natural Gas Service in Minnesota (2009-2010) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G002/GR-09-1153
22. In the Matter of an Application by CenterPoint Energy Resources Corp., D/B/A CenterPoint Minnesota Gas to Increase Natural Gas Rates in Minnesota (2008-2009) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G008/GR-08-1075

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23. In the Matter of Minnesota Energy Resources Corporation's Application for Authority to Increase Natural Gas Rates in Minnesota (2008-2009) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/GR-08-835
24. In the Matter of the Petition of Northern States Power Company, a Minnesota Corporation and Wholly Owned Subsidiary of Xcel Energy Inc., for Authority to Increase Rates for Natural Gas Service in Minnesota (2006-2007) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G002/GR-06-1429
25. In the Matter of the Application of CenterPoint Energy Resources Corp., D/B/A CenterPoint Energy Minnesota Gas, for Authority to Increase Natural Gas Rates in Minnesota (2005-2006) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G008/GR-05-1380
26. In the Matter of a Petition by Interstate Power and Light Company for Authority to Increase Electric Rates in Minnesota (2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. E001/GR-05-748
27. In the Matter of the Petition of Northern States Power Company dba Xcel Energy Request for General Rate Increase (2004-2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G002/GR-04-1511
28. In the Matter of the Petition of Great Plains Natural Gas Company's Request for General Rate Increase (2004-2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/GR-04-1487
29. In the Matter of the Petition of CenterPoint Energy Minnegasco, A Division of CenterPoint Resources Corp. for Authority to Increase Natural Gas Rates in Minnesota (2004-2005) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Minnesota Department of Commerce)
Docket No. G008/GR-04-901

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Capital Structure

30. In the Matter of the Petition of Greater Minnesota Gas Inc. for Approval of 2011 Capital Structure Petition and Permission to Issue Securities (2011) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G022/S-11-535
31. In the Matter of the Petition of Otter Tail Power Company for Approval of 2011 Capital Structure and Permission to Issue Securities (2011) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/S-11-392
32. The Petition of Otter Tail Power Company for Approval of 2010 Capital Structure and Permission to Issue Securities (2010) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E017/S-10-292
33. In the Matter of the Greater Minnesota Gas Inc.'s Capital Structure Petition and Compliance with Financial Integrity Order (2010) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G022/S-10-281
34. Interstate Power and Light Company's petition for approval of its proposed capital structure (2009) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/S-09-607
35. A petition of Interstate Power and Light Company for approval of its proposed capital structure (2008) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/S-08-540
36. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation (2008) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/SA-08-329
37. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation (2007) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
Docket No. G007,011/S-07-352
38. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation (2006-2007) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/S-06-1013

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39. Northern States Power Company's request for approval of its 2006 Capital Structure Prior to Issuing Securities (2005) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G002/S-05-1583
40. A petition of Interstate Power and Light Company for approval of its proposed capital structure for calendar year 2005, ending March 31, 2006 (2005) - (Appearance: capital structure on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/S-05-151

Affiliated Interest

41. Petition of Greater Minnesota Gas, Inc. for Approval of an Affiliated Interest Agreement (2010-2011) - (Appearance: analysis of affiliated interests of closely held company, some owners also suppliers on behalf of the Minnesota Department of Commerce)
MN Docket No. G022/AI-10-1160
42. In the Matter of the Petition of Minnesota Energy Resources Corporation for Approval of Affiliated Interest Agreement (2010-2013) - (Appearance: analysis of affiliated interests agreement post-merger on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/AI-10-783
43. In the Matter of the Annual Capital Structure Filing of Minnesota Energy Resources Corporation and Request for Approval of Affiliated Interest Agreement (2009-2010) - (Appearance: capital structure, affiliated interest lending on behalf of the Minnesota Department of Commerce)
MN Docket No. G007,011/SAI-09-1108
44. Petition for Approval of a Lending Agreement Between Interstate Power and Light Company and Alliant Energy Corporation Pursuant to Section 216B.48 of the Minnesota Statutes and Minnesota Rule 7825.2200 (2008-2009) - (Appearance: intercompany lending on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/AI-08-1323
45. A Petition for Approval of Affiliated Services Agreement Between Interstate Power and Light Company and RMT, Inc. Pursuant to Section 216.48 of the Minnesota Statutes and Minnesota Rule 7825.2200 (2007-2008) - (Appearance: affiliated interests, engineering services on behalf of the Minnesota Department of Commerce)
MN Docket No. E,G001/AI-07-941

PCMG and Associates LLC**Property Sales/Acquisition**

46. In the Matter of a Request for the Approval of the Transfer of Property of Great Plains Natural Gas Co. (2011) - (Appearance: analysis of transfer of property on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/PA-11-1008
47. In the Matter of the Petition of Northern States Power Company, a Minnesota Corporation (Xcel Energy or the Company), for Approval to Sell Salvaged Wescott Plant Equipment to Dresser Rand (2011) - (Appearance: analysis of transfer of property on behalf of the Minnesota Department of Commerce)
MN Docket No. E002/PA-11-902
48. Petition for Approval of a Transfer of Property of Great Plains Natural Gas Co. (2010) - (Appearance: analysis of transfer of property on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/PA-10-873

Depreciation

49. Otter Tail Power Company's Request for Approval of its Five-Year Depreciation Study (2008-2009) - (Appearance: depreciation analysis on behalf of the Minnesota Department of Commerce)
MN Docket No. E017/D-08-1042
50. In the Matter of the Petition of Great Plains Natural Gas Company's Request for Approval of its Five-Year Depreciation Study for 2007 (2007-2008) - (Appearance: depreciation analysis on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/D-07-740
51. In the Matter of the Petition of Great Plains Natural Gas Company's Request for Approval of its Proposed Remaining Lives, Salvage Rates, and Resulting Depreciation Rates (2006-2007) - (Appearance: depreciation analysis on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/D-06-700

Rate Design

52. In the Matter of Otter Tail Corporation dba Otter Tail Power Company's Application for Authority to Increase Rates for Electric Service in Minnesota (2007-2008) - (Appearance: rate design, revenue requirement on behalf of the Minnesota Department of Commerce)
MN Docket No. E017/GR-07-1178

PCMG and Associates LLC**Certificate of Need**

53. In the Matter of the Application of Minnesota Pipeline Company for a Certificate of Need for a Crude Oil Pipeline (2006-2007) - (Appearance: economic impact on behalf of the Minnesota Department of Commerce)
MN Docket No. PL-5/CN-06-02
54. In the Matter of the Petition of Northern States Power Company dba Xcel Energy dba Xcel Energy Certificate Need to Establish an Independent Spent Fuel Storage Installation at the Monticello Generating Plant (2005-2006) - (Appearance: license renewal, economic impact on behalf of the Minnesota Department of Commerce)
MN Docket No. E002/CN-05-123
55. In the Matter of a Certificate of Need Application for Great River Energy's Cambridge Station (2005) - (Appearance: economic impact on behalf of the Minnesota Department of Commerce)
MN Docket No. ET2/CN-05-347

Mergers

56. In the Matter of a Request of Great Plains Natural Gas Co. for the Approval of the Acquisition by MDU Resources Group, Inc., of Intermountain Gas Company (2008) (Appearance: rule variance, sharing savings, regulatory authority, cost of capital on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/PA-08-813
57. In the Matter of a Request for the Approval of the Acquisition by MDU Resources Group, Inc., and Its Division, Great Plains Natural Gas Co., of Cascade Natural Gas Corporation (2006-2007) (Appearance: sharing savings, regulatory authority, cost of capital on behalf of the Minnesota Department of Commerce)
MN Docket No. G004/PA-06-1585

Performance-Based Regulation

58. Xcel Energy, Purchased Gas Adjustments compliance filings, 2011-2013 (Assistance: compliance with price-adjustment order on behalf of the Minnesota Department of Commerce)
MN Docket Nos. monthly
59. Interstate Power and Light, Purchased Gas Adjustment compliance filings, 2004-2006 (Assistance: compliance with price-adjustment order on behalf of the Minnesota Department of Commerce)
MN Docket Nos. monthly

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Manager of Contested-Case Proceedings

60. In the Matter of the Application of Enbridge Energy, Limited Partnership and Enbridge Pipelines (Southern Lights) LLC for a Certificate of Need for the Alberta Clipper and Southern Lights Diluent Pipeline Projects (2007-2008) - (Case Manager: economic impact, public interest and impact on society, advice to counsel, assist on brief on behalf of the Minnesota Department of Commerce)
MN Docket No. PL-9/CN-07-465

61. In the Matter of the Application of Enbridge Energy (Southern Lights) LLC for a Certificate of Need for a Crude Oil Pipeline for the Southern Lights Project (2007-2008) - (Case Manager: economic impact, public interest and impact on society, advice to counsel, assist on brief on behalf of the Minnesota Department of Commerce)
MN Docket No. PL-9/CN-07-464

PCMG and Associates LLC

Telecommunications

62. In the Matter of the Petition of Great Plains Communications, Inc. for Arbitration to Resolve Issues Relating to an Interconnection Agreement with WWC License L.L.C. (2003) – (Arbitrator: arbitrated interconnection agreement disputes on behalf of the Nebraska Public Service Commission)
NE Application No. C-2872

63. In the Matter of the Analysis of Qwest Corporation's Compliance with Section 271(c) of the Telecommunications Act of 1999 (1999-2002) – (Appearances: evaluation of Qwest Corporation's opening its operational support systems (OSS) to competitive local exchange carriers on behalf of the Nebraska Public Service Commission, New Mexico Public Regulation Commission Advocacy Staff, and South Dakota Public Utilities Commission Staff)
NE Application No. C-1830, NM Case No. 3269, SD Docket No. TC01-165