

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

**Montana-Dakota Utilities Co.
2023 Natural Gas Rate Increase
Application**

Case No. PU-23-341

AFFIDAVIT OF SERVICE BY ELECTRONIC MAIL

**STATE OF NORTH DAKOTA
COUNTY OF BURLEIGH**

Pamela J Thompson deposes and says that:

she is over the age of 18 years and not a party to this action and, on the **31st day of July 2024**, she sent an electronic message to **twelve** addresses, each including an electronic copy in portable document format of:

- **Prefiled Direct Testimony and Exhibits of Karl R. Pavlovic**
- **Prefiled Direct Testimony and Schedules of Dante Mugrace (Public Version)**
- **Prefiled Direct Testimony and Exhibits of Marlon F. Griffing**

The electronic mail was addressed as follows:

Travis Jacobson
Director of Regulatory Affairs
Montana-Dakota Utilities Co.
travis.jacobson@mdu.com

William J. Behrmann
Attorney for Montana-Dakota Utilities Co.
ES Attorneys
wbehrmann@esattorneys.com

Allison Waldon
Attorney
MDU Resources Group, Inc.
allison.waldon@mduresources.com

Hope Hogan
Administrative Law Judge
OAH File No. 20230372
hlhogan@nd.gov

Leslie R. Newton, Maj., USAF
AFLOA/JAOE-ULFSC Intervenor
Leslie.Newton.1@us.af.mil

Ashley N. George, Capt., USAF
AFLOA/JAOE-ULFSC Intervenor
Ashley.Newton.4@us.af.mil

Thomas A. Jernigan
AFCEC/JA-ULFSC Intervenor
Thomas.Jernigan.3@us.af.mil

Ebony M. Payton
AFCEC/CN-ULFSC Intervenor
Ebony.Payton.ctr@us.af.mil

John B. Coffman
Counsel for AARP
John B. Coffman, LLC
john@johncoffman.net

David A. Tschider
Counsel for AARP
Tschider & Smith
dtschider@tschider-smithlaw.com

John Schuh
General Counsel
ND Public Service Commission
jschuh@nd.gov

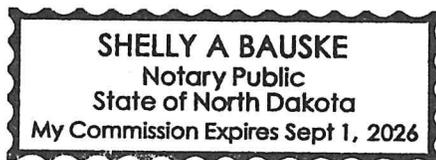
Steve Kahl
ND Public Service Commission
ndpsc@nd.gov

The addresses shown are the respective addressee's last reasonably ascertainable electronic mail addresses.

Subscribed and sworn to before me
this **31st day of July 2024.**



A handwritten signature in blue ink, reading "Pamela Thompson", is written over a horizontal line.



A handwritten signature in blue ink, reading "Shelly A Bauske", is written over a horizontal line. Below the signature, the words "Notary Public" are printed.

SEAL



Public Service Commission

Sheri Haugen-Hoffart

Randy Christmann

Julie Fedorchak

600 East Boulevard Ave
Dept. 408
Bismarck, ND 58505-0480
701-328-2400
ndpsc@nd.gov

July 31, 2024

Public Service Commission
Attention: Steve Kahl
600 East Boulevard Avenue, Dept 408
Bismarck, ND 58505-0480

In re: Montana-Dakota Utilities Co.
2023 Natural Gas Rate Increase
Application
Case No. PU-23-341

Dear Mr. Kahl,

Enclosed for filing in the above referenced matter please find the original copy of the following public documents:

1. Prefiled Direct Testimony and Exhibits of Karl R. Pavlovic;
2. Prefiled Direct Testimony and Schedules of Dante Mugrace (Public Version);
3. Prefiled Direct Testimony and Exhibits of Marlon F. Griffing; and
4. Affidavit of Service by Electronic Mail

Respectfully,

A handwritten signature in black ink, appearing to read "Brian Johnson".

Brian Johnson
Special Assistant Attorney General Bar ID 07937
North Dakota Public Service Commission
600 East Boulevard Avenue Dept. 408
Bismarck ND, 58505
701-328-2407

STATE OF NORTH DAKOTA
BEFORE THE NORTH DAKOTA PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF
MONTANA-DAKOTA UTILITIES CO. FOR
AUTHORITY TO INCREASE RATES FOR
NATURAL GAS SERVICE IN NORTH DAKOTA

Case No. PU-23-341

**DIRECT TESTIMONY OF
KARL R. PAVLOVIC**

**Submitted on Behalf of
the Advocacy Staff of the
North Dakota Public Service Commission**

July 31, 2024

1 **DIRECT TESTIMONY OF**
2 **KARL R. PAVLOVIC**

3 **I. QUALIFICATIONS**

4 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

5 A. My name is Karl Richard Pavlovic. My business address is 22 Brookes Avenue,
6 Gaithersburg, MD 20877. I am a Senior Consultant with and the Managing Director of
7 PCMG and Associates LLC.

8 **Q. PLEASE DESCRIBE PCMG.**

9 A. PCMG and Associates LLC (PCMG) is an association of experts in economics, accounting,
10 finance, and utility regulation and policy, with over 75 years collective experience
11 providing assistance to counsel and expert testimony regarding the regulation of electric,
12 gas, water, and wastewater utilities. PCMG began operation on January 1, 2015. During
13 its most recent year of operation, PCMG has provided assistance to counsel and/or
14 testimony in regulatory proceedings before Federal Energy Regulatory Commission, the
15 Pennsylvania Public Service Commission, the Maine Public Utilities Commission, the
16 Massachusetts Department of Public Utilities, the New Jersey Board of Public Utilities,
17 and the Hawaii Public Utilities Commission. PCMG is currently providing assistance to
18 the Hawaii Division of Consumer Advocate, the Maine Office of the Public Advocate, the
19 Massachusetts Office of the Attorney General, the New Jersey Division of Rate Counsel,
20 and the Pennsylvania Office of Consumer Advocate.

1 **Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND**
2 **EXPERIENCE?**

3 A. Yes. Exhibit KRP-1 to my testimony summarizes my qualifications and experience.

4 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN REGULATORY**
5 **PROCEEDINGS?**

6 A. Yes. Exhibit KRP-1 also contains a complete list of my engagements as an expert and/or
7 expert witness in matters before state and federal regulatory agencies. I have submitted
8 testimony to the Federal Communications Commission, the Federal Energy Regulatory
9 Commission, the Alaska Public Utilities Commission, the Alberta Utilities Commission,
10 the California Public Utilities Commission, the Delaware Public Service Commission, the
11 Public Service Commission of the District of Columbia, the Hawaii Public Utilities
12 Commission, the Illinois Commerce Commission, the Kansas Corporation Commission,
13 the Maine Public Utilities Commission, the Maryland Public Service Commission, the
14 Massachusetts Department of Public Utilities, the Missouri Public Service Commission,
15 and the North Dakota Public Service Commission.

16 **Q. IN WHICH PROCEEDINGS HAVE YOU PREVIOUSLY APPEARED BEFORE**
17 **THIS COMMISSION?**

18 A. I appeared on behalf of the North Dakota Public Service Commission Advocacy Staff in
19 Case No. PU-12-813 Application of Northern States Power Company for Authority to
20 Increase Rates for Electric Service in North Dakota, in Case No. PU-17-295 Montana-
21 Dakota Utilities Co. for Authority to Establish Increased Rates for Natural Gas Service,
22 in Case PU-20-441 Application of Northern States Power Company for Authority to

1 Increase Rates for Electric Service in North Dakota, and in Case No. PU-21-381
2 Application of Northern States Power Company for Authority to Increase Rates for
3 Natural Gas Service in North Dakota.

4 **Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS?**

5 A. I received undergraduate and graduate degrees in Philosophy from Yale College and
6 Purdue University. By education and professional experience I have expertise in formal
7 and mathematical logic, statistics, economics, financial analysis, econometrics, and
8 computer modeling. I have knowledge and experience in the areas of commercial and
9 industrial operations in the energy, transportation, and telecommunications industries and
10 am familiar with a wide range of experimental and investigative methods in science and
11 engineering.

12 **Q. PLEASE SUMMARIZE YOUR ELECTRIC AND GAS REGULATORY**
13 **EXPERIENCE.**

14 For most of my career I have performed analyses and submitted testimony regarding
15 electric and gas utility least-cost planning, reliability, cost of service, rate design, and
16 weather-emergency response. Specifically regarding gas utilities, I have testified on: (a)
17 integrated resource planning, (b) class cost of service and rate design, and (c) various
18 infrastructure operating expense and investment recovery mechanisms.

19 **I. PURPOSE AND ORGANIZATION**

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

21 A. I have been asked by the Commission's Advocacy Staff to address Montana-Dakota Utilities
22 ("MDU") assertions and proposals in this proceeding regarding (1) its North Dakota class

1 cost of service study, (2) its North Dakota class revenue responsibility distribution, and (3)
2 its North Dakota rate design.

3 **Q. HAVE YOU PREPARED ANY EXHIBITS IN SUPPORT OF YOUR**
4 **RECOMMENDATIONS?**

5 A. Yes. I have included the following four exhibits:

6 Exhibit KRP-1: Qualifications

7 Exhibit KRP-2: MDU Statement K without minimum system classification

8 Exhibit KRP-3: MDU Statement L without minimum system classification Class
9 Revenues

10 Exhibit KRP-4: MDU Statement L without minimum system classification
11 Recommended Class Revenues

12 Exhibit KRP-5: Recommended Tariff Charges

13
14 **II. SUMMARY OF TESTIMONY AND CONCLUSIONS**

15 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

16 A. My testimony finds the following.

- 17 • The MDU COSS's use of a minimum size study to classify a portion of
18 distribution mains as customer-related is inconsistent with the principle of cost
19 causation.
- 20 • The MDU COSS's use of customer and demand allocators to allocate mains is
21 inconsistent with the principle of cost causation.
- 22 • MDU's COSS without minimum-size classification and allocation of distribution
23 mains is a guide to rate design that is consistent with the principle of cost causation.

1 I recommend that the Commission:

- 2 • Direct that MDU's distribution mains be classified as wholly demand-related with
3 no customer-related component, consistent with the COSS's classification of
4 transmission plant and regulator stations as only demand-related.
- 5 • Direct that MDU derive class tariff rates from Advocacy Staff's recommended class
6 revenue requirements.

7 **III. DISCUSSION**

8 **A. NORTH DAKOTA COST OF SERVICE AND RATE DESIGN**

9 **Q. PLEASE SUMMARIZE MDU'S NORTH DAKOTA COST OF SERVICE AND**
10 **RATE DESIGN PROPOSALS.**

11 A. Based on a forecasted 2024 Test Year class cost of service study¹ and a revenue requirement
12 distribution to classes based on cost of service, class contribution to present revenue levels
13 and customer impact,² and the cost study's class customer cost results, MDU proposes the
14 following changes in customer rates in Table 1.

¹ Direct Testimony of Ronald J. Amen (Amen Direct), pages 5-27 and Statement K.

² Amen Direct, pages 27-49 and Statement L.

1

Table 1: MDU Rate Design Proposals³

Residential Service (Sch. 60 & (90)): ⁴ (a) proposes small basic service: \$28.01/month (\$0.921/day) and large \$32.70/month (\$1.075/day) and (b) proposes a distribution delivery charge of \$0.438/dk.
Small Firm General Service (Sch. 70, 72, 74 & 92): ⁵ increases the basic service charge from \$0.75 to \$0.88 and the distribution delivery charge from \$1.174/dk to \$1.382/dk.
Large Firm General Service (Sch. 70, 72, 74 & 92): ⁶ increases the basic service charge from \$2.13 to \$2.35 and the distribution delivery charge from \$0.917/dk to \$1.266/dk.
Minot AFB (Sch. 64): ⁷ (a) increases the firm basic service charge from \$175.00 to \$1000.00 and the distribution delivery charge from \$0.449/dk to \$1.355/dk and (b) increases the interruptible basic service charge from \$2,000.00 to \$4,000.00 and the distribution delivery charge from \$0.255/dk to \$0.991/dk
Small Interruptible Sales & Transportation (Sch.71 &81): ⁸ (a) leaves the basic service charge at \$450.00 and increases the distribution delivery charge from \$0.566/dk to \$0.659/dk and (b) increases the Wahpeton basic service charge from \$180.00 to \$450.00 and decreases the Whapeton distribution delivery charge at \$0.669/dk to \$0.659/dk
Large Interruptible Sales & Transportation (Sch.85 & 82): ⁹ (a) increases the sales basic service charge from \$1,600.00 to \$2,400.00 and the distribution delivery charge from \$0.237/dk to \$0.241/dk and (b) increases the transport basic service charge from \$1,600.00 to \$2,400.00 and the distribution delivery charge from \$0.237/dk to \$0.241/dk
Wahpeton Firm Rates (GPNG 65): ¹⁰ proposed Phase 1 Rates - increase basic service charge from \$0.25 to \$0.50 and decrease distribution delivery charge from \$0.922/dk to \$0.555

2

3

B. NORTH DAKOTA CLASS COST OF SERVICE STUDY

4

Q. HAVE YOU EXAMINED MDU’S NORTH DAKOTA CLASS COST OF SERVICE

5

STUDY (CCOSS)?

³ Amen Direct, pages 38-49 and Stephanie Bosch (Bosch Direct), pages 3-24.

⁴ Statement L, page 4.

⁵ Statement L, pages 7-8.

⁶ Statement L, pages 7-8

⁷ Statement L, Pages 5-6.

⁸ Statement L, pages 7 and 9

⁹ Statement L, pages 10-11

¹⁰ Statement L, pages 12-13.

1 A. Yes. The testimony and exhibits of Ronald J. Amen¹¹ present MDU’s proposed
2 embedded cost of service study and proposed class revenue responsibility.

3
4 MDU’s cost of service study (“COSS”) is an embedded cost of service study for
5 projected 2024.¹² The COSS follows the standard approach of functionalizing,
6 classifying, and then directly assigning or allocating the costs to MDU’s rate classes. The
7 cost study’s functionalization of costs is per the FERC Uniform System of Accounts.
8 Regarding the classification of gas plant costs, costs are classified as demand-related
9 and/or customer-related. For mains plant costs, which are classified as both demand- and
10 customer-related, the demand/customer percentage split 70/30 is presented as supported
11 by the results of both zero-intercept and minimum size system analyses of MDU’s mains
12 facilities.¹³ The customer allocator used for customer-related plant costs is class number
13 of customers; the demand allocator used for demand-related plant costs is class design
14 day demand.¹⁴

15 **Q. HAVE YOU FOUND ANY ERRORS IN THE COSS’ FUNCTIONALIZATION OF**
16 **MDU’S GAS COSTS?**

17 A. No. The COSS properly functionalizes MDU’s gas costs using the FERC Gas Uniform
18 System of Accounts (USoA).

19 **Q. HAVE YOU FOUND ANY ERRORS IN THE COSS’ CLASSIFICATION OF**
20 **MDU’S FUNCTIONALIZED GAS COSTS?**

¹¹ Amen Direct, pages 14-27 and Statement K Schedules.
¹² Amen Direct, Statement K, Schedule K-2; see also ND Gas Embedded CCOS - Statement K and Stmt K Workpapers.xlsx, Stmt K, Sch. K-2 tab.
¹³ Amen Direct, page 17, lines 13-14.
¹⁴ Amen Direct, page 17 lines 14-19.

1 A. Yes. As I just noted the COSS employs a 30/70 split to classify 30% of mains costs as
2 customer-related and 70% of mains costs as demand-related. Witness Amen states that
3 this 30/70 split to classify is supported by results of zero-intercept and minimum-size
4 studies of MDU's mains (zero-intercept: 32.2% customer-related; minimum-size: 30.7%
5 customer-related).¹⁵ In support of MDU's use of the zero-intercept and minimum-size
6 approaches to mains classification, Witness Amen references the NARUC Electric Utility
7 Cost Allocation Manual, the Naruc Gas Rate Design Manual and the AGA Gas Rate
8 Fundamentals.¹⁶ While these methods of distribution mains classification are often still
9 used, there is, from the perspective of cost causation, no theoretical or practical
10 justification for zero-intercept and/or minimum-size mains classification.

11 **Q. WHAT IS THE COST CAUSATION THAT DEFINES THE CLASSIFICATION**
12 **OF GAS DISTRIBUTION ACCOUNTS AS CUSTOMER-RELATED?**

13 A. As clearly articulated in Bonbright's Principles of Public Utility Rates,¹⁷ under the
14 principle of cost causation, customer-related costs are "those operating and capital costs
15 found to vary with number of customers."¹⁸ Operationally defined, customer-related
16 costs are the "costs of connecting another customer or the savings in costs of not
17 connecting the customer."¹⁹ Per the NARUC Gas Manual, customer costs are those
18 operating capital costs found to vary directly with the number of customers served rather
19 than with the amount of utility service supplied ... [t]hey include the expenses of
20 metering, reading, billing, collecting, and accounting, as well as those cost associated

¹⁵ Amen Direct, page 20 line 7 to page 22 line 7.

¹⁶ Amen Direct, page 19 lines 13-23.

¹⁷ Bonbright et al, Principles of Public Utility Rates, 1988.

¹⁸ Bonbright, page 490; also see NARUC Manual Electric Utility Cost Allocation Manual, 1992, page 90, "The customer component of distribution facilities is the portion of costs which varies with the number of customers."

¹⁹ Bonbright, page 490.

1 with the capital investment in metering and in customers' service connections."²⁰

2 MDU's COSS properly classifies the costs of services, meters and house regulators as
3 customer-related. The COSS errs only in classifying a portion of the distribution mains
4 costs as customer-related, rather than properly as demand-related.

5 **Q. WHAT IS THE COST CAUSATION THAT DEFINES THE CLASSIFICATION**
6 **OF GAS DISTRIBUTION ACCOUNTS AS DEMAND-RELATED?**

7 A. As Bonbright also explains, it is theoretically impossible for the capital costs of
8 distribution system facilities upstream of the facilities to be classified as customer-related
9 because the connection of a new customer (or disconnection of an existing customer) has
10 no measurable impact on the costs of those facilities.²¹ Since the costs of the distribution
11 facilities upstream of customer-related facilities do not and cannot vary with the number
12 of customers connected to the distribution system, for the purposes of embedded cost
13 analysis, those costs are properly classified as demand-related, because those costs do
14 "var[y] continuously (and, perhaps, even more or less directly) with the maximum
15 demand imposed on this system as measured by peak load."²² Per the NARUC Gas
16 Manual, demand related costs "are related to maximum system requirements which the
17 system is designed to serve during short intervals and do not directly vary with the
18 number of customers or their annual usage."²³ MDU's COSS properly classifies the costs
19 of production plant, storage plant, transmission plant and regulator stations as demand-

²⁰ NARUC Gas Manual, page 22; see also page 23 "only facilities, such as meters, regulators and service taps, are considered to be customer related, as they vary directly with the number of customers on the system."

²¹ Bonbright, page 491.

²² Bonbright, page 492; see also NARUC Electric Manual, page 90, "Classifying distribution plant as a demand cost assigns investment ... based upon its contribution to some total peak load ,, [because] costs are incurred to serve area load, rather than a specific number of customers."

²³ NARUC Gas Manual, pages 23 and 24.

1 related. The COSS errs only in classifying a portion of the distribution mains costs as
2 customer-related, rather than properly as demand-related.

3 **Q. WHAT IS YOUR RECOMMENDATION REGARDING THE CLASSIFICATION**
4 **OF DISTRIBUTION MAINS IN MDU'S COSS?**

5 A. For reasons given above I recommend that MDU's distribution mains be classified as
6 wholly demand-related with no customer-related component, consistent with the COSS'
7 classification of transmission mains and regulator stations as demand-related.

8 **Q. HAVE YOU FOUND ANY ERRORS IN THE COSS' ALLOCATION OF MDU'S**
9 **CLASSIFIED AND FUNCTIONALIZED GAS COSTS?**

10 A. No, except for the allocation error that results from the erroneous classification of a portion
11 of distribution mains as customer-related and the allocation of that portion using a customer
12 allocator.

13 **Q. WHAT IS YOUR RECOMMENDATION REGARDING THE ALLOCATION OF**
14 **MDU'S MAINS COSTS?**

15 A. For the reasons given above I recommend that MDU's distribution mains costs be
16 classified as only demand-related and allocated using the design day demand allocator
17 consistent with the demand allocator applied to transmission and regulator station costs.

18 **Q. WHAT IS THE IMPACT OF YOUR RECOMMENDATIONS REGARDING THE**
19 **CLASSIFICATION AND ALLOCATION OF MDU'S GAS COSTS?**

20 A. Regarding distribution mains classification, MDU's residential rate class has
21 proportionately more customers (85%) than its commercial rate classes and significantly
22 less aggregate demand (46%) than the commercial classes. Consequently, the COSS'
23 class customer allocation of distribution mains costs that the COSS erroneously classifies

1 as customer-related results in an unsupported and unjustified over allocation of
 2 distribution costs to MDU's residential rate class, which constitutes a interclass
 3 subsidization of the commercial classes. Classifying the entirety of MDU's distribution
 4 mains costs as demand-related corrects the over allocation.

5 **Q. HAVE YOU QUANTIFIED THE IMPACT OF YOUR RECOMMENDATION?**

6 A. Yes. MDU's COSS calculates the customer class total operating income and rate of return
 7 under current rates as shown in columns B and C of Table 2 below. My correction of the
 8 minimum-size classification and allocation error in MDU's CCROSS described above results
 9 in the customer class costs of service shown in columns D and E of Table 2.

10

	MDU COSS ²⁴			MDU COSS w/o Minimum Size ²⁵			
Rate Class	Operating Income	Rate of Return	Relative Rate of Return	Operating Income	Rate of Return	Relative Rate of Return	Operating Income Increase (Decrease)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
Residential	\$3,334,183	2.51%	0.714	\$4,767,407	4.00%	1.140	\$1,433,224
Small Firm General	\$1,303,548	5.73%	1.633	\$1,249,963	5.37%	1.531	(\$53,585)
Large Firm General	\$2,417,701	4.96%	1.413	\$1,268,191	2.12%	0.604	(\$1,149,510)
Air Force Delivery (Rate 64)	(\$254,842)	-24.69%	-7.036	(\$254,843)	-24.69%	-7.036	(\$1)
Small Interruptible & Transportation	\$424,782	7.07%	2.014	\$244,783	3.16%	0.900	(\$179,999)
Large Interruptible Sales & Transportation	\$185,980	4.56%	1.298	\$135,855	2.98%	0.848	(\$50,125)
Minot Air Force Base Distribution (Rate 65)	\$202,572	15.05%	4.289	\$202,573	15.05%	4.289	\$1
Total	\$7,613,924	3.51%	1.000	\$7,613,922	3.51%	1.000	\$0

²⁴ Statement K.

²⁵ Exhibit KRP-2.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20

As can be readily seen in Table 2, the net impact of correcting the classification and allocation errors and resulting interclass subsidizations is a significant increase in the residential class and decrease in the operating income of the commercial classes.

NORTH DAKOTA CLASS REVENUE REQUIREMENTS

Q. WHAT IS MDU’S PROPOSAL REGARDING CLASS REVENUE REQUIREMENTS?

A. The testimony and exhibits of Ronald J. Amen²⁶ also present MDU’s proposed class revenue responsibility. .MDU proposes to apportion or distribute the overall revenue requirement to customer classes based on cost of service, class contribution to present revenue levels and customer impact.²⁷ MDU’s proposed class revenues are developed in Statement L with the class rate base and operating income from the COSS.²⁸ Table 3 shows for each class Minimum System COSS relative rate of return (RROR), current revenue, proposed revenue, proposed revenue increase or decrease, percent increase or decrease, and the RROR resulting from the proposed revenue increase of decrease. Measured by the RRORs for each class, the proposed revenue increases move the residential, general, small interruptible and Minot distribution classes towards cost parity in a non-uniform manner. The Air Force delivery class is moved from significantly below cost

²⁶ Amen Direct, pages 34-38, Exhibit RJA-1 and Statement L..
²⁷Amen Direct, page 34 lines 5-10.
²⁸ Statement K.

1 parity to significantly over cost parity. The large interruptible class is moved from
 2 significantly over cost parity to significantly below cost parity.

Table 3: MDU Class Revenue Requirements²⁹

Rate Class	COSS Current Rates RROR	Current Revenue	Proposed Revenue	Increase (Decrease)	Percent Increase (Decrease)	Proposed Revenue RROR
(A)	(B)	(C)	(D)	(E)	(F)	(G)
Residential	0.937	\$76,256,119	\$83,756,193	\$7,500,074	9.84%	0.968
Small Firm General	2.141	\$16,136,051	\$17,108,936	\$972,885	6.03%	1.189
Large Firm General	1.853	\$57,431,482	\$60,001,187	\$2,569,705	4.47%	1.215
Air Force Delivery (Rate 64)	(9.227)	\$1,810,639	\$2,180,934	\$370,295	20.45%	1.329
Small Interruptible & Transportation	2.641	\$3,635,345	\$3,792,073	\$156,728	4.31%	1.149
Large Interruptible Sales & Transportation	1.703	\$1,001,374	\$1,071,697	\$70,323	7.02%	0.746
Minot Air Force Base Distribution (Rate 65)	5.624	\$198,127	\$451,493	\$253,366	127.88%	4.025
Total	1.000	\$156,271,010	\$167,911,020	\$11,640,010	7.45%	4.701

3

4 **Q. DO YOU FIND ANY ERRORS IN MDU’S PROPOSED CLASS REVENUE**
 5 **REQUIREMENT APPORTIONMENT?**

6 A. Yes, in that it is based on the results of MDU’s COSS with minimum-size classification of
 7 distribution mains. Table 4 below compares MDU’s proposed class revenue requirements
 8 and class revenue increases to the class revenue requirements and increases based on the
 9 results from the COSS without minimum-size classification of distribution mains. The
 10 revenue increases in Table 4 were developed by first moving all classes 50% percent to cost

²⁹ Statement L.

1 parity, then adjusting the Air Force delivery class to approximately a 20% revenue increase
 2 and, finally distributing the difference proportionally to the other classes.

Table 4: MDU Class Revenue Requirements - Non-Min-Sys COSS³⁰

Rate Class	COSS Current Rates RROR	Current Revenue	Class Revenue	Increase (Decrease)	Percent Increase (Decrease)	Class Revenue RROR
(A)	(B)	(C)	(D)	(E)	(F)	(G)
Residential	1.140	\$76,256,119	\$82,743,611	\$6,487,492	8.51%	1.050
Small Firm General	1.531	\$16,136,051	\$17,489,438	\$1,353,387	8.39%	1.245
Large Firm General	0.604	\$57,431,482	\$60,382,856	\$2,951,374	5.14%	0.784
Air Force Delivery (Rate 64)	(7.036)	\$1,810,639	\$2,158,239	\$347,600	19.20%	1.000
Small Interruptible & Transportation	0.900	\$3,635,345	\$4,039,344	\$403,999	11.11%	0.931
Large Interruptible Sales & Transportation	0.848	\$1,001,374	\$1,237,135	\$235,761	23.54%	0.906
Minot Air Force Base Distribution (Rate 65)	4.289	\$198,127	\$311,889	\$113,762	57.42%	2.614
Total	1.000	\$156,271,010	\$167,911,020	\$11,640,010	7.45%	1.000

3

4 **Q. HAVE YOU DEVELOPED A CLASS REVENUE RESPONSIBILITY BASED ON**
 5 **THE COSS WITHOUT MINIMUM-SIZE CLASSIFICATION OF DISTRIBUTION**
 6 **MAINS AND ADVOCACY STAFF WITNESS MUGRACE’S PROPOSED**
 7 **OVERALL REVENUE REQUIREMENT?**

8 A. Yes. I have developed class revenue requirements based on the COSS without minimum-
 9 size classification of distribution mains and Staff Witness Mugrace’s recommended revenue
 10 requirement.³¹ Table 5 presents those class revenues and compares those class revenue

³⁰ Exhibit KRP-3.

³¹ Direct Testimony of Dante Mugrace, Schedule DM-1.

1 requirements to MDU’s proposed class revenue requirements in the same format as Tables 3
 2 and 4.

Table 5: Advocacy Staff Class Revenue Requirements – Recommended Revenue Requirement and Non-Min-Sys COSS³²

Rate Class	COSS Current Rates RROR	Current Revenue	Recommended Revenue	Increase (Decrease)	Percent Increase (Decrease)	Recommended Revenue RROR
(A)	(B)	(C)	(D)	(E)	(F)	(G)
Residential	1.140	\$57,431,482	\$78,010,843	\$1,754,724	2.30%	1.050
Small Firm General	1.531	\$1,810,639	\$16,502,112	\$366,061	2.27%	1.245
Large Firm General	0.604	\$3,635,345	\$58,229,764	\$798,282	1.39%	0.784
Air Force Delivery (Rate 64)	(7.036)	\$1,001,374	\$1,904,657	\$94,018	5.19%	1.000
Small Interruptible & Transportation	0.900	\$198,127	\$3,744,618	\$109,273	3.01%	0.931
Large Interruptible Sales & Transportation	0.848	\$156,271,010	\$1,065,142	\$63,768	6.37%	0.906
Minot Air Force Base Distribution (Rate 65)	4.289	\$0	\$228,897	\$30,770	15.53%	2.614
Total	1.000	\$0	\$159,487,906	\$3,216,896	2.06%	1.000

3

4

C. NORTH DAKOTA TARIFF RATE DESIGN

5 **Q. WHAT ARE MDU’S RATE DESIGN PROPOSALS?**

6 A. The testimony and exhibits of both Stephanie Bosch³³ and witness Amen³⁴ present MDU’s
 7 proposed rate designs. Regarding rate design, witness Bosch proposes (1) a two-phase
 8 integration of Great Plains’ Wahpeton customers under MDU’s gas tariff, (2) Small and

³² Exhibit KRP-4

³³ Bosch Direct, pages 4-18, Exhibits SB-1 thru SB-4 and Statement F schedules.

³⁴ Amen Direct, pages 38-51, Exhibits RJA-2 thru RJA-5 and Statement L

1 Large Basic Service Charges for residential customers, (3) a volumetric Distribution
2 Delivery Charge for residential customers and (4) a Distribution Stabilization Mechanism
3 Rate 87 corresponding to the residential volumetric Distribution Delivery Charge. Witness
4 Amen supports and provides the proposed Basic Service Charge Rates, Distribution
5 Delivery Charge Rates and Wahepton Integration Rates.
6 Regarding both class rate structures and class tariff charges proposals see Table 1 above.

7 **Q. DO YOU HAVE ANY CRITICISMS OF THE PROPOSED RATE DESIGNS?**

8 A. My only criticism is that MDU's proposed class tariff charges are derived from MDU's
9 proposed class revenue requirements. Table 6 shows my recommended class tariff charges
10 based on Advocacy Staff's overall recommended revenue requirement.

11

Table 6: Recommended Class Tariff Rates³⁵
Residential Service (Sch. 60 & (90):³⁶ (a) small basic service: \$26.40/month (\$0.868/day) and large \$26.63/month (\$0.875/day) and (b) a distribution delivery charge of \$0.021/dk.
Small Firm General Service (Sch. 70, 72, 74 & 92):³⁷ increase the basic service charge from \$0.75 to \$0.80 and the distribution delivery charge from \$1.174/dk to \$1.253/dk.
Large Firm General Service (Sch. 70, 72, 74 & 92):³⁸ increases the basic service charge from \$2.13 to \$2.31 and the distribution delivery charge from \$0.917/dk to \$1.005 /dk.
Minot AFB (Sch. 64):³⁹ (a) increase the firm basic service charge from \$175.00 to \$196 and the distribution delivery charge from \$0.449/dk to \$0.478/dk and (b) increase the interruptible basic service charge from \$2,000.00 to \$2,642.00 and the distribution delivery charge from \$0.255/dk to \$0.414/dk
Small Interruptible Sales & Transportation (Sch.71 &81):⁴⁰ (a) leave the basic service charge at \$450.00 and increase the distribution delivery charge from \$0.566/dk to \$0.631/dk and (b) increase the Wahpeton basic service charge from \$180.00 to \$450.00 and decrease the Whapeton distribution delivery charge from \$0.669/dk to \$0.662/dk
Large Interruptible Sales & Transportation (Sch.85 & 82):⁴¹ (a) increase the sales basic service charge from \$1,600.00 to \$2,598.00 and the distribution delivery charge from \$0.237/dk to \$0.242/dk and (b) increase the transport basic service charge from \$1,600.00 to \$2,598.00 and the distribution delivery charge from \$0.237/dk to \$0.242/dk
Wahpeton Firm Rates (GPNG 65):⁴² proposed Phase 1 Rates - increase basic service charge from \$0.25 to \$0.27 and increase distribution delivery charge from \$0.922/dk to \$0.949

1

2 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

3 A. Yes, but I reserve the right to submit supplemental direct testimony in response to

4 additional information and data provided by MDU.

³⁵ Exhibit KRP-5.

³⁶ Exhibit KRP-5, page 1.

³⁷ Exhibit KRP-5, page 2.

³⁸ Exhibit KRP-5, page 2.

³⁹ Exhibit KRP-5, Pages 3-4.

⁴⁰ Exhibit KRP-5, page 5.

⁴¹ Exhibit KRP-5, page 6.

⁴² Exhibit KRP-5, page 7

PCMG and Associates LLC

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 – Snavelly King Majoros and Associates	2010-2014
Director – FTI Consulting	2008-2010
President – DOXA, Inc	1994-2008
Partner – Snavelly 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. 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 the 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. With 33 years’ experience as a consultant and expert witness, Dr. Pavlovic has in-depth knowledge of

PCMG and Associates LLC

commercial and industrial operations in the energy, transportation, and telecommunications industries and is familiar with a wide range of experimental and investigative methods in science and engineering.

PCMG and Associates LLC

Regulatory Projects and Appearances

1. In re: the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Utility Service in North Dakota (2024) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND PSC Case No. PU-20-441
2. In re: 2023 Gas System Enhancement Program Plan Filings for the Commonwealth's Natural Gas Distribution Companies (2024) - (Appearance: cost and project compliance with tariff on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket Nos. D.P.U. 23-GSEP-01 to 23-GSEP-06
3. In re: the Application of Northern States Power Company for Advance Determination of Prudence – 345kV Big Stone to Sherburne (2024) - (Appearance: need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND PSC Case No. PU-23-329
4. Pennsylvania Office of Consumer Advocate: Monitor, Review and Report on Electric and Natural Gas Filings to the FERC (2024)
Federal Energy Regulatory Agency Dockets
5. In re: Petition of Veolia Water New Jersey, Inc. for an Increase in Rates for Water Service and Other Tariff Changes (2023) - (Appearance: cost of service and rate design on behalf of the New Jersey Rate Counsel)
NJ BPU Docket No. WR23110790
6. In re: the Application of Northern States Power Company for Advance Determination of Prudence – Brookings County to Lyon County and Helena to Hampton 345 kV Second Circuit (2023) - (Appearance: need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND PSC Case No. PU-23-295
7. In re: the Application of Northern States Power Company for Advance Determination of Prudence - Sherburne County 345 kV Transmission Line (2023) - (Appearance: need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND PSC Case No. PU-23-142
8. In re: Petition of Middlesex Water Company for an Increase in Rates for Water Service and Other Tariff Changes (2023) - (Appearance: cost of service and rate design on behalf of the Township of East Brunswick, New Jersey)
NJ BPU Docket No. WR23050292

PCMG and Associates LLC

9. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2022 Gas System Enhancement Plan Reconciliation Filing (2023) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 23-GREC-06
10. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2022 Gas System Enhancement Plan Reconciliation Filing (2023) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 23-GREC-05
11. In re: Petition of Berkshire Gas Company for Approval of its 2022 Gas System Enhancement Plan Reconciliation Filing (2023) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 23-GREC-02
12. In re: Pittsburgh Water and Sewer Authority General Base Rate Increase Filing (2023) – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2023-3039920 et al
13. In re: UGI Electric Company General Base Rate Increase Filing (2023) – (Appearance: electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2022-3037368
14. In re: Application of Hawaii Water Service Company, Inc. for Approval of a General Rate Increase for its Pukalani Wastewater Division and Certain Tariff Changes (2023) – (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
HI Public Utilities Commission Docket No. 2022-0186
15. In re: Application of Lanai Water Company, Inc. for Review and Approval of Rate Increases; Revised Rate Schedules; and Changes to its Tariff (2023) – (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
HI Public Utilities Commission Docket No. 2022-0233

PCMG and Associates LLC

16. In re: Application of Southern Maryland Electric Cooperative, Inc., for Authority to Revise Its Rates and Charges for Electric Service and Certain Rate Design Changes (2023) – (Appearance: cost of service and rate design on behalf of the Maryland Office of the People’s Counsel)
MD PSC Case No. 9688
17. In re: Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2023 (2022) – (Appearance: business risk and cost of equity on behalf of Utility Consumers’ Action Network)
CA Public Utilities Commission Application 22-04-012
18. In re: Valley Energy, Inc. General Base Rate Increase Filing (2022) – (Appearance: gas cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2022-3032300
19. In re: Citizens’ Electric Company General Base Rate Increase Filing (2022) – (Appearance: electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2022-3032369
20. In re: PECO Energy Company (Gas Division) General Base Rate Increase Filing (2022) – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2022-3031113
21. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2021 Gas System Enhancement Plan Reconciliation Filing (2022) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 22-GREC-05
22. In re: Petition of Liberty Utilities (New England Natural Gas Company Corp.) d/b/a Liberty for Approval of its 2021 Gas System Enhancement Plan Reconciliation Filing (2022) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 22-GREC-04
23. In re: Petition of Berkshire Gas Company for Approval of its 2021 Gas System Enhancement Plan Reconciliation Filing (2022) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 22-GREC-02

PCMG and Associates LLC

24. In re: Nova Scotia Power 2022-2024 General Rate Application (2022) - (Appearance: cost of service on behalf of the Nova Scotia Utility and Review Board)
NS UARB M10431
25. In re: the Application of Northern States Power Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2021) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND PSC Case No. PU-20-441
26. In re: Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2022 and to Reset the Annual Cost of Capital Mechanism (2021) – (Appearance: wildfire risk accounting and ratemaking on behalf of Utility Consumers’ Action Network)
CA Public Utilities Commission Application 21-08-014
27. In re: Petition of HPBS, Inc. for review and approval of Central Scheduling System (CSS) charge increase and revised CSS schedule (2021) – (Appearance: rate design on behalf of the Hawaii Department of Commerce and Consumer Affairs)
HI DCCA Docket No. PTP-2021-001
28. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 21-GREC-06
29. In re: Petition of Eversource Gas Company of Massachusetts d/b/a Eversource Energy for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 21-GREC-05
30. In re: Petition of Berkshire Gas Company for Approval of its 2020 Gas System Enhancement Plan Reconciliation Filing (2021) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 20-GREC-02
31. In re: the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in North Dakota (2021) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND PSC Case No. PU-20-441

PCMG and Associates LLC

32. In re: Pike County Light & Power Company 2020 General Base Rate Increase Filing – (Appearance: gas and electric cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2020-3022134 and R-2020-3022135
33. In re: Young Brothers LLC’s Application for Approval of a New Cost of Service Model (2020) – (Appearance: cost of service on behalf of the Hawaii Division of Consumer Advocacy)
HI Public Utilities Commission Docket No. 2020-0135
34. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 20-GREC-06
35. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 20-GREC-05
36. In re: Petition of Berkshire Gas Company for Approval of its 2019 Gas System Enhancement Plan Reconciliation Filing (2020) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 20-GREC-02
37. In re: Pittsburgh Water and Sewer Authority 2020 General Base Rate Increases 2020 – (Appearance: multi-year rate plan and performance-based ratemaking on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket Nos. R-2020-3017970 and R-2020-3017951
38. In re: Commonwealth Edison Company Petition for approval of a Revision to Integrated Distribution Company Implementation Plan Creation of Rate Residential Time of Use Pricing Pilot (“Rate RTOUP”) – On Rehearing (2020) – (Appearance: price signal and customer response on behalf of the Illinois Attorney General)
IL Commerce Commission Docket Nos. 18-1725/18-1824
39. In re: Hawaii Electric Company, Inc. Application for Approval of a General Rate Increase and Revised Rate Schedules and Rules (2019) - (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
HI Public Utilities Commission Docket No. 2019-0085

PCMG and Associates LLC

40. In re: Application of San Diego Gas & Electric Company for Authority to: (i) Adjust its Authorized Return on Common Equity, (ii) Adjust its Authorized Embedded Costs of Debt and Preferred Stock, (iii) Adjust its Authorized Capital Structure; (iv) Increase its Overall Rate of Return, (v) Modify its Adopted Cost of Capital Mechanism Structure, and (vi) Revise its Electric Distribution and Gas Rates Accordingly, and for Related Substantive and Procedural Relief (2019) – (Appearance: wildfire risk accounting and ratemaking on behalf of Utility Consumers’ Action Network)
CA Public Utilities Commission Application 19-04-017
41. In re: Proposed Amendments to N.J.A.C. 14:9 Adoption of Water and Sewer Uniform System of Accounts (2019) – (Assistance to counsel: water and sewer accounting on behalf of the Division of Rate Counsel)
NJ Board of Public Utilities Docket Nos. WX19050612 and WX19050613
42. In re: Petition of Public Service Electric and Gas Company for Approval of Gas Base Rate Adjustments Pursuant to its Gas System Modernization Program (2019) – (Assistance to Counsel: infrastructure replacement accounting)
NJ Board of Public Utilities Docket No. GE19040522
43. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2018 Gas System Enhancement Plan Reconciliation Filing (2019) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 19-GREC-06
44. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2018 Gas System Enhancement Plan Reconciliation Filing (2019) - (Assistance to Counsel: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 19-GREC-05
45. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2019) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9602
46. In re: PECO Energy Company Non-Bypassable Transmission Service Charge (NBT) Semiannual Adjustment (2019) - (Appearance: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
PA Public Utility Commission Docket No. M-2018-3005860

PCMG and Associates LLC

47. In re: PECO Energy Company Transmission Formula Rate Application (2018) - (Appearance: accounting, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
Federal Energy Regulatory Commission Docket ER17-1519-000
48. In re: Petition of NSTAR Gas Company d/b/a Eversource Energy for Approval of its 2017 Gas System Enhancement Plan Reconciliation Filing (2018) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 18-GREC-06
49. In re: Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of its 2017 Gas System Enhancement Plan Reconciliation Filing (2018) - (Appearance: prudence/used and useful, accounting, cost of service and rate design on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
MA Department of Public Utilities Docket No. D.P.U. 18-GREC-05
50. In re: The Application of the Potomac Edison Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2018) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9490
51. In re: Rate Applications of Kansas City Power & Light – Missouri and Kansas City Power & Light – Greater Missouri Operations (2018) – (Appearance: consolidated operations, cost of service and rate design on behalf of the Missouri Office of Public Counsel)
MO Public Service Commission Case Nos. ER-2018-0145 and ER-2018-0146
52. In re: The Application of Potomac Electric Power Company for Adjustments to Its Retail Rates for the Distribution of Electric Energy (2018) – (Appearance: cost of service and rate design on behalf of the Maryland Office of People’s Counsel)
MD Public Service Commission Case No. 9472
53. In re: Mid-Atlantic Interstate Transmission, L.L.C. 2018 Transmission Formula Rate Protocol Filings (2018) - (Analysis and Advice to Counsel: accounting)
Federal Energy Regulatory Commission Docket ER17-211-000
54. In re: The Gas Company d/b/a Hawaii Gas Application for Approval of Rate Increases and Revised Rate Schedules and Rules (2017) - (Appearance: cost of service and rate design on behalf of the Hawaii Division of Consumer Advocacy)
HI Public Utilities Commission Docket No. 2017-0105
55. In re: Montana-Dakota Utilities Co., Application to Increase Natural Gas Rates (2017) - (Appearance: cost of service and rate design on behalf of the North Dakota Public Service Commission Staff)
ND Public Service Commission Case No. PU-12-813

PCMG and Associates LLC

56. 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
57. 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
58. 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
59. 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
60. In re: PJM Interconnection, L.L.C. - PECO Energy Company Transmission Formula Rate Application (2017) - (Analysis and Advice to Counsel: accounting, cost of service and rate design)
Federal Energy Regulatory Commission Docket ER17-1519-000
61. 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
62. 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
63. In re: PJM Interconnection, L.L.C. - Rockland Electric Company Transmission Rate Application (2017) (Analysis and Advice to Counsel: accounting, cost of service and rate design on behalf of the New Jersey Division of Rate Counsel)
Federal Energy Regulatory Commission Docket ER17-856-000

PCMG and Associates LLC

64. 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, cost of service and rate design on behalf of the Pennsylvania Office of Consumer Advocate)
Federal Energy Regulatory Commission Docket ER17-211-000
65. 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
66. 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
67. 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
68. 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
69. 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
70. 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
71. 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

PCMG and Associates LLC

72. In re: Emera Maine, Proposed Rate Increase in Rates (2016) - (Analysis and Advice to 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
73. 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) - (Appearance: 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
74. 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
75. 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
76. 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
77. 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
78. 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

PCMG and Associates LLC

79. 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
80. 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
81. 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
82. 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
83. 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
84. 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
85. 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
86. 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

PCMG and Associates LLC

87. 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 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
88. 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
89. 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
90. 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

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
Exhibit KRP-2

	Allocation Factor	Total North Dakota	Residential			Total Residential	Firm General-Meter < 500 cubic feet			Firm General > 500 cubic feet			Total Large Firm General	
			Demand	Energy	Customer		Demand	Energy	Customer	Total Small Firm General	Demand	Energy		Customer
Rate Base-Projected														
Gas Plant in Service														
Transmission Plant	2	2,015,856	931,440	0	0	931,440	232,622	0	0	232,622	722,730	0	0	722,730
Land	13	922,302	415,931	0	0	415,931	103,876	0	0	103,876	333,169	0	0	333,169
Heskett Pipeline	2	45,000	20,792	0	0	20,792	5,193	0	0	5,193	16,134	0	0	16,134
Rights of Way	13	324,782	146,470	0	(2)	146,468	36,579	0	0	36,579	117,323	0	0	117,323
Structures & Improvements	13	598,058	269,705	0	0	269,705	67,358	0	0	67,358	216,041	0	0	216,041
Directly Assigned	Direct	91,040	0	0	0	0	0	0	0	0	28,791	0	0	28,791
Heskett Pipeline	2	232,262	107,318	0	0	107,318	26,802	0	0	26,802	83,271	0	0	83,271
Mains														
Demand Related 70%	2	139,646,234	64,524,512	0	0	64,524,512	16,114,635	0	0	16,114,635	50,066,343	0	0	50,066,343
Customer Related 30%	8	0	0	0	0	0	0	0	0	0	0	0	0	0
Directly Assigned Demand Related 70%	Direct	4,337,493	0	0	0	0	0	0	0	0	1,619,143	0	0	1,619,143
Directly Assigned Customer Related 30%	Direct	0	0	0	0	0	0	0	0	0	0	0	0	0
Heskett Pipeline	2	20,642,641	9,538,075	0	0	9,538,075	2,382,081	0	0	2,382,081	7,400,855	0	0	7,400,855
Meas. & Reg. Equip. - General	13	3,461,365	1,560,970	0	1	1,560,971	389,844	0	0	389,844	1,250,371	0	0	1,250,371
Directly Assigned	Direct	828,504	0	0	0	0	0	0	0	0	401,819	0	0	401,819
Meas. & Reg. Equip. - City Gate	13	8,109,316	3,657,058	0	0	3,657,058	913,330	0	0	913,330	2,929,380	0	0	2,929,380
Directly Assigned	Direct	881,089	0	0	0	0	0	0	0	0	0	0	0	0
Heskett Pipeline	2	865,332	399,832	0	0	399,832	99,856	0	0	99,856	310,241	0	0	310,241
Services	37	75,085,021	0	0	61,039,479	61,039,479	0	0	8,143,947	8,143,947	0	0	5,525,945	5,525,945
Directly Assigned	Direct	510,729	0	0	0	0	0	0	0	0	0	0	0	0
Meters	5	40,455,502	0	0	28,198,341	28,198,341	0	0	3,662,563	3,662,563	0	0	7,686,469	7,686,469
Directly Assigned	Direct	54,980	0	0	0	0	0	0	0	0	0	0	0	0
Service Regulators	9	5,777,558	0	0	4,029,984	4,029,984	0	0	523,438	523,438	0	0	1,096,638	1,096,638
Directly Assigned	Direct	14,733	0	0	0	0	0	0	0	0	0	0	0	0
Ind. Meas. & Reg. Station Equipment	44	912,757	0	0	0	0	0	0	0	0	774,457	0	0	774,457
Directly Assigned	Direct	544,029	0	0	0	0	0	0	0	0	0	0	0	0
Heskett Pipeline	2	1,470,694	679,545	0	0	679,545	169,712	0	0	169,712	527,277	0	0	527,277
Property on Customer Premise	13	1,680	757	0	0	757	189	0	0	189	607	0	0	607
Other Equipment	40	1,755,672	465,482	0	537,720	1,003,202	116,252	0	71,087	187,339	378,257	0	82,497	460,754
Distribution Plant - includes Heskett		307,568,773	81,786,447	0	93,805,523	175,591,970	20,425,707	0	12,401,035	32,826,742	66,453,479	0	14,391,549	80,845,028
Distribution Plant - Heskett Pipeline Plant		23,255,929	10,745,562	0	0	10,745,562	2,683,644	0	0	2,683,644	8,337,778	0	0	8,337,778
Distribution Plant Excluding Direct Assignments		300,306,176	81,786,447	0	93,805,523	175,591,970	20,425,707	0	12,401,035	32,826,742	64,403,726	0	14,391,549	78,795,275
General Plant	38	20,853,706	5,679,372	0	6,513,994	12,193,366	1,418,391	0	861,146	2,279,537	4,472,290	0	999,370	5,471,660
Directly Assigned - MAFB	Direct	16,876	0	0	0	0	0	0	0	0	0	0	0	0
Intangible Plant - General	15	7,228,050	1,806,064	0	2,384,805	4,190,869	451,054	0	315,270	766,324	1,477,468	0	365,875	1,843,343
Directly Assigned	Direct	3,130,428	0	0	0	0	0	0	0	0	954,882	0	0	954,882
Common Plant	15	20,290,652	5,069,999	0	6,694,653	11,764,652	1,266,204	0	885,029	2,151,233	4,147,563	0	1,027,087	5,174,650
Intangible Common (Excluding CC&B & PCA)	15	7,544,723	1,885,190	0	2,489,288	4,374,478	470,816	0	329,082	799,898	1,542,199	0	381,904	1,924,103
Intangible Common (CC&B & PCAD)	4	9,599,169	0	0	8,190,909	8,190,909	0	0	967,144	967,144	0	0	429,370	429,370
Acquisition Adjustment	15	97,266	24,304	0	32,092	56,396	6,070	0	4,243	10,313	19,882	0	4,923	24,805
Total Gas Plant in Service including Heskett		378,345,499	97,182,816	0	120,111,264	217,294,080	24,270,864	0	15,762,949	40,033,813	79,790,493	0	17,600,078	97,390,571
Less: Accumulated Depreciation														
Transmission Plant	2	698,986	322,972	0	0	322,972	80,660	0	0	80,660	250,602	0	0	250,602
Distribution Plant														
Rights of Way	13	112,872	50,902	0	0	50,902	12,712	0	0	12,712	40,773	0	0	40,773
Structures & Improvements	23	266,164	104,172	0	2	104,174	26,017	0	0	26,017	94,566	0	0	94,566
Heskett Pipeline	2	48,192	22,268	0	0	22,268	5,561	0	0	5,561	17,278	0	0	17,278
Mains	13	51,139,124	23,062,209	0	0	23,062,209	5,759,657	0	0	5,759,657	18,473,313	0	0	18,473,313
Directly Assigned	Direct	145,754	0	0	0	0	0	0	0	0	31,735	0	13,601	45,336
Heskett Pipeline	2	4,819,471	2,226,870	0	0	2,226,870	556,148	0	0	556,148	1,727,890	0	0	1,727,890
Meas. & Reg. Equip. - General	18	881,380	320,712	0	0	320,712	80,096	0	0	80,096	339,453	0	0	339,453
Directly Assigned	Direct	8,381	0	0	0	0	0	0	0	0	5,867	0	2,514	8,381
Meas. & Reg. Equip. - City Gate	19	1,672,939	680,508	0	0	680,508	169,953	0	0	169,953	545,100	0	0	545,100
Heskett Pipeline	2	162,328	75,005	0	0	75,005	18,732	0	0	18,732	58,198	0	0	58,198
Services	37	46,934,611	0	0	38,154,936	38,154,936	0	0	5,090,669	5,090,669	0	0	3,454,192	3,454,192
Directly Assigned	Direct	118,288	0	0	0	0	0	0	0	0	0	0	0	0
Meters	5	15,006,987	0	0	10,460,188	10,460,188	0	0	1,358,630	1,358,630	0	0	2,851,299	2,851,299
Directly Assigned	Direct	22,692	0	0	0	0	0	0	0	0	0	0	0	0
Service Regulators	9	1,481,063	0	0	1,033,076	1,033,076	0	0	134,182	134,182	0	0	281,121	281,121
Directly Assigned	Direct	3,002	0	0	0	0	0	0	0	0	0	0	0	0

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
Exhibit KRP-2

	Allocation Factor	Residential				Firm General-Meter < 500 cubic feet				Firm General > 500 cubic feet				Total Large Firm General
		Total North Dakota	Demand	Energy	Customer	Total Residential	Demand	Energy	Customer	Total Small Firm General	Demand	Energy	Customer	
Ind. Meas. & Reg. Station Equipment	21	484,863	0	0	0	0	0	0	0	0	257,764	0	0	257,764
Heskett Pipeline	2	201,254	92,991	0	0	92,991	23,224	0	0	23,224	72,154	0	0	72,154
Property on Customer Premise	13	1,680	757	0	0	757	189	0	0	189	607	0	0	607
Other Equipment	40	370,828	98,319	0	113,574	211,893	24,554	0	15,015	39,569	79,894	0	17,425	97,319
Distribution Plant		123,881,873	26,734,713	0	49,761,776	76,496,489	6,676,843	0	6,598,496	13,275,339	21,744,592	0	6,620,152	28,364,744
General Plant	38	5,431,470	1,479,226	0	1,696,609	3,175,835	369,428	0	224,291	593,719	1,164,834	0	260,292	1,425,126
Directly Assigned	Direct	8,734	0	0	0	0	0	0	0	0	0	0	0	0
Intangible Plant - General	15	2,493,682	623,093	0	822,760	1,445,853	155,614	0	108,768	264,382	509,728	0	126,227	635,955
Directly Assigned	Direct	913,718	0	0	0	0	0	0	0	0	25,066	0	10,742	35,808
Common Plant	15	7,617,822	1,903,455	0	2,513,406	4,416,861	475,377	0	332,271	807,648	1,557,141	0	385,604	1,942,745
Intangible Plant - Common	15	4,311,952	1,077,422	0	1,422,676	2,500,098	269,080	0	188,077	457,157	881,396	0	218,265	1,099,661
Intangible Plant - Common-CC&B & PCAD	4	7,214,511	0	0	6,156,095	6,156,095	0	0	726,883	726,883	0	0	322,705	322,705
Acquisition Adjustment	15	87,645	21,900	0	28,918	50,818	5,469	0	3,823	9,292	17,915	0	4,436	22,351
Less: Total Accumulated Reserve for Depreciation		152,660,393	32,162,781	0	62,402,240	94,565,021	8,032,471	0	8,182,609	16,215,080	26,151,274	0	7,948,423	34,099,697
Net Gas Plant in Service including Heskett		223,685,106	65,020,035	0	57,709,024	122,729,059	16,238,393	0	7,580,340	23,818,733	53,639,219	0	9,651,655	63,290,874
Additions														
Materials & Supplies	15	2,463,479	615,546	0	812,794	1,428,340	153,729	0	107,451	261,180	503,554	0	124,698	628,252
Fuel Stocks	10	26,293	0	9,894	0	9,894	0	6,513	0	6,513	0	9,886	0	9,886
Prepayments	25	415,793	106,802	0	132,002	238,804	26,673	0	17,323	43,996	87,688	0	19,342	107,030
Unamortized Loss on Debt	24	120,097	34,600	0	30,711	65,311	8,641	0	4,034	12,675	28,544	0	5,136	33,680
Unamortized Redemption Cost of Preferred Stock	24	35,472	10,220	0	9,068	19,288	2,552	0	1,191	3,743	8,431	0	1,517	9,948
Gain/Loss on Sale	24	400,639	115,424	0	102,445	217,869	28,827	0	13,457	42,284	95,221	0	17,134	112,355
Provision for Pension & Benefits	24	18,273,074	5,264,485	0	4,672,533	9,937,018	1,314,776	0	613,758	1,928,534	4,343,013	0	781,467	5,124,480
Provision for Post Retirement	24	4,511,690	1,299,821	0	1,153,665	2,453,486	324,623	0	151,539	476,162	1,072,306	0	192,947	1,265,253
Total Additions		26,246,537	7,446,898	9,894	6,913,218	14,370,010	1,859,821	6,513	908,753	2,775,087	6,138,757	9,886	1,142,241	7,260,884
Total Before Deductions		251,931,643	72,466,933	9,894	64,622,242	137,099,069	18,098,214	6,513	8,489,093	26,593,820	59,777,976	9,886	10,793,896	70,581,758
Deductions														
Accumulated Deferred Income Tax	24	(28,799,456)	(8,297,143)	0	(7,364,193)	(15,661,336)	(2,072,165)	0	(967,320)	(3,039,485)	(6,844,848)	0	(1,231,638)	(8,076,486)
Accumulated Investment Tax Credit	24	0	0	0	0	0	0	0	0	0	0	0	0	0
Customer Advances For Construction	Direct	(6,162,084)	(1,586,922)	0	(680,109)	(2,267,031)	(203,164)	0	(87,070)	(290,234)	(1,862,120)	0	(798,052)	(2,660,172)
Total Deductions		(34,961,540)	(9,884,065)	0	(8,044,302)	(17,928,367)	(2,275,329)	0	(1,054,390)	(3,329,719)	(8,706,968)	0	(2,029,690)	(10,736,658)
Total Rate Base		216,970,103	62,582,868	9,894	56,577,940	119,170,702	15,822,885	6,513	7,434,703	23,264,101	51,071,008	9,886	8,764,206	59,845,100
Min-Sys Total Rate Base		216,970,104	46,054,588	9,894	86,931,799	132,996,281	11,717,017	6,513	11,023,880	22,747,410	37,405,035	9,886	11,341,367	48,756,288
Income Statement														
Gas Operating Revenues														
Retail Sales & Transportation														
Residential	Direct	76,256,119	17,474,280	28,829,305	29,952,534	76,256,119	0	0	0	0	0	0	0	0
Firm General	Direct	73,567,533	0	0	0	0	4,364,103	6,212,425	5,559,523	16,136,051	13,558,775	32,651,458	11,221,249	57,431,482
Air Force Delivery	Direct	1,810,639	0	0	0	0	0	0	0	0	0	0	0	0
Small Interruptible	Direct	3,635,345	0	0	0	0	0	0	0	0	0	0	0	0
Large Interruptible	Direct	1,001,374	0	0	0	0	0	0	0	0	0	0	0	0
Total Sales & Transportation Revenues		156,271,010	17,474,280	28,829,305	29,952,534	76,256,119	4,364,103	6,212,425	5,559,523	16,136,051	13,558,775	32,651,458	11,221,249	57,431,482
Other Operating Revenue														
Miscellaneous														
Reconnect Fees	6	44,354	0	0	37,894	37,894	0	0	4,474	4,474	0	0	1,986	1,986
Minot Maintenance Fee Rate 65	Direct	456,000	0	0	0	0	0	0	0	0	0	0	0	0
NSF Check Fees & Other	6	35,085	0	0	29,975	29,975	0	0	3,539	3,539	0	0	1,571	1,571
Miscellaneous	41	2,799	811	0	733	1,544	203	0	95	298	669	0	120	789

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
Exhibit KRP-2

	Allocation Factor	Residential				Firm General-Meter < 500 cubic feet				Firm General > 500 cubic feet				Total Large Firm General		
		Total		Demand	Energy	Total		Demand	Energy	Customer	Total Small Firm General		Demand		Energy	Customer
		North Dakota	Residential			Residential	Customer				Firm General	Firm General				
Rent From Gas Property	41	668,010	193,625	0	171,853	365,478	48,357	0	22,574	70,931	159,733	0	28,742	188,475		
Other Gas Revenues																
Miscellaneous	42	355,763	62,018	2,410	142,776	207,204	15,489	549	18,465	34,503	60,548	2,617	24,851	88,016		
Heskett Pipeline	2	1,940,754	896,739	0	0	896,739	223,956	0	0	223,956	695,804	0	0	695,804		
Transport and Penalty Revenue - Net	41	73,902	21,421	0	19,012	40,433	5,350	0	2,497	7,847	17,671	0	3,180	20,851		
Total Other Operating Revenue		3,576,667	1,174,614	2,410	402,243	1,579,267	293,355	549	51,644	345,548	934,425	2,617	60,450	997,492		
Total Other Operating Revenue Excl. Direct Assigned		3,120,667	1,174,614	2,410	402,243	1,579,267	293,355	549	51,644	345,548	934,425	2,617	60,450	997,492		
Total Operating Revenues		159,847,677	18,648,894	28,831,715	30,354,777	77,835,386	4,657,458	6,212,974	5,611,167	16,481,599	14,493,200	32,654,075	11,281,699	58,428,974		
Min-SYS Total Operating Revenue		159,847,677	18,575,039	28,831,715	30,491,184	77,897,938	4,639,011	6,212,974	5,627,274	16,479,259	14,428,928	32,654,075	11,295,803	58,378,806		
Operation & Maintenance Expenses																
Cost of Purchased Gas	Direct	106,767,865	17,474,280	28,829,305	0	46,303,585	4,364,103	6,212,425	0	10,576,528	13,558,775	32,676,473	0	46,235,248		
Transmission Expenses	3	11,371	0	4,690	0	4,690	0	1,068	0	5,094	0	0	0	5,094		
Other Gas Supply Expenses	3	320,085	0	132,024	0	132,024	0	30,069	0	30,069	0	143,402	0	143,402		
Distribution Expenses																
Operation																
Load Dispatch	1	44,585	0	14,618	0	14,618	0	3,329	0	3,329	0	15,878	0	15,878		
Mains and Services	22	2,676,743	791,676	0	748,917	1,540,593	197,717	0	99,921	297,638	634,149	0	67,800	701,949		
Measuring Stations - General	18	271,446	98,772	0	0	98,772	24,668	0	0	24,668	104,544	0	0	104,544		
Measuring Stations - Industrial	21	170,473	0	0	0	0	0	0	0	0	90,627	0	0	90,627		
Measuring Stations - City Gate	19	327,834	133,354	0	(1)	133,353	33,304	0	0	33,304	106,819	0	0	106,819		
Meters & House Regulators	16	355,372	0	0	247,723	247,723	0	0	32,176	32,176	0	0	67,512	67,512		
Customer Installations	5	877,283	0	0	611,485	611,485	0	0	79,423	79,423	0	0	166,682	166,682		
Other Gas Distribution	27	3,140,645	680,690	9,719	1,069,186	1,759,595	169,999	2,213	140,632	312,844	622,406	10,557	200,785	833,748		
Rents	27	51,142	11,084	158	17,411	28,653	2,768	36	2,290	5,094	10,135	172	3,270	13,577		
Supervision & Engineering	27	2,117,805	459,004	6,554	720,975	1,186,533	114,634	1,493	94,831	210,958	419,702	7,119	135,394	562,215		
Direct -Minot AFB Distribution System	Direct	46,899	0	0	0	0	0	0	0	0	0	0	0	0		
Total Operation Expense		10,080,227	2,174,580	31,049	3,415,696	5,621,325	543,090	7,071	449,273	999,434	1,988,382	33,726	641,443	2,663,551		
Maintenance																
Structures & Improvements	13	10,491	4,731	0	0	4,731	1,182	0	0	1,182	3,790	0	0	3,790		
Mains	13	181,967	82,061	0	0	82,061	20,494	0	0	20,494	65,733	0	0	65,733		
Measuring Stations - General	18	205,880	74,914	0	0	74,914	18,709	0	0	18,709	79,292	0	0	79,292		
Measuring Stations - Industrial	21	163,917	0	0	0	0	0	0	0	0	87,143	0	0	87,143		
Measuring Stations - City Gate	19	154,737	62,944	0	(1)	62,943	15,720	0	0	15,720	50,419	0	0	50,419		
Services	5	241,286	0	0	168,181	168,181	0	0	21,844	21,844	0	0	45,844	45,844		
Meters & House Regulators	16	548,138	0	0	382,099	382,099	0	0	49,629	49,629	0	0	104,132	104,132		
Other Equipment	28	579,610	86,436	0	211,725	298,161	21,587	0	27,500	49,087	110,186	0	57,705	167,891		
Supervision & Engineering	28	938,916	140,019	0	342,976	482,995	34,969	0	44,547	79,516	178,492	0	93,477	271,969		
Direct -Minot AFB Distribution System	Direct	8,177	0	0	0	0	0	0	0	0	0	0	0	0		
Total Maintenance Expense		3,033,119	451,105	0	1,104,980	1,556,085	112,661	0	143,520	256,181	575,055	0	301,158	876,213		
Min-Sys Total Maintenance Expense		3,033,119	315,775	0	1,354,931	1,670,706	78,864	0	173,034	251,898	402,537	0	381,744	784,281		
Total Distribution Expenses		13,113,346	2,625,685	31,049	4,520,676	7,177,410	655,751	7,071	592,793	1,255,615	2,563,437	33,726	942,601	3,539,764		
Customer Accounts	4	60,918	0	0	51,980	51,980	0	0	6,138	6,138	0	0	7,225	7,225		
Meter Reading	5	299,437	0	0	208,715	208,715	0	0	27,109	27,109	0	0	56,892	56,892		
Customer Records & Collection	43	2,011,504	0	0	1,687,617	1,687,617	0	0	214,176	214,176	0	0	99,604	99,604		
Uncollectible Accounts	6	547,958	0	0	468,142	468,142	0	0	55,276	55,276	0	0	24,540	24,540		
Miscellaneous Customer Accounts	4	110,925	0	0	94,651	94,651	0	0	11,176	11,176	0	0	4,962	4,962		
Customer Service & Information	4	358,394	0	0	305,816	305,816	0	0	36,109	36,109	0	0	16,031	16,031		
Sales Expenses	4	139,303	0	0	118,866	118,866	0	0	14,035	14,035	0	0	6,231	6,231		
Administration & General Expenses	30	12,145,856	2,431,964	28,758	4,187,145	6,647,867	607,370	6,549	549,057	1,162,976	2,374,309	31,238	873,057	3,278,604		
Total Gas O&M Expenses		135,886,962	22,531,929	29,025,826	11,643,608	63,201,363	5,627,224	6,257,182	1,505,869	13,390,275	18,496,521	32,889,933	2,026,643	53,413,097		
Min-Sys Total Gas O&M Expenses		135,886,962	21,014,638	29,025,826	14,445,951	64,486,415	5,248,288	6,257,182	1,836,759	13,342,229	17,015,195	32,889,933	2,477,298	52,382,426		
O&M Excl. Cost of Gas and A&G		16,973,241	2,625,685	167,763	7,456,463	10,249,911	655,751	38,208	956,812	1,650,771	2,563,437	182,222	1,153,586	3,899,245		
O&M Excl. Cost of Gas		29,119,097	5,057,649	196,521	11,643,608	16,897,778	1,263,121	44,757	1,505,869	2,813,747	4,937,746	213,460	2,026,643	7,177,849		
Depreciation Expense																
Transmission Plant	2	38,157	17,631	0	0	17,631	4,403	0	0	4,403	13,680	0	0	13,680		
Distribution Plant																
Rights of Way	13	4,742	2,137	0	0	2,137	534	0	0	534	1,713	0	0	1,713		
Structures & Improvements	23	8,890	3,479	0	(2)	3,477	869	0	0	869	3,159	0	1	3,160		
Heskett Pipeline - Demand Related	2	2,996	1,383	0	0	1,383	346	0	0	346	1,074	0	1	1,075		
Mains	13	3,963,507	1,787,422	0	0	1,787,422	446,399	0	0	446,399	1,431,763	0	0	1,431,763		
Directly Assigned	Direct	68,037	0	0	0	0	0	0	0	0	31,735	0	13,601	45,336		

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
Exhibit KRP-2

	Allocation Factor	Residential				Firm General-Meter < 500 cubic feet				Firm General > 500 cubic feet				Total Large Firm General
		Total North Dakota	Demand	Energy	Customer	Total Residential	Demand	Energy	Customer	Total Small Firm General	Demand	Energy	Customer	
Heskett Pipeline	2	577,994	267,067	0	0	267,067	66,698	0	0	66,698	207,224	0	0	207,224
Meas. & Reg. Equip. - General	18	92,431	33,633	0	0	33,633	8,400	0	0	8,400	35,599	0	0	35,599
Directly Assigned	Direct	8,381	0	0	0	0	0	0	0	0	5,867	0	2,514	8,381
Meas. & Reg. Equip. - City Gate	19	192,395	78,260	0	0	78,260	19,545	0	0	19,545	62,689	0	0	62,689
Heskett Pipeline - Demand Related	2	18,518	8,557	0	0	8,557	2,137	0	0	2,137	6,639	0	0	6,639
Services	37	2,258,268	0	0	1,835,832	1,835,832	0	0	244,939	244,939	0	0	166,199	166,199
Directly Assigned	Direct	32,283	0	0	0	0	0	0	0	0	0	0	0	0
Meters	5	2,197,844	0	0	1,531,944	1,531,944	0	0	198,978	198,978	0	0	417,586	417,586
Directly Assigned	Direct	1,875	0	0	0	0	0	0	0	0	0	0	0	0
Service Regulators	20	98,252	0	0	68,359	68,359	0	0	8,879	8,879	0	0	18,602	18,602
Directly Assigned	Direct	217	0	0	0	0	0	0	0	0	0	0	0	0
Ind. Meas. & Reg. Station Equipment	21	36,129	0	0	0	0	0	0	0	0	19,207	0	0	19,207
Heskett Pipeline - Demand Related	2	36,473	16,853	0	0	16,853	4,209	0	0	4,209	13,076	0	0	13,076
Other Equipment	40	43,716	11,590	0	13,389	24,979	2,895	0	1,770	4,665	9,419	0	2,054	11,473
Total Distribution Plant		9,642,948	2,210,381	0	3,449,522	5,659,903	552,032	0	454,566	1,006,598	1,829,164	0	620,558	2,449,722
General Plant	38	468,189	127,508	0	146,245	273,753	31,844	0	19,334	51,178	100,408	0	22,437	122,845
Directly Assigned	Direct	4,335	0	0	0	0	0	0	0	0	0	0	0	0
Amort. of Intangible Plant - General	15	488,320	122,016	0	161,115	283,131	30,473	0	21,299	51,772	99,816	0	24,718	124,534
Directly Assigned	Direct	78,261	0	0	0	0	0	0	0	0	16,710	0	7,162	23,872
Common Plant	15	894,295	223,456	0	295,063	518,519	55,807	0	39,007	94,814	182,801	0	45,268	228,069
Intangible Plant - Common (Excluding CC&B)	15	715,457	178,770	0	236,056	414,826	44,647	0	31,206	75,853	146,245	0	36,216	182,461
Intangible Plant - Common (CC&B)	4	717,058	0	0	611,861	611,861	0	0	72,246	72,246	0	0	32,074	32,074
Amortization of Gain/Preferred Stock	15	26,421	6,602	0	8,715	15,317	1,649	0	1,152	2,801	5,401	0	1,337	6,738
Acquisition Adjustment	15	2,821	705	0	939	1,644	176	0	123	299	577	0	143	720
Total Depreciation Expense		13,076,262	2,887,069	0	4,909,516	7,796,585	721,031	0	638,933	1,359,964	2,394,802	0	789,913	3,184,715
Min-Sys Total Depreciation Expense		13,076,262	2,120,053	0	6,326,150	8,446,203	529,472	0	806,203	1,335,675	1,769,550	0	894,145	2,663,695
Taxes Other Than Income														
Ad Valorem Taxes-Transmission	2	12,527	5,788	0	0	5,788	1,446	0	0	1,446	4,491	0	0	4,491
Ad Valorem Taxes-Heskett Pipeline	2	132,178	61,073	0	0	61,073	15,253	0	0	15,253	47,389	0	0	47,389
Ad Valorem Taxes-Other	15	1,885,607	471,154	0	622,134	1,093,288	117,668	0	82,246	199,914	385,432	0	95,447	480,879
Other Taxes - Payroll, Franchise	31	1,041,112	180,829	7,026	416,302	604,157	45,161	1,600	53,840	100,601	176,542	7,632	72,460	256,634
Other Taxes - Minot AFB Distribution- Direct	Direct	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Taxes - Revenue	26	1,765	197	326	339	862	49	70	63	182	153	369	127	649
Total Taxes Other Than Income Taxes		3,073,189	719,041	7,352	1,038,775	1,765,168	179,577	1,670	136,149	317,396	614,007	8,001	168,034	790,042
Total Operating Expense		152,036,413	26,138,039	29,033,178	17,591,899	72,763,116	6,527,832	6,258,852	2,280,951	15,067,635	21,505,330	32,897,934	2,984,590	57,387,854
Min-Sys Total Operating Expense		152,036,413	23,658,260	29,033,178	22,171,900	74,863,338	5,908,519	6,258,852	2,821,739	14,989,110	19,230,255	32,897,934	3,575,194	55,703,383
Interest Expense/AFUDC Equity Add Back/Perm Adds	36	4,533,874	1,314,156	0	1,166,388	2,480,544	328,203	0	153,210	481,413	1,084,132	0	195,075	1,279,207
Direct -Minot AFB Distribution System	Direct	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxable Income		3,277,390	(8,803,301)	(201,463)	11,596,490	2,591,726	(2,198,577)	(45,878)	3,177,006	932,551	(8,096,262)	(243,859)	8,102,034	(238,087)
Min-Sys Taxable Income		3,277,390	(6,061,007)	(201,463)	6,531,644	269,174	(1,513,705)	(45,878)	2,578,970	1,019,387	(5,604,748)	(243,859)	7,473,311	1,624,704
Income Taxes	24.4049%	799,848	(2,148,437)	(49,167)	2,830,113	632,509	(536,561)	(11,196)	775,346	227,589	(1,975,885)	(59,513)	1,977,293	(58,105)
Full Normalization/ARAM	24	(602,506)	(173,582)	0	(154,064)	(327,646)	(43,351)	0	(20,237)	(63,588)	(143,199)	0	(25,767)	(168,966)
Total Income Taxes		197,342	(2,322,019)	(49,167)	2,676,049	304,863	(579,912)	(11,196)	755,109	164,001	(2,119,084)	(59,513)	1,951,526	(227,071)
Total Operating Expense		152,233,755	23,816,020	28,984,011	20,267,948	73,067,979	5,947,920	6,247,656	3,036,060	15,231,636	19,386,246	32,838,421	4,936,116	57,160,783
Min-Sys Total Operating Expense		152,233,753	22,049,925	28,984,011	23,529,819	74,563,755	5,506,846	6,247,656	3,421,209	15,175,711	17,756,301	32,838,421	5,368,383	55,961,105
Operating Income:		7,613,922	(5,167,126)	(152,296)	10,086,829	4,767,407	(1,290,462)	(34,682)	2,575,107	1,249,963	(4,893,046)	(184,346)	6,345,583	1,268,191
Min-Sys Operating Income:		7,613,924	(3,474,886)	(152,296)	6,961,365	3,334,183	(867,835)	(34,682)	2,206,065	1,303,548	(3,327,373)	(184,346)	5,929,420	2,417,701
Rate of Return		3.51%				4.00%				5.37%				2.12%
Relative Rate of Return		1.000				1.140				1.531				0.604
Min-Sys Rate of Return		3.51%				2.51%				5.73%				4.96%
Min-Sys Relative Rate of Return		1.000				0.714				1.633				1.413

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
 Exhibit KRP-2

	Allocation Factor	Total North Dakota	Air Force Delivery			Total Air Force Delivery	Small Interruptible			Total Small Interruptible	Large Interruptible			Total Large Interruptible	Minot Air Force Base Distribution			Total Minot Air Force
			Demand	Energy	Customer		Demand	Energy	Customer		Demand	Energy	Customer		Demand	Energy	Customer	
Rate Base-Projected																		
Gas Plant in Service																		
Transmission Plant	2	2,015,856	0	0	0	0	101,371	0	0	101,371	27,693	0	0	27,693	0	0	0	0
Land	13	922,302	0	0	0	0	45,267	0	0	45,267	24,059	0	0	24,059	0	0	0	0
Heskett Pipeline	2	45,000	0	0	0	0	2,263	0	0	2,263	618	0	0	618	0	0	0	0
Rights of Way	13	324,782	0	0	0	0	15,940	0	0	15,940	8,472	0	0	8,472	0	0	0	0
Structures & Improvements	13	598,058	0	0	0	0	29,353	0	0	29,353	15,601	0	0	15,601	0	0	0	0
Directly Assigned	Direct	91,040	16,899	0	0	16,899	0	0	0	45,350	0	0	45,350	0	0	0	0	0
Heskett Pipeline	2	232,262	0	0	0	0	11,680	0	0	11,680	3,191	0	0	3,191	0	0	0	0
Mains	2	139,646,234	0	0	0	0	7,022,351	0	0	7,022,351	1,918,393	0	0	1,918,393	0	0	0	0
Demand Related 70%	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Customer Related 30%	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Directly Assigned Demand Related 70%	Direct	4,337,493	0	0	0	0	0	0	0	0	1,814,022	0	0	1,814,022	904,328	0	0	904,328
Directly Assigned Customer Related 30%	Direct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heskett Pipeline	2	20,642,641	0	0	0	0	1,038,051	0	0	1,038,051	283,579	0	0	283,579	0	0	0	0
Meas. & Reg. Equip. - General	13	3,461,365	0	0	0	0	169,884	0	0	169,884	90,294	0	0	90,294	0	0	0	0
Directly Assigned	Direct	828,504	65,191	0	0	65,191	79,067	0	0	79,067	282,426	0	0	282,426	0	0	0	0
Meas. & Reg. Equip. - City Gate	13	8,109,316	0	0	0	0	398,006	0	0	398,006	211,542	0	0	211,542	0	0	0	0
Directly Assigned	Direct	881,089	881,089	0	0	881,089	0	0	0	0	0	0	0	0	0	0	0	0
Heskett Pipeline	2	865,332	0	0	0	0	43,515	0	0	43,515	11,888	0	0	11,888	0	0	0	0
Services	37	75,085,021	0	0	0	0	0	358,630	358,630	0	0	17,020	17,020	0	0	0	0	0
Directly Assigned	Direct	510,729	0	0	0	0	0	0	0	0	0	0	0	0	0	0	510,729	510,729
Meters	5	40,455,502	0	0	24,430	24,430	0	771,376	771,376	0	0	112,323	112,323	0	0	0	0	0
Directly Assigned	Direct	54,980	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54,980	54,980
Service Regulators	9	5,777,558	0	0	3,491	3,491	0	110,242	110,242	0	0	13,765	13,765	0	0	0	0	0
Directly Assigned	Direct	14,733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14,733	14,733
Ind. Meas. & Reg. Station Equipment	44	912,757	0	0	0	0	108,626	0	0	108,626	29,675	0	0	29,675	0	0	0	0
Directly Assigned	Direct	544,029	227,282	0	0	227,282	162,538	0	0	162,538	154,209	0	0	154,209	0	0	0	0
Heskett Pipeline	2	1,470,694	0	0	0	0	73,956	0	0	73,956	20,204	0	0	20,204	0	0	0	0
Property on Customer Premise	13	1,680	0	0	0	0	82	0	0	82	44	0	0	44	0	0	0	0
Other Equipment	40	1,755,672	6,863	0	161	7,024	52,679	0	7,150	59,829	28,137	0	825	28,962	5,214	0	3,346	8,560
Distribution Plant - includes Heskett		307,568,773	#####	0	28,082	1,225,406	9,253,258	0	1,247,398	10,500,656	4,941,704	0	143,933	5,085,637	909,542	0	583,788	1,493,330
Distribution Plant - Heskett Pipeline Plant		23,255,929	0	0	0	1,169,465	0	0	1,169,465	319,480	0	0	0	319,480	0	0	0	0
Distribution Plant Excluding Direct Assignments		300,306,176	6,863	0	28,082	34,945	9,011,653	0	1,247,398	10,259,051	2,645,697	0	143,933	2,789,630	5,214	0	3,346	8,560
General Plant	38	20,853,706	477	0	1,950	2,427	625,783	0	86,621	712,404	183,721	0	9,995	193,716	362	0	232	594
Directly Assigned - MAFB	Direct	16,876	0	0	0	0	0	0	0	0	0	0	0	0	16,875	0	1	16,876
Intangible Plant - General	15	7,228,050	30,439	0	714	31,153	205,513	0	31,712	237,225	117,510	0	3,659	121,169	23,123	0	14,842	37,965
Directly Assigned	Direct	3,130,428	0	0	0	195,798	0	0	195,798	1,979,747	0	0	1,979,747	0	0	0	0	0
Common Plant	15	20,290,652	85,450	0	2,004	87,454	576,919	0	89,023	665,942	329,876	0	10,272	340,148	64,912	0	41,663	106,575
Intangible Common (Excluding CC&B & PCA)	15	7,544,723	31,773	0	745	32,518	214,517	0	33,102	247,619	122,659	0	3,820	126,479	24,136	0	15,492	39,628
Intangible Common (CC&B & PCAD)	4	9,599,169	0	0	245	245	0	0	10,930	10,930	0	0	571	571	0	0	0	0
Acquisition Adjustment	15	97,266	410	0	10	420	2,766	0	427	3,193	1,581	0	49	1,630	311	0	200	511
Total Gas Plant in Service including Heskett		378,345,499	#####	0	33,750	1,379,623	11,175,925	0	1,499,213	12,675,138	7,704,491	0	172,299	7,876,790	#####	0	656,218	1,695,479
Less: Accumulated Depreciation																		
Transmission Plant	2	698,986	0	0	0	0	35,150	0	0	35,150	9,602	0	0	9,602	0	0	0	0
Distribution Plant																		
Rights of Way	13	112,872	0	0	0	5,540	0	0	5,540	2,944	0	0	2,944	0	0	0	0	0
Structures & Improvements	23	266,164	6,527	0	6,527	11,338	0	0	11,338	23,542	0	0	23,542	0	0	0	0	0
Heskett Pipeline	2	48,192	0	0	0	2,423	0	0	2,423	662	0	0	662	0	0	0	0	0
Mains	13	51,139,124	0	0	0	2,509,913	0	0	2,509,913	1,334,032	0	0	1,334,032	0	0	0	0	0
Directly Assigned	Direct	145,754	0	0	0	0	0	0	0	0	0	0	0	0	100,419	0	(1)	100,418
Heskett Pipeline	2	4,819,471	0	0	0	242,355	0	0	242,355	66,208	0	0	66,208	0	0	0	0	0
Meas. & Reg. Equip. - General	18	881,380	13,394	0	13,394	51,149	0	0	51,149	76,578	0	0	76,578	0	0	0	0	0
Directly Assigned	Direct	8,381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meas. & Reg. Equip. - City Gate	19	1,672,939	163,953	0	163,953	74,061	0	0	74,061	39,364	0	0	39,364	0	0	0	0	0
Heskett Pipeline	2	162,328	0	0	0	8,163	0	0	8,163	2,230	0	0	2,230	0	0	0	0	0
Services	37	46,934,611	0	0	0	0	0	224,175	224,175	0	0	10,639	10,639	0	0	0	0	0
Directly Assigned	Direct	118,288	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118,288	118,288
Meters	5	15,006,987	0	0	9,062	9,062	0	286,142	286,142	0	0	41,666	41,666	0	0	0	0	0
Directly Assigned	Direct	22,692	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22,692	22,692
Service Regulators	9	1,481,063	0	0	895	895	0	28,260	28,260	0	0	3,529	3,529	0	0	0	0	0
Directly Assigned	Direct	3,002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,002	3,002

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
Exhibit KRP-2

	Allocation Factor	Air Force Delivery				Small Interruptible				Large Interruptible				Minot Air Force Base Distribution			Total Minot	
		Total North Dakota	Demand	Energy	Customer	Total Air Force Delivery	Demand	Energy	Customer	Total Small Interruptible	Demand	Energy	Customer	Total Large Interruptible	Demand	Energy		Customer
Ind. Meas. & Reg. Station Equipment	21	484,863	75,646	0	0	75,646	90,252	0	0	90,252	61,202	0	0	61,202	0	0	0	0
Heskett Pipeline	2	201,254	0	0	0	0	10,120	0	0	10,120	2,765	0	0	2,765	0	0	0	0
Property on Customer Premise	13	1,680	0	0	0	0	82	0	0	82	44	0	0	44	0	0	0	0
Other Equipment	40	370,828	1,450	0	34	1,484	11,127	0	1,510	12,637	5,943	0	174	6,117	1,101	0	707	1,808
Distribution Plant		123,881,873	260,970	0	9,991	270,961	3,016,523	0	540,087	3,556,610	1,615,514	0	56,008	1,671,522	101,520	0	144,688	246,208
General Plant	38	5,431,470	124	0	508	632	162,989	0	22,561	185,550	47,851	0	2,603	50,454	94	0	61	155
Directly Assigned	Direct	8,734	0	0	0	0	0	0	0	0	0	0	0	8,734	0	0	0	8,734
Intangible Plant - General	15	2,493,682	10,502	0	246	10,748	70,902	0	10,941	81,843	40,541	0	1,262	41,803	7,978	0	5,120	13,098
Directly Assigned	Direct	913,718	0	0	0	0	116,762	0	50,041	166,803	497,775	0	213,332	711,107	0	0	0	0
Common Plant	15	7,617,822	32,081	0	752	32,833	216,596	0	33,423	250,019	123,847	0	3,857	127,704	24,370	0	15,642	40,012
Intangible Plant - Common	15	4,311,952	18,159	0	426	18,585	122,601	0	18,918	141,519	70,102	0	2,183	72,285	13,794	0	8,854	22,648
Intangible Plant - Common-CC&B & PCAD	4	7,214,511	0	0	184	184	0	0	8,215	8,215	0	0	429	429	0	0	0	0
Acquisition Adjustment	15	87,645	369	0	9	378	2,492	0	385	2,877	1,425	0	44	1,469	280	0	180	460
Less: Total Accumulated Reserve for Depreciation		152,660,393	322,205	0	12,116	334,321	3,744,015	0	684,571	4,428,586	2,406,657	0	279,718	2,686,375	156,770	0	174,545	331,315
Net Gas Plant in Service including Heskett		225,685,106	#####	0	21,634	1,045,302	7,431,910	0	814,642	8,246,552	5,297,834	0	(107,419)	5,190,415	882,491	0	481,673	1,364,164
Additions																		
Materials & Supplies	15	2,463,479	10,374	0	243	10,617	70,043	0	10,808	80,851	40,050	0	1,247	41,297	7,881	0	5,058	12,939
Fuel Stocks	10	26,293	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prepayments	25	415,793	1,479	0	37	1,516	12,282	0	1,648	13,930	8,467	0	189	8,656	1,142	0	721	1,863
Unamortized Loss on Debt	24	120,097	545	0	12	557	3,955	0	434	4,389	2,819	0	(57)	2,762	471	0	256	726
Unamortized Redemption Cost of Preferred Stock	24	35,472	161	0	3	164	1,168	0	128	1,296	833	0	(17)	816	139	0	76	215
Gain/Loss on Sale	24	400,639	1,817	0	38	1,855	13,193	0	1,446	14,639	9,405	0	(191)	9,214	1,567	0	855	2,422
Provision for Pension & Benefits	24	18,273,074	82,883	0	1,752	84,635	601,740	0	65,959	667,699	428,950	0	(8,697)	420,253	71,453	0	39,000	110,453
Provision for Post Retirement	24	4,511,690	20,464	0	432	20,896	148,572	0	16,286	164,858	105,909	0	(2,147)	103,762	17,642	0	9,629	27,271
Total Additions		26,246,537	117,723	0	2,517	120,240	850,953	0	96,709	947,662	596,433	0	(9,673)	586,760	100,294	0	55,595	155,889
Total Before Deductions		251,931,643	#####	0	24,151	1,165,542	8,282,863	0	911,351	9,194,214	5,894,267	0	(117,092)	5,777,175	982,785	0	537,268	1,520,053
Deductions																		
Accumulated Deferred Income Tax	24	(28,799,456)	(130,629)	0	(2,761)	(133,390)	(948,379)	0	(103,956)	(1,052,335)	(676,051)	0	13,708	(662,343)	(112,614)	0	(61,466)	(174,080)
Accumulated Investment Tax Credit	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Customer Advances For Construction	Direct	(6,162,084)	0	0	0	0	(276,493)	0	(118,497)	(394,990)	(385,192)	0	(165,082)	(550,274)	0	0	0	0
Total Deductions		(34,961,540)	(130,629)	0	(2,761)	(133,390)	(1,224,872)	0	(222,453)	(1,447,325)	(1,061,243)	0	(151,374)	(1,212,617)	(112,614)	0	(61,466)	(174,080)
Total Rate Base		216,970,103	#####	0	21,390	1,032,152	7,057,991	0	688,898	7,746,889	4,833,024	0	(268,466)	4,564,558	870,171	0	475,802	1,345,973
Min-Sys Total Rate Base		216,970,104	707,533	0	324,622	1,032,155	5,137,537	0	872,919	6,010,456	3,208,064	0	873,476	4,081,540	609,117	0	736,857	1,345,974
Income Statement																		
Gas Operating Revenues																		
Retail Sales & Transportation																		
Residential	Direct	76,256,119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Firm General	Direct	73,567,533	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Force Delivery	Direct	1,810,639	210,855	1,453,454	146,330	1,810,639	0	0	0	0	0	0	0	0	0	0	0	0
Small Interruptible	Direct	3,635,345	0	0	0	0	262,861	1,750,349	1,622,135	3,635,345	0	0	0	0	0	0	0	0
Large Interruptible	Direct	1,001,374	0	0	0	0	0	0	0	0	0	0	1,001,374	1,001,374	0	0	0	0
Total Sales & Transportation Revenues		156,271,010	210,855	1,453,454	146,330	1,810,639	262,861	1,750,349	1,622,135	3,635,345	0	0	1,001,374	1,001,374	0	0	0	0
Other Operating Revenue																		
Miscellaneous																		
Reconnect Fees	6	44,354	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minot Maintenance Fee Rate 65	Direct	456,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	456,000	456,000
NSF Check Fees & Other	6	35,085	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous	41	2,799	0	0	0	0	93	0	10	103	66	0	(1)	65	0	0	0	0

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
 Exhibit KRP-2

	Allocation Factor	Air Force Delivery				Total Small Interruptible				Total Large Interruptible				Minot Air Force Base Distribution			Total Minot Air Force	
		North Dakota	Demand	Energy	Customer	Air Force Delivery	Demand	Energy	Customer	Small Interruptible	Demand	Energy	Customer	Large Interruptible	Demand	Energy		Customer
Rent From Gas Property	41	668,010	3,048	0	64	3,112	22,132	0	2,426	24,558	15,777	0	(320)	15,457	0	0	0	0
Other Gas Revenues																		
Miscellaneous	42	355,763	5,234	119	67	5,420	10,220	236	2,302	12,758	7,188	370	305	7,863	0	0	0	0
Heskett Pipeline	2	1,940,754	0	0	0	0	97,594	0	0	97,594	26,661	0	0	26,661	0	0	0	0
Transport and Penalty Revenue - Net	41	73,902	337	0	7	344	2,448	0	268	2,716	1,745	0	(35)	1,710	0	0	0	0
Total Other Operating Revenue		3,576,667	8,619	119	138	8,876	132,487	236	5,006	137,729	51,437	370	(51)	51,756	0	0	456,000	456,000
Total Other Operating Revenue Excl. Direct Assigned		3,120,667	8,619	119	138	8,876	132,487	236	5,006	137,729	51,437	370	(51)	51,756	0	0	0	0
Total Operating Revenues		159,847,677	219,474	1,453,573	146,468	1,819,515	395,348	1,750,585	1,627,141	3,773,074	51,437	370	1,001,323	1,053,130	0	0	456,000	456,000
Min-Sys Total Operating Revenue		159,847,677	216,889	1,453,573	149,054	1,819,516	385,798	1,750,585	1,628,834	3,765,217	43,790	370	1,006,781	1,050,941	0	0	456,000	456,000
Operation & Maintenance Expenses																		
Cost of Purchased Gas	Direct	106,767,865	210,855	1,453,454	0	1,664,309	262,861	1,725,334	0	1,988,195	0	0	0	0	0	0	0	0
Transmission Expenses	3	11,371	0	231	0	231	0	288	0	288	0	0	0	288	0	0	0	0
Other Gas Supply Expenses	3	320,085	0	6,493	0	6,493	0	8,097	0	8,097	0	0	0	8,097	0	0	0	0
Distribution Expenses																		
Operation																		
Load Dispatch	1	44,585	0	719	0	719	0	2,657	0	2,657	0	7,384	0	7,384	0	0	0	0
Mains and Services	22	2,676,743	0	0	0	0	86,160	0	4,400	90,560	45,794	0	209	46,003	0	0	0	0
Measuring Stations - General	18	271,446	4,125	0	0	4,125	15,753	0	0	15,753	23,584	0	0	23,584	0	0	0	0
Measuring Stations - Industrial	21	170,473	26,597	0	0	26,597	31,732	0	0	31,732	21,518	0	0	21,518	0	0	0	0
Measuring Stations - City Gate	19	327,834	32,129	0	0	32,129	14,513	0	0	14,513	7,714	0	0	7,714	0	0	0	0
Meters & House Regulators	16	355,372	0	0	215	215	0	0	6,777	6,777	0	0	969	969	0	0	0	0
Customer Installations	5	877,283	0	0	530	530	0	0	16,727	16,727	0	0	2,436	2,436	0	0	0	0
Other Gas Distribution	27	3,140,645	41,787	478	495	42,760	98,505	1,767	18,552	118,824	65,562	4,909	2,403	72,874	0	0	0	0
Rents	27	51,142	680	8	8	696	1,604	29	302	1,935	1,068	80	39	1,187	0	0	0	0
Supervision & Engineering	27	2,117,805	28,178	322	334	28,834	66,424	1,191	12,510	80,125	44,210	3,310	1,620	49,140	0	0	0	0
Direct -Minot AFB Distribution System	Direct	46,899	0	0	0	0	0	0	0	0	0	0	0	0	46,899	0	0	46,899
Total Operation Expense		10,080,227	133,496	1,527	1,582	136,605	314,691	5,644	59,268	379,603	209,450	15,683	7,676	232,809	46,899	0	0	46,899
Maintenance																		
Structures & Improvements	13	10,491	0	0	0	0	515	0	0	515	274	0	0	274	0	0	0	0
Mains	13	181,967	0	0	0	0	8,931	0	0	8,931	4,747	0	0	4,747	0	0	0	0
Measuring Stations - General	18	205,880	3,129	0	0	3,129	11,948	0	0	11,948	17,888	0	0	17,888	0	0	0	0
Measuring Stations - Industrial	21	163,917	25,574	0	0	25,574	30,511	0	0	30,511	20,691	0	0	20,691	0	0	0	0
Measuring Stations - City Gate	19	154,737	15,165	0	0	15,165	6,850	0	0	6,850	3,641	0	0	3,641	0	0	0	0
Services	5	241,286	0	0	146	146	0	0	4,601	4,601	0	0	670	670	0	0	0	0
Meters & House Regulators	16	548,138	0	0	331	331	0	0	10,452	10,452	0	0	1,495	1,495	0	0	0	0
Other Equipment	28	579,610	16,879	0	184	17,063	22,607	0	5,792	28,399	18,176	0	833	19,009	0	0	0	0
Supervision & Engineering	28	938,916	27,342	0	297	27,639	36,621	0	9,382	46,003	29,444	0	1,349	30,793	0	0	0	0
Direct -Minot AFB Distribution System	Direct	8,177	0	0	0	0	0	0	0	0	0	0	0	0	8,177	0	0	8,177
Total Maintenance Expense		3,033,119	88,089	0	958	89,047	117,983	0	30,227	148,210	94,861	0	4,347	99,208	8,177	0	0	8,177
Min-Sys Total Maintenance Expense		3,033,119	61,661	0	27,384	89,045	82,586	0	51,227	133,813	66,402	0	28,797	95,199	8,177	0	0	8,177
Total Distribution Expenses		13,113,346	221,585	1,527	2,540	225,652	432,674	5,644	89,495	527,813	304,311	15,683	12,023	332,017	55,076	0	0	55,076
Customer Accounts	4	60,918	0	0	2	2	0	0	69	69	0	0	4	4	0	0	0	0
Meter Reading	5	299,437	0	0	181	181	0	0	5,709	5,709	0	0	831	831	0	0	0	0
Customer Records & Collection	43	2,011,504	0	0	401	401	0	0	8,837	8,837	0	0	869	869	0	0	0	0
Uncollectible Accounts	6	547,958	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous Customer Accounts	4	110,925	0	0	3	3	0	0	126	126	0	0	7	7	0	0	0	0
Customer Service & Information	4	358,394	0	0	9	9	0	0	408	408	0	0	21	21	0	0	0	0
Sales Expenses	4	139,303	0	0	4	4	0	0	159	159	0	0	8	8	0	0	0	0
Administration & General Expenses	30	12,145,856	205,237	1,414	2,353	209,004	400,752	5,228	82,882	488,872	281,859	14,526	11,136	307,521	51,013	0	0	51,013
Total Gas O&M Expenses		135,886,962	637,677	1,463,119	5,493	2,106,289	1,096,287	1,744,591	187,695	3,028,573	586,170	30,209	24,899	641,278	106,089	0	0	106,089
Min-Sys Total Gas O&M Expenses		135,886,962	509,629	1,463,119	133,536	2,106,284	846,254	1,744,591	276,336	2,867,181	410,322	30,209	155,807	596,338	106,089	0	0	106,089
O&M Excl. Cost of Gas and A&G		16,973,241	221,585	8,251	3,140	232,976	432,674	14,029	104,803	551,506	304,311	15,683	13,763	333,757	55,076	0	0	55,076
O&M Excl. Cost of Gas		29,119,097	426,822	9,665	5,493	441,980	833,426	19,257	187,695	1,040,378	586,170	30,209	24,899	641,278	106,089	0	0	106,089
Depreciation Expense																		
Transmission Plant	2	38,157	0	0	0	0	1,919	0	0	1,919	524	0	0	524	0	0	0	0
Distribution Plant																		
Rights of Way	13	4,742	0	0	0	0	233	0	0	233	124	0	0	124	0	0	0	0
Structures & Improvements	23	8,890	218	0	0	218	379	0	0	379	786	0	0	786	0	0	0	0
Heskett Pipeline - Demand Related	2	2,996	0	0	0	0	151	0	0	151	41	0	0	41	0	0	0	0
Mains	13	3,963,507	0	0	0	0	194,529	0	0	194,529	103,393	0	0	103,393	0	0	0	0
Directly Assigned	Direct	68,037	0	0	0	0	0	0	0	0	0	0	0	0	22,701	0	0	22,701

MONTANA-DAKOTA UTILITIES CO.
GAS UTILITY - NORTH DAKOTA
Embedded Class Cost of Service Study
Twelve Months Ended December 31, 2022
Projected 2024

PU-23-341
 Exhibit KRP-2

	Allocation Factor	Total North Dakota	Air Force Delivery			Total Air Force Delivery	Small Interruptible			Total Small Interruptible	Large Interruptible			Total Large Interruptible	Minot Air Force Base Distribution			Total Minot Air Force
			Demand	Energy	Customer		Demand	Energy	Customer		Demand	Energy	Customer		Demand	Energy	Customer	
Heskett Pipeline	2	577,994	0	0	0	0	29,065	0	0	29,065	7,940	0	0	7,940	0	0	0	0
Meas. & Reg. Equip. - General	18	92,431	1,405	0	0	1,405	5,364	0	0	5,364	8,031	0	0	8,031	0	0	0	0
Directly Assigned	Direct	8,381	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meas. & Reg. Equip. - City Gate	19	192,395	18,855	0	0	18,855	8,517	0	0	8,517	4,527	0	0	4,527	0	0	0	0
Heskett Pipeline - Demand Related	2	18,518	0	0	0	0	931	0	0	931	254	0	0	254	0	0	0	0
Services	37	2,258,268	0	0	0	0	0	0	10,786	10,786	0	0	512	512	0	0	0	0
Directly Assigned	Direct	32,283	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32,283	32,283
Meters	5	2,197,844	0	0	1,327	1,327	0	0	41,907	41,907	0	0	6,102	6,102	0	0	0	0
Directly Assigned	Direct	1,875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,875	1,875
Service Regulators	20	98,252	0	0	59	59	0	0	1,870	1,870	0	0	233	233	0	0	250	250
Directly Assigned		217	0	0	0	0	0	0	0	0	0	0	0	0	0	0	217	217
Ind. Meas. & Reg. Station Equipment	21	36,129	5,637	0	0	5,637	6,725	0	0	6,725	4,560	0	0	4,560	0	0	0	0
Heskett Pipeline - Demand Related	2	36,473	0	0	0	0	1,834	0	0	1,834	501	0	0	501	0	0	0	0
Other Equipment	40	43,716	171	0	4	175	1,312	0	178	1,490	701	0	21	722	130	0	83	213
Total Distribution Plant		9,642,948	26,286	0	1,390	27,676	249,040	0	54,741	303,781	130,858	0	6,868	137,726	22,831	0	34,708	57,539
General Plant	38	468,189	11	0	44	55	14,050	0	1,945	15,995	4,125	0	224	4,349	8	0	5	13
Directly Assigned	Direct	4,335	0	0	0	0	0	0	0	0	0	0	0	0	4,334	0	0	4,334
Amort. of Intangible Plant - General	15	488,320	2,056	0	48	2,104	13,884	0	2,142	16,026	7,939	0	247	8,186	1,562	0	1,003	2,565
Directly Assigned	Direct	78,261	0	0	0	0	3,427	0	1,468	4,895	34,646	0	14,848	49,494	0	0	0	0
Common Plant	15	894,295	3,766	0	88	3,854	25,427	0	3,924	29,351	14,539	0	453	14,992	2,861	0	1,836	4,697
Intangible Plant - Common (Excluding CC&B)	15	715,457	3,013	0	71	3,084	20,342	0	3,139	23,481	11,632	0	362	11,994	2,289	0	1,469	3,758
Intangible Plant - Common (CC&B)	4	717,058	0	0	18	18	0	0	816	816	0	0	43	43	0	0	0	0
Amortization of Gain/Preferred Stock	15	26,421	111	0	3	114	751	0	116	867	430	0	13	443	85	0	54	139
Acquisition Adjustment	15	2,821	1	0	1	80	0	0	12	92	46	0	1	47	9	0	6	15
Total Depreciation Expense		13,076,262	35,244	0	1,662	36,906	328,920	0	68,303	397,223	204,739	0	23,059	227,798	33,979	0	39,081	73,060
Min-Sys Total Depreciation Expense		13,076,262	24,672	0	1,238	36,910	242,058	0	73,581	315,639	156,656	0	48,422	205,078	23,786	0	49,276	73,062
Taxes Other Than Income																		
Ad Valorem Taxes-Transmission	2	12,527	0	0	0	0	630	0	0	630	172	0	0	172	0	0	0	0
Ad Valorem Taxes-Heskett Pipeline	2	132,178	0	0	0	0	6,647	0	0	6,647	1,816	0	0	1,816	0	0	0	0
Ad Valorem Taxes-Other	15	1,885,607	7,941	0	186	8,127	53,613	0	8,273	61,886	30,655	0	955	31,610	6,032	0	3,872	9,904
Other Taxes - Payroll, Franchise	31	1,041,112	15,260	346	196	15,802	29,798	689	6,711	37,198	20,958	1,080	890	22,928	3,793	0	0	3,793
Other Taxes - Minot AFB Distribution- Direct	Direct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Taxes - Revenue	26	1,765	2	16	2	20	3	20	18	41	0	0	11	11	0	0	0	0
Total Taxes Other Than Income Taxes		3,073,189	23,203	362	384	23,949	90,691	709	15,002	106,402	53,601	1,080	1,856	56,537	9,825	0	3,872	13,697
Total Operating Expense		152,036,413	696,124	1,463,481	7,539	2,167,144	1,515,898	1,745,300	271,000	3,532,198	844,510	31,289	49,814	925,613	149,893	0	42,953	192,846
Min-Sys Total Operating Expense		152,036,413	550,544	1,463,481	153,118	2,167,143	1,153,992	1,745,300	369,137	3,268,429	605,098	31,289	215,775	852,162	137,891	0	54,957	192,848
Interest Expense/AFUDC Equity Add Back/Perm Addds	36	4,533,874	20,690	0	437	21,127	150,210	0	16,465	166,675	107,077	0	(2,171)	104,906	0	0	0	0
Direct - Minot AFB Distribution System	Direct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taxable Income		3,277,390	(497,340)	(9,908)	138,492	(368,756)	(1,270,760)	5,285	1,339,676	74,201	(900,150)	(30,919)	953,680	22,611	(149,893)	0	413,047	263,154
Min-Sys Taxable Income		3,277,390	(348,138)	(9,908)	(10,708)	(368,754)	(878,932)	5,285	1,239,538	365,891	(634,965)	(30,919)	769,720	103,836	(137,891)	0	401,043	263,152
Income Taxes	24.4049%	799,848	(121,375)	(2,418)	33,799	(89,995)	(310,128)	1,290	326,947	18,109	(219,681)	(7,546)	232,745	5,518	(36,581)	0	100,804	64,223
Full Normalization/ARAM	24	(602,506)	(2,733)	0	(58)	(2,791)	(19,841)	0	(2,175)	(22,016)	(14,143)	0	287	(13,856)	(2,356)	0	(1,286)	(3,642)
Total Income Taxes		197,342	(124,108)	(2,418)	33,741	(92,786)	(329,969)	1,290	324,772	(3,907)	(233,824)	(7,546)	233,032	(8,338)	(36,937)	0	99,518	60,581
Total Operating Expense		152,233,755	572,016	1,461,063	41,280	2,074,358	1,185,929	1,746,590	595,772	3,528,291	610,686	23,743	282,846	917,275	110,956	0	142,471	253,427
Min-Sys Total Operating Expense		152,233,753	463,668	1,461,063	149,627	2,074,358	924,863	1,746,590	668,982	3,340,435	440,406	23,743	400,812	864,961	102,590	0	150,838	253,428
Operating Income:		7,613,922	(352,542)	(7,490)	105,188	(254,843)	(790,581)	3,995	1,031,369	244,783	(569,249)	(23,373)	718,477	135,855	(110,956)	0	313,529	202,573
Min-Sys Operating Income:		7,613,924	(246,779)	(7,490)	(573)	(254,842)	(539,065)	3,995	959,852	424,782	(396,616)	(23,373)	605,969	185,980	(102,590)	0	305,162	202,572
Rate of Return		3.51%				-24.69%				3.16%			2.98%					15.05%
Relative Rate of Return		1.000				(7.036)				0.900			0.848					4.289
Min-Sys Rate of Return		3.51%				-24.69%				7.07%			4.56%					15.05%
Min-Sys Relative Rate of Return		1.000				(7.036)				2.014			1.298					4.289

Montana-Dakota Utilities Co.
Gas Utility - North Dakota
Revenues Under Current and Proposed Rates
Projected 2024

Customer Class/Rate	Projected 2024 @ Current Rates 1/		Proposed			Rate Base	Current Rates Operating Income	Proposed Rates Operating Income	Proposed Rate of Return	Proposed Relative Rate of Return	Current Rate of Return	Current Relative Rate of Return	Uniform Percent to Cost Parity 50.00%	Percent To Parity Return	Total Return	Unadjusted Revenue Increase	Adjusted Revenue Increase	Adjusted Total Return	Adjusted Rate of Return	Adjusted Relative Rate of Return	
	Customers	Dk	Revenue	Total Revenue	Revenue Increase																Percent Increase
Residential - Rate 60	98,475	8,689,660	\$75,121,886	\$82,501,660	\$7,379,774	9.82%	119,170,702	4,767,409	12,267,483	10.29%	1.145	4.00%	1.140	1.070	9.62%	11,464,385	6,696,976	6,487,492	11,254,901	9.44%	1.050
Residential Wahpeton - Rate 63	1,944	155,559	1,134,233	1,254,533	120,300	10.61%															
Total Residential	100,419	8,845,219	76,256,119	83,756,193	7,500,074	9.84%															
Firm General - Rate 70	16,699	11,381,497	72,214,794	75,717,428	3,502,634	4.85%															
Firm General - Wahpeton - Rate 73	422	240,630	1,352,739	1,392,695	39,956	2.95%															
Total Firm General	17,121	11,622,127	73,567,533	77,110,123	3,542,590	4.82%															
Small Firm General				17,108,936	972,885		23,264,101	1,249,963	2,222,848	9.55%	1.063	5.37%	1.531	1.266	11.38%	2,647,052	1,397,089	1,353,387	2,603,350	11.19%	1.245
Large Firm General				60,001,187	2,569,705		59,845,100	1,268,191	3,837,896	6.41%	0.713	2.12%	0.604	0.802	7.21%	4,314,866	3,046,675	2,951,374	4,219,565	7.05%	0.784
Air Force - Rate 64																					
Firm	1	37,082	212,652	256,148	43,496	20.45%															
Interruptible	2	397,961	1,597,987	1,924,786	326,799	20.45%															
Total Air Force	3	435,043	1,810,639	2,180,934	370,295	20.45%	1,032,152	(254,843)	115,452	11.19%	1.244	-24.69%	(7.036)	(3.018)	-27.13%	(280,061)	(25,218)	347,600	92,757	8.99%	1.000
Small Interruptible																					
Sales - Rate 71	71	518,363	2,596,388																		
Sales - Wahpeton - Rate 76	3	24,135	112,191																		
Transport - Rate 81	60	1,064,957	926,766																		
Total Small Interruptible	134	1,607,455	3,635,345	3,792,073	156,728	4.31%	7,746,889	244,783	401,511	5.18%	0.576	3.16%	0.900	0.950	8.54%	661,828	417,045	403,999	648,782	8.37%	0.931
Large Interruptible																					
Sales - Rate 85	0	0	0																		
Sales - Wahpeton - Rate 86	0	0	0																		
Transport - Rate 82	7	4,468,293	1,001,374																		
Total Large Interruptible	7	4,468,293	1,001,374	1,071,697	70,323	7.02%	4,564,558	135,855	206,178	4.52%	0.502	2.98%	0.848	0.924	8.31%	379,229	243,374	235,761	371,616	8.14%	0.906
MAFB Distribution Rate 65			198,127	451,493	253,366	127.88%	1,345,973	202,573	455,939	33.87%	3.768	15.05%	4.289	2.644	23.78%	320,008	117,435	113,762	316,335	23.50%	2.614
Total North Dakota	117,684	26,978,137	\$156,469,137	\$168,362,513	\$11,893,376	7.60%	\$216,969,475	\$7,613,931	\$19,507,307	8.99%	1.000	3.51%	1.000	1.000	8.99%	19,507,307	11,893,376	11,893,376	19,507,307	8.99%	1.000

1/ Statement L, Page 2.

Montana-Dakota Utilities Co.
Gas Utility - North Dakota
Revenues Under Current and Proposed Rates
Projected 2024

Customer Class/Rate	Projected 2024 @ Current Rates 1/ Customers Dk Revenue			Proposed Total Revenue Revenue Increase Percent Increase			Rate Base	Current Rates Operating Income	Proposed Rates Operating Income	Proposer Proposed Rate of Return	Relative Rate of Return	Current Rate of Return	Relative Rate of Return	Uniform Percent to Cost Parity 50.00%	Percent To Parity Rate of Return	Total Return	Unadjusted Revenue Increase	Adjusted Revenue Increase	Adjusted Total Return	Adjusted Rate of Return	Relative Rate of Return	Adjusted Revenue Increase	Percent AS Rec Revenue Increase
	Customers	Dk	Revenue	Total Revenue	Revenue Increase	Percent Increase																	
Residential - Rate 60	98,475	8,689,660	\$75,121,886	\$82,501,660	\$7,379,774	9.82%	119,170,702	4,767,409	12,267,483	10.29%	1.145	4.00%	1.140	1.070	9.62%	11,464,385	6,696,976	6,487,492	11,254,901	9.44%	1.050	54.55%	1,754,724
Residential Wahpeton - Rate 63	1,944	155,559	1,134,233	1,254,533	120,300	10.61%																	
Total Residential	100,419	8,845,219	76,256,119	83,756,193	7,500,074	9.84%																	
Firm General - Rate 70	16,699	11,381,497	72,214,794	75,717,428	3,502,634	4.85%																	
Firm General - Wahpeton - Rate 73	422	240,630	1,352,739	1,392,695	39,956	2.95%																	
Total Firm General	17,121	11,622,127	73,567,533	77,110,123	3,542,590	4.82%																	
Small Firm General				17,108,936	972,885		23,264,101	1,249,963	2,222,848	9.55%	1.063	5.37%	1.531	1.266	11.38%	2,647,052	1,397,089	1,353,387	2,603,350	11.19%	1.245	11.38%	366,061
Large Firm General				60,001,187	2,569,705		59,845,100	1,268,191	3,837,896	6.41%	0.713	2.12%	0.604	0.802	7.21%	4,314,866	3,046,675	2,951,374	4,219,565	7.05%	0.784	24.82%	798,282
Air Force - Rate 64																							
Firm	1	37,082	212,652	256,148	43,496	20.45%																	
Interruptible	2	397,961	1,597,987	1,924,786	326,799	20.45%																	
Total Air Force	3	435,043	1,810,639	2,180,934	370,295	20.45%	1,032,152	(254,843)	115,452	11.19%	1.244	-24.69%	(7.036)	(3.018)	-27.13%	(280,061)	(25,218)	347,600	92,757	8.99%	1.000	2.92%	94,018
Small Interruptible																							
Sales - Rate 71	71	518,363	2,596,388																				
Sales - Wahpeton - Rate 76	3	24,135	112,191																				
Transport - Rate 81	60	1,064,957	926,766																				
Total Small Interruptible	134	1,607,455	3,635,345	3,792,073	156,728	4.31%	7,746,889	244,783	401,511	5.18%	0.576	3.16%	0.900	0.950	8.54%	661,828	417,045	403,999	648,782	8.37%	0.931	3.40%	109,273
Large Interruptible																							
Sales - Rate 85	0	0	0																				
Sales - Wahpeton - Rate 86	0	0	0																				
Transport - Rate 82	7	4,468,293	1,001,374																				
Total Large Interruptible	7	4,468,293	1,001,374	1,071,697	70,323	7.02%	4,564,558	135,855	206,178	4.52%	0.502	2.98%	0.848	0.924	8.31%	379,229	243,374	235,761	371,616	8.14%	0.906	1.98%	63,768
MAFB DistributionRate 65			198,127	451,493	253,366	127.88%	1,345,973	202,573	455,939	33.87%	3.768	15.05%	4.289	2.644	23.78%	320,008	117,435	113,762	316,335	23.50%	2.614	0.96%	30,770
Total North Dakota	117,684	26,978,137	\$156,469,137	\$168,362,513	\$11,893,376	7.60%	\$216,969,475	\$7,613,931	\$19,507,307	8.99%	1.000	3.51%	1.000	1.000	8.99%	19,507,307	11,893,376	11,893,376	19,507,307	8.99%	1.000	100.00%	3,216,896
1/ Statement L, Page 2.																							

Montana-Dakota Utilities Co.
Gas Utility - North Dakota
Rate Reconciliation
Residential Gas Service - Rates 60 & 90
Projected 2024

Residential Rates	Billing Units	Current		Proposed		Recommended Revenue and Rates			
		Rate	Amount	Rate	Amount	BSC/DDC Splits	Revenue Rate		
Basic Service Charge (60) Small	96,398 Customers	\$0.8244	\$29,006,737	\$0.921	\$32,405,634	97.59%	1,536,359	0.868	26.4036
Basic Service Charge (60) Large	1,807 Customers	0.8244	543,737	\$1.075	709,022	2.14%	33,615	0.875	26.6257
Basic Service Charge (90) Small	270 Customers	\$0.8244	81,245	\$0.921	90,765	0.27%	4,303	0.868	26.4038
	98,475		29,631,719		33,205,421	89.72%			
Distribution Delivery Charge-Sm	8,355,773 dk	\$0.000	0	\$0.438	3,659,829	96.16%	173,513	0.021	
Distribution Delivery Charge-Lg	333,887 dk	\$0.000	0	\$0.438	146,243	3.84%	6,933	0.021	
	8,689,660		0		3,806,072	10.28%			
Cost of Gas (60)	8,672,377 dk	\$5.229	45,347,859	\$5.229	45,347,859				
Cost of Gas (90)	17,283 dk	\$8.234	142,308	\$8.234	142,308				
	8,689,660		\$45,490,167		\$45,490,167		1,754,724		
Total Revenue Rates 60 & 90			\$75,121,886		\$82,501,660				7,379,774

Total Distribution Revenues Per Design
Target Distribution Revenues
Difference

\$37,011,493
37,008,474
\$3,019

Derivation of Rates

Current Non-Gas Revenues	\$29,631,719
Proposed Revenue Increase	7,376,755
Total Revenue Requirement	\$37,008,474
Less: Proposed Basic Service Charge Revenues	33,205,421
Remaining Revenues To Be Collected	\$3,803,053
Total Rates 60 and 90 Consumption	8,689,660
Distribution Delivery Charge	\$0.438

Montana-Dakota Utilities Co.
Gas Utility - North Dakota
Rate Reconciliation
Firm General Gas Service - Rates 70, 72, 74, & 92
Projected 2024

Firm General Rates	Prior to Wahpeton Expansion			Projected 2024 @ Current Rates After Expansion			Proposed			Recommended Revenue and Rates	
	Billing Units	Rate	Current Amount	Billing Units	Rate	Current Amount	Rate	Amount	BSC/DDC Splits	Revenue	Rate
Basic Service Chg Rates (70 Small)	11,470 Customers	\$0.75	\$3,139,913	11,470 Customers	\$0.75	\$3,139,913	\$0.88	\$3,684,164	544,251	207,125	0.79947
Basic Service Chg Rates (72 Small)	3 Customers	\$0.75	821	3 Customers	\$0.75	821	\$0.88	964	143	54	0.79947
Basic Service Chg Rates (74 Small)	53 Customers	\$0.75	14,509	53 Customers	\$0.75	14,509	\$0.88	17,024	2,515	957	0.79949
Basic Service Chg Rates (92 Small)	65 Customers	\$0.75	17,794	65 Customers	\$0.75	17,794	\$0.88	20,878	3,084	1,174	0.79948
Basic Service Chg Rates (70 Large)	5,030 Customers	\$2.13	3,910,574	5,030 Customers	\$2.13	3,910,574	\$2.35	4,314,483	403,909	126,904	2.19912
Basic Service Chg Rates (72 Large)	12 Customers	\$2.13	9,329	12 Customers	\$2.13	9,329	\$2.35	10,293	964	800	2.31257
Basic Service Chg Rates (74 Large)	36 Customers	\$2.13	27,958	36 Customers	\$2.13	27,958	\$2.35	30,879	2,891	2,399	2.31256
Basic Service Chg Rates (74 Large-Wahp Rate 71)	12 Customers	\$180.00	25,920	12 Customers	\$180.00	25,920	\$2.35	10,293	(15,627)		
Basic Service Chg Rates (74 Large-Wahp Rate 80)	9 Customers	\$100.00	10,900	9 Customers	\$100.00	10,900	\$2.35	7,720	(3,080)		
Basic Service Chg Rates (92 Large)	16,678	\$2.13	7,127,925	16,699	\$2.13	7,164,645	\$2.35	\$8,104,418	723	600	2.31264
Distribution Delivery Charge (Excl Rate 74)								\$395,379			
Small	1,978,320 Dk	\$1.174	2,322,547	1,978,320 Dk	\$1.174	\$2,322,547	\$1.382	2,734,038	411,491	156,601	1.25316
Large	6,153,555 Dk	\$0.917	5,642,810	6,153,555 Dk	\$0.917	5,642,810	\$1.266	7,790,401	2,147,591	540,508	1.00484
Large Wahp Rate 71				759,650 Dk	\$0.669	\$508,206	0	0	(508,206)		
Large Wahp Rate 80				1,029,454 Dk	\$0.360	\$370,603	0	0	(370,603)		
Distribution Demand Charge (Rate 74)						8,844,166		10,524,439	1,680,273	174,699	
Small	792 Demand Dk	\$8.00	6,336	792 Demand Dk	\$8.00	6,336	\$8.50	6,732	396	151	8.19028
Large	65,676 Demand Dk	\$8.00	525,408	65,676 Demand Dk	\$8.00	525,408	\$8.50	558,246	32,838	8,265	8.12584
Large Wahp Rate 71				47,364 Demand Dk	\$8.234	\$3,870	\$8.50	402,594	402,594	101,325	2.13929
Large Wahp Rate 80				52,560 Demand Dk	\$8.234	\$4,290	\$8.50	446,760	446,760	112,441	2.13929
Cost of Gas (70 Small)	1,965,932 Dk	\$5.229	10,279,858	1,965,932 Dk	\$5.229	10,279,858	\$5.229	10,279,858	961,880	366,061	
Cost of Gas (72 Small)	1,012 Dk	\$3.518	3,560	1,012 Dk	\$3.518	3,560	\$3.518	3,560	2,540,754	798,282	
Cost of Gas (92 Small)	11,376 Dk	\$8.234	93,670	11,376 Dk	\$8.234	93,670	\$8.234	93,670			
Cost of Gas (70 Large)	6,123,361 Dk	\$5.229	32,019,055	6,123,361 Dk	\$5.229	32,019,055	\$5.229	32,019,055			
Cost of Gas (72 Large)	12,926 Dk	\$3.518	45,474	12,926 Dk	\$3.518	45,474	\$3.518	45,474			
Cost of Gas (92 Large)	17,269 Dk	\$6.234	142,185	17,269 Dk	\$6.234	142,185	\$8.234	142,185			
Capacity Charge (74 Large)	8,131,875		42,583,802	8,131,875		42,583,802		42,583,802			
Capacity Charge (74 Small)	99 Dk	\$3.518	348	99 Dk	\$3.518	348	\$3.518	348			
Capacity Charge (74 Large)	792 Demand Dk	\$12.70	10,058	792 Demand Dk	\$12.70	10,058	\$12.70	10,058			
Capacity Charge (74 Large-Wahp Rate 71)				1,460,419 Dk	\$3.518	5,137,754	\$3.518	5,137,754			
Capacity Charge (74 Large-Wahp Rate 80)				759,650 Dk	\$3.711	2,819,061	\$3.711	2,819,061			
Capacity Charge (74 Large-Wahp Rate 71)				1,029,454 Dk	\$3.518	3,621,619	\$3.518	3,621,619			
Capacity Charge (74 Large-Wahp Rate 80)				65,676 Demand Dk	\$12.70	834,085	\$12.70	834,085			
Capacity Charge (74 Large-Wahp Rate 71)				47,364 Demand Dk	\$12.70	601,812	\$12.70	601,812			
Capacity Charge (74 Large-Wahp Rate 80)				52,560 Demand Dk	\$12.70	667,512	\$12.70	667,512			
Total Revenue			\$84,191,073			\$84,191,073		\$84,191,073			
Total Distribution Revenues Per Design		Small	\$6,463,800		Small	\$6,463,800		\$6,463,800			
Target Distribution Revenues		Large	\$13,578,389		Large	\$13,578,389		\$13,578,389			
Difference			\$928			\$928		\$928			
Derivation of Rates											
Current Non-Gas Revenues		Small	\$5,501,920		Small	\$5,501,920		\$5,501,920			
Proposed Revenue Increase		Large	960,952		Large	960,952		960,952			
Total Revenue Requirement			6,462,872			6,462,872		6,462,872			
Less Basic Service Charge Revenue			3,723,030			3,723,030		3,723,030			
Less Rate 74 Distribution Demand Revenues			6,732			6,732		6,732			
Remaining Revenues To Be Collected			\$2,733,110			\$2,733,110		\$2,733,110			
Total Rates 70, 72 and 92 Consumption			1,978,320			1,978,320		1,978,320			
Distribution Delivery Charge			\$1,382			\$1,382		\$1,382			

798,282

Montana-Dakota Utilities Co.
Gas Utility - North Dakota
Rate Reconciliation
Air Force Interruptible Service - Rate 64
Projected 2024

Air Force Rate 64 - Interruptible	Billing Units	Current		Proposed		Recommended Revenue and Rates BSC/DDC Splits	Revenue	Rate
		Rate	Amount	Rate	Amount			
Basic Service Charge								
Minot Air Force Base	1 Customer	\$2,000.00	\$24,000	\$4,000.00	\$48,000	80.00%	7,709	2,642
PAR Site	1 Customer	\$175.00	2,100	\$1,000.00	12,000	20.00%	1,927	336
	<u>2</u>		<u>26,100</u>		<u>60,000</u>	<u>11.61%</u>	<u>9,637</u>	
Distribution Delivery Charge	397,961 dk	\$0.255	101,480	\$0.991	394,379	76.34%	63,342	0.414
Cost of Gas								
Minot Air Force Base	378,032 dk	\$3.694	1,396,450	\$3.694	1,396,450			
PAR Site	19,929 dk	\$3.711	73,957	\$3.711	73,957			
	<u>397,961</u>		<u>1,470,407</u>					
Total Revenue			<u>\$1,597,987</u>		<u>\$1,924,786</u>			
Total Distribution Revenues Per Design			\$454,379		\$454,379	87.95%	82,690	
Target Distribution Revenue			454,331		62,246	12.05%	11,328	
Difference			<u>\$48</u>		<u>\$516,625</u>	100.00%	94,018	
Derivation of Rates								
Air Force Interruptible Revenue Requirement			\$127,580					
Proposed Revenue Increase			326,751					
Total Revenue Requirement			454,331					
Less: Base Service Charge Revenues			60,000					
Remaining Revenues To Be Collected			<u>\$394,331</u>					
Total Rate 64 IT Consumption			397,961					
Non-Gas Commodity Charge			\$0.991					

Montana-Dakota Utilities Co.
Gas Utility - North Dakota
Rate Reconciliation
Small Interruptible Service - Rates 71 & 81
Projected 2024

	Projected 2024 @ Current Rates After Expansion				Recommended Revenue and Rates				
	Billing Units	Current Rate	Current Amount	Billing Units	Current Rate	Current Amount	BSC/DDC Splits	Revenue	Rate
Small Interruptible Service Rates 71 & 81									
Basic Service Charge									
Rate 71 Sales	71 Customers	\$450.00	\$379,350	71 Customers	\$450.00	\$379,350		0.00%	0
Rate 71 - Wahpeton								6.20%	6,777
Rate 81 Transport	60 Customers	\$450.00	324,000	60 Customers	\$450.00	324,000		0.00%	0
	131		703,350			719,550			
Distribution Delivery Charge									
Rate 71 Sales	518,363 dk	\$0.566	293,393	518,363 dk	\$0.566	293,393		30.76%	33,611
Rate 71 Sales - Wahpeton								-0.15%	-168
Rate 81 Transport	1,064,957 dk	\$0.566	602,766	1,064,957 dk	\$0.566	602,766		63.19%	69,053
									109,273
Cost of Gas									
Rate 71 Sales	518,363 dk	\$3.711	1,923,645	518,363 dk	\$3.711	1,923,645			
Rate 71 Sales - Wahpeton									
Sales			\$2,596,388			\$2,596,388			
Sales - Rate 71 Wahpeton			112,191			112,191			
Transport			926,766			926,766			
Total Revenue			\$3,523,154			\$3,635,345			
Total Small Interruptible Revenues			\$1,778,863			\$1,778,863			
Target Revenues			1,778,687			1,778,687			
Difference			\$176			\$176			
Derivation of Rates									
Current Non-Gas Revenues			\$1,622,135			\$1,622,135			
Proposed Revenue Increase			156,552			156,552			
Proposed Revenue Requirement			1,778,687			1,778,687			109,273
Less Basic Service Charge			719,550			719,550			
Remaining Revenues To Be Collected			\$1,059,137			\$1,059,137			
Total Throughput Rates 71			1,607,455			1,607,455			
Distribution Delivery Charge			\$0.659			\$0.659			

1/ Reflects prorated basic service charge revenue for one customer coming online fall 2024.

Direct Testimony and Schedules

Dante Mugrace

Before the North Dakota Public Service Commission

State of North Dakota

In the Matter of the Application of Montana-Dakota Utilities Co.

a Division of MDU Resources Group, Inc.,

For Authority to Establish Increased Rates for

Natural Gas Service

Case No. PU-23-341

Overall Revenue Requirement

Rate Base

Income Statement

Public Version

July 31, 2024

Table of Contents

	<u>Page No.</u>
I. Introduction	1
II. Purpose of Testimony	3
III. Rate Base Issues	
A. Gas Plant In Service	5
B. Accumulated Depreciation	10
C. Working Capital Components	11
D. Gain/Loss on Sale of Building	13
E. Provision for Pension and Benefits	14
F. Provision for Post-Retirement	16
G. Accumulated Deferred Income Taxes	17
IV. Revenue Requirement Issues	
A. Operating Revenues	18
B. Operating Expenses	19
1. Cost of Gas	20
2. Labor / Benefits /Incentive /Bonus/Commission	21
3. Other Gas Supply	29
4. Transmission	31
5. Distribution	34
6. Customer Accounting	39
7. Customer Service & Information	43
8. Sales	47
9. Administrative & General	49
C. Depreciation & Amortization	58
D. Taxes Other Than Income	59
E. Income Taxes	60

1 **I. Introduction**

2 **Q. Please state your name, position and business address.**

3 **A.** My name is Dante Mugrace. I am a Senior Consultant with the regulatory
4 consultant firm of PCMG and Associates, LLC. My business address is 22
5 Brookes Avenue, Gaithersburg, MD 20877.

6 **Q. What is your present occupation?**

7 **A.** In my capacity as a Senior Consultant, I am responsible for evaluating and
8 examining rate case and rate case related proceedings before various
9 governmental entities, preparing expert testimony and reviewing and
10 recommending revenue requirement proposals, as well as, offering opinions on
11 economic policy and policy issues and methodologies used to set a value on a
12 utility's rate base and cost of service components of revenue requirement.

13 **Q. Please summarize your professional experience.**

14 **A.** PCMG is an association of experts in the field of utility regulation and policy,
15 economics, accounting and finance. PCMG's members have over 75 years'
16 collective experience providing assistance to counsel and expert testimony
17 regarding the economic regulation of electric, gas, water and wastewater utilities
18 that operate under local, state and federal jurisdictions. PCMG brings to client
19 engagements a consultative and collaborative approach to the identification of
20 issues and the development of positions with strict adherence to client procedures
21 and deadlines. PCMG focuses on areas regarding revenue requirement, cost of
22 service and rate design and cost of capital and rate of return. Prior to my
23 association with PCMG, I was employed by Snavelly-King Majoros and Associates
24 (SKM) from 2013 to 2015, in the same capacity as PCMG. Prior to SKM I was
25 employed by the New Jersey Board of Public Utilities (NJBPU) from 1983 through
26 my retirement in 2011. During my tenure at the NJBPU, I held various accounting,
27 administrative and managerial positions. My last position was Bureau Chief of
28 Rates in the Agency's Division of Water (Bureau Chief of Rates). I held this
29 position for nearly 10 years. My CV is attached at Appendix A.

1 **Q. What experience do you have in the area of utility rate setting procedures**
2 **and other utility matters?**

3 **A.** In my capacity as Bureau Chief of Rates, I was responsible for overseeing and
4 managing the rate case process regarding administrative, financial and day-to-day
5 functions of the bureau. My primary duties were to ensure that the regulated
6 utilities were provided with sufficient revenues to cover their operating expenses
7 and the opportunity to earn a reasonable return on their plant investments. During
8 my tenure at the NJBPU, I was involved in hundreds of rate and rate related
9 proceedings that were resolved through settlement negotiations or litigated
10 proceedings.

11 In my capacity as a Senior Consultant, I am and have been involved in rate and
12 rate related proceedings (tracker mechanisms, pass-through of certain capital and
13 operating costs and adjustment clauses) before the Commissions in the
14 Commonwealth of Massachusetts and Pennsylvania and; the States of Maine,
15 Maryland, New Jersey, New York, North Dakota and Ohio. I was involved in the
16 Generic Proceedings to Establish Parameters for the Next Generation
17 Performance Base Rate Plans before the Alberta Utilities Commission. I am
18 currently involved in matters before the Federal Energy Regulatory Commission
19 (FERC) regarding transmission formula rate plans.

20 **Q. What is your educational background?**

21 **A.** I hold a Master of Business Administration (MBA) degree with a concentration in
22 Strategic Management from Pace University – Lubin School of Business in New
23 York, NY. I hold a Master of Public Administration (MPA) degree from Kean
24 University in Union, NJ. I hold a Bachelor of Science (BS) degree in Accounting
25 from Saint Peter’s University in Jersey City, NJ.

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

27 **A.** I am testifying on behalf of the Advocacy Staff of the North Dakota Public Service
28 Commission (NDPSC).

1 **II. Purpose of Testimony**

2 **Q. What is the purpose of your testimony?**

3 **A.** The purpose of my testimony is to compute and recommend a revenue
4 requirement in the natural gas rate case proceeding of Montana-Dakota Utilities
5 Co. (MDU or Company) that was filed with the NDPSC on November 1, 2023
6 (Case No. PU-23-341). Our firm has been retained to determine a revenue
7 requirement based upon a test year ending December 31, 2024. I present my
8 findings regarding MDU's test year rate base, revenues, operating expenses and
9 net income at present rate revenue. Included in my recommended position on rate
10 base and operating income, I am incorporating and relying on the
11 recommendations of Dr. Marlon Griffing for cost of capital, and any adjustments to
12 Dr. Karl Pavlovic for cost of service and rate design, and Depreciation Expense.

13 **Q. Have you reviewed and examined the Company's testimony and**
14 **accompanying exhibits in this proceeding?**

15 **A.** Yes, I have reviewed MDU's testimony, statements, exhibits and the Company's
16 responses to data requests propounded by Advocacy Staff and PCMG.

17 **Q. Have you prepared schedules to accompany your testimony?**

18 **A.** Yes. I have prepared Schedules DM-1 through DM-21.

19 **Q. Please summarize the rate relief proposed by MDU in this proceeding.**

20 **A.** On November 1, 2023, the Company filed an application to increase rates for
21 natural gas service in North Dakota. The Company requests additional annual
22 revenues of \$11,635,044 or 7.45%.¹ The revenue requirement increase is
23 predicated upon a 2024 future test year ending December 31, 2024.² The
24 Company has proposed an overall rate of return of 7.563% which includes a return
25 on common equity of 10.50%. The Company has computed its rate base in the

¹ Company Statement A, page 1.

² On January 1, 2024, the Commission approved an interim rate increase for natural gas service of \$10,094,595 or 6.46% increase in annual revenues, subject to refund including interest.

1 amount of \$216,970,104 based upon average balances of plant investments and
2 13-month average balances of average working capital (Materials and Supplies,
3 Fuel Stock, Prepayments). In computing the Company's revenue requirement
4 increase, the Company multiplied its total average Rate Base of \$216,970,104
5 multiplied by the proposed Rate of Return of 7.563% to compute its Operating
6 Income of \$16,409,449. It then subtracted its Operating Income at Present Rates
7 of \$7,613,926 to arrive at additional revenue requirement of \$8,795,523.³ The
8 Company multiplied this about by its gross up factor of 1.3228371x to arrive at its
9 revenue requirement increase of \$11,635,044.⁴

10 **Q. Do you accept the Company's proposed Average 2024 future test year period**
11 **ending December 31, 2024?**

12 **A.** Yes. I accept the Company's Average test year period 2024.

13 **Q. Please summarize your findings and recommendations.**

14 **A.** Based upon the use of the Company's future test year period ending December
15 31, 2018, I have the following recommendations:

- 16 1. My recommended rate base balance is \$195,365,013, which is \$21,605,091
17 lower than the Company's proposed rate base balance of \$216,970,104.
- 18 2. My rate of return is based upon the recommendation of Dr. Marlon Griffing,
19 which recommends an overall return of 7.174%, which includes a common
20 equity component of 9.725%.
- 21 3. My recommended operating revenues at present rates is \$159,847,677, which
22 is equal to the Company's operating revenues at present rates of
23 \$159,847,677.
- 24 4. My overall revenue requirement increase based upon an overall rate of return
25 of 7,174% is \$4,255,429, or 2.66% which is \$7,379,615 lower than the

³ Company Statement A page 1.

⁴ Gross up factor as per Company Excel -Tax Rate in response to ND-PSC-2.1.

1 Company's proposed revenue requirement increase of \$11,635,044,⁵ or
2 7.28%.

3 The revenue requirement impact on my recommendations are shown on my
4 Schedule DM-1.

5 **Q. How is the remainder of your testimony organized?**

6 **A.** The remainder of my testimony is organized by documenting and explaining
7 adjustments to various rate base components and net operating income
8 components to arrive at my recommended revenue requirement increase.

9

10 **III. Rate Base Issues**

11 **A. Gas Plant In Service (GPIS)**

12 **Q. What has the Company proposed regarding its Gas Plant In Service (GSIP)**
13 **Balance for the Projected 2024 Test Year Period?**

14 **A.** The Company has computed its GPIS by using an average 2023 and 2024
15 projected plant in service balance for a total average 2023-2024 balance of
16 \$378,345,500 as shown on Company Statement B, page 1.

17

18 **Q. How did the Company develop its average Projected 2023-2024 GPIS**
19 **Balance of \$378,345,500?**

20 **A.** The Company developed its GPIS Balance by adding the capital budget items for
21 2023 to the 2022 plant in service balances, excluding the balance associated with
22 the Gwinner pipeline. That balance is \$361,963,685 and to that balance added
23 capital additions items for 2024 and adjusted for Retirements (three-year average).
24 This produced a balance of \$394,727,307. The Company then averaged out the

⁵ This increase is as per Company Statement A, page 1 of 3.

2023 and 2024 GPIS balance to produce an average GPIS balance of \$378,345,500. (Company Statement B Schedule B-1 page 1 of 6).

Q. Did the Company provide a Summary of Plant Additions expected to be placed in service for 2023 and 2024?

A. Yes. As shown on Company Schedule B Statement B-2, page 1 of 9, the Company has provided the following plant additions breakdown:

	<u>Projected 2023</u>	<u>Projected 2024</u>
Distribution Plant	\$18,992,484	\$21,869,325
General Plant	\$ 1,492,478	\$ 4,777,723
General Intangible Plant	\$ 1,392,427	\$ 5,425,801
Common Plant	\$ 861,481	\$ 1,859,605
Common Intangible Plant	<u>\$ 128,066</u>	<u>\$ 2,955,335</u>
Total	\$22,866,936	\$36,887,789

Q. Did the Company update its Plant Additions balance for 2023 or 2024?

A. Yes, in various responses, to certain discovery responses, the Company stated that certain plant additions have been cancelled or delayed until 2025 due to the project no longer being needed at this time. (See response to 3-16, 24, 25, 26). Also, the Company identified that certain projects included contingencies as part of the overall project costs.

Q. What changes do you have regarding the Company's proposed Projected Average 2023-2024 Gas Plant In Service Balance of \$378,345,500?

A. I have several adjustments related to the Company's GPIS Balance, which I am recommending disallowance to the Company's Gas Plant in Service:

- Main Reinforcement – Minot - \$779,708 – Cancelled (Set 3-16)
- Devil's Lake Town Boarder Station - \$462,931 – Delayed (Set 3-24)
- Devil's Lake Town Boarder Station - \$1,341,964 – Delayed (Set 3-25)
- Minot Project – remove contingency - \$25,000 – (Set 3-26)

- 1 • Mains – Wahpeton – remove contingency - \$323,828 – (Set 3-33)
- 2 • Regulatory Station – Wahpeton – remove contingency - \$103,950 (Set 3-
- 3 33)
- 4 • Soybean Processing Plant – remove contingency - \$153,813 (Set 3-35)
- 5 • Remove the Company’s allocated costs related to Aircraft Equipment of
- 6 \$877,954 (Statement H-2 page 5) (Set 3-13)
- 7 • Two Way Radio upgrade – remove contingency - \$294,118 – (Set 3-32)
- 8 • Service Shop – \$503,950 – timing undeterminable – (Set 3-31)

9

10 Total disallowance of Utility Plant in Service is \$4,867,216. I will discuss each of

11 these adjustments below:

12 **Q. Please explain your adjustments to the Company’s projected Utility Plant in**

13 **Service balance (UPIS).**

14 **A.** In responses to Set 3-16, the Company indicated that its Mains Reinforcement –

15 Minot project was cancelled and determined that it was not needed at this time.

16 The amount of the project was \$779,708. I removed this project from the

17 Company’s UPIS balance. In response to Set 3-24, the Company indicated that

18 its Devils Lake Town Border station has been delayed until 2025 due to higher

19 priority projects being identified. The amount of the project was \$462,931. I

20 removed this project from the Company’s UPIS balance. In response to Set 3-25,

21 the Company indicated that its TBS – Devils Lake Town Border Station has been

22 delayed until 2025 due to higher priority projects being identified. The amount of

23 the project was \$1,341,964. I removed this project from the Company’s UPIS

24 balance. In response to Set 3-31, the Company stated that its acquisition and

25 design of its new Construction Shop is still to be determined as property is

26 identified and a design is completed. The amount of the project was \$503,950.

1 **Q. What level of the total balance of plant additions did the Company stated was**
2 **due to delays or cancellations?**

3 **A.** The total balance of plant additions that were due to delays or cancellations is
4 \$2,584,603. (\$779,708, \$462,931 and \$1,341,964).

5 **Q. Why are you removing the balance of \$503,950 related to the Construction**
6 **Shop?**

7 **A.** I am removing this balance because this project is still under acquisition and the
8 timing of the project is still to be determined. I believe this project is not known
9 and measurable and it is unclear as to when this project will be placed in service.

10 **Q. What are your next set of adjustments to the Company's UPIS balance?**

11 **A.** In reviewing certain responses to the Company's project costs, the Company
12 included contingencies in the development of its project costs. I am recommending
13 disallowing these contingencies because these types of adjustments are not
14 known and measurable as they represent estimates or unknown costs that may or
15 may not occur in a project. These costs are typically included in a budget to
16 represent uncertainty and compensate for the unpredictability of risk exposure.
17 The total contingency costs included in the Company's projects are as follows:

- 18 • Regulator Station - \$25,000 (Set 3-26)
- 19 • Two-Way Radio Upgrade Project - \$294,118 (Set 3-32)⁶
- 20 • Mains – Wahpeton - \$323,828 (Set 3-33)⁷
- 21 • Regulatory Station – Wahpeton - \$103,950 (Set 3-33)⁸
- 22 • Soybean Processing Plant - \$153,873 (Set 3-35)⁹

⁶ Total costs are \$2,064,357 allocated to MDU. (Total MDR costs are \$35,570,000 or 5.80% allocated to MDU. Total contingency costs are \$5,071,000. Total contingency costs allocated to MDU are (\$5,071,000 times 5.8% or \$294,118).

⁷ Total cost is \$2,158,850 which include a contingency of 10% on contract labor and 5% on materials and direct labor or 15%. (\$2,158,850 times 15% or \$323,828).

⁸ Total cost is \$693,000 which include a contingency of 10% for contract labor and 5% for material and direct labor or 15% (\$693,000 times 15% or \$103,950).

⁹ Total cost is \$3,076,254 time a contingency of 5% or \$153,873.

1 **Q. What is the total balance related to contingencies that you are disallowing?**

2 **A.** The total balance is \$900,709.

3 **Q. What is your final adjustment to the Company's UPIS balance?**

4 **A.** My final adjustment to the Company's UPIS balance is my disallowance related to
5 aircraft of \$877,954 as shown on Company's Statement H Schedule H-2 page 5
6 of 8. In response to Set 3-13, the Company stated that it uses corporate aircraft to
7 provide a reliable source of travel to areas within its service territory that may not
8 be readily accessible using commercial air travel and / or when a number of
9 employees utilize the plane to one location. These costs are spread out across
10 all brands of the utility.

11 **Q. What is your reason to disallow Aircraft costs in the Company's UPIS**
12 **balance?**

13 **A.** I am recommending removal of the plant related to Aircraft Equipment because I
14 believe that Company ratepayers should not be charged for expenditures related
15 to aircraft equipment and related costs. The costs and usage of private and /or
16 chartered airplane usage are usually more expensive in nature. Although the
17 Company has stated that there are few commercial flight options, employees still
18 have the option to drive. It seems unlikely that chartered airplane usage is used
19 for travel with the State of North Dakota. If the Company does utilize chartered
20 airplane travel within North Dakota, the Company should provide specifics on
21 when, where and why the in-state flights occurred. Even by using commercial
22 airplane flights and including lodging and meals, the costs will be less than the use
23 of the Company's aircraft.

24 **Q. What is your recommended average Gas Plant In Service Balance with the**
25 **adjustments that you have made?**

26 **A.** My recommended average Gas Plant In Service Balance is \$373,478,014, which
27 is \$4,867,216 lower than the Company's average Gas Plant In Service Balance of

1 \$378,345,500. My recommendation is shown on my Schedule DM-5 and carried
2 over to Schedule DM-3 – Average Rate Base.

3 B. Accumulated Depreciation

4 **Q. What has the Company proposed regarding its Accumulated Depreciation?**

5 **A.** The Company has proposed and computed an Accumulated Depreciation Balance
6 of \$152,660,393 as shown on Company Statement C, page 1. The Company's
7 Accumulated Depreciation balance was calculated using the reserve balance at
8 December 31, 2022, (exclusive of the Gwinner Pipeline) adding the calculated
9 Depreciation Expense and deducting retirements based upon a three-year
10 average of retirements. The average 2023 balances were then calculated, and the
11 process was repeated for 2024. (Company witness Vesey testimony page 16).

12 **Q. Did the Company provide a breakdown of its Projected Average**
13 **Accumulated Depreciation?**

14 **A.** Yes. On Company Statement C, page 1, the Company provided the following
15 breakdown:

16	Transmission	\$ 698,986
17	Distribution	\$123,881,873
18	General	\$ 5,440,204
19	General Intangible	\$ 3,407,400
20	Common	\$ 7,617,822
21	Common Intangible	\$ 11,526,463
22	Acquisition Adjustment	<u>\$ 87,645</u>
23	Total	<u>\$ 152,660,393</u>

24 **Q. Do you have any adjustments to the Company's proposed Projected Average**
25 **Accumulated Depreciation Balance?**

26 **A.** Yes. My adjustments to the Gas Plant In Service balance of \$373,478,014 are
27 related to my adjustments for disallowance related to cancelled and delayed
28 projects, contingency cost removals and the disallowance of Company aircraft as

1 identified in my UPIS section of my testimony. I used the same average
2 methodology to compute my recommended adjustments for each of the accounts
3 above. My recommendation reduces the Company's Accumulated Depreciation
4 from \$152,660,393 to \$152,450,271 a difference of \$210,122 and is shown on my
5 Schedule DM-6 and carried over to Schedule DM-3 (Average Rate Base).

6 C. Working Capital Components

7 **Q. What has the Company computed regarding its Working Capital**
8 **Components?**

9 **A.** The Company proposed a total Working Capital allowance of \$26,246,537 as
10 shown on Company Statement D, page 1, which is broken down by the following
11 components:

12	Materials and Supplies	\$2,463,479
13	Fuel Stock	\$ 26,293
14	Prepayments	\$ 415,793
15	Unamortized Loss on Debt	\$ 120,097
16	Unamortized Redemption Cost	
17	Of Preferred Stock	\$ 35,472
18	Gain/Loss on Sale of Building	\$ 400,639
19	Provision for Pension/Benefits	\$18,273,074
20	Provision for Post-Retirement	<u>\$ 4,511,690</u>
21	Total	<u>\$26,246,084</u>

22 **Q. How did the Company develop its Working Capital Allowance Components?**

23 **A.** According to Company witness Vesey, the following approaches were used to
24 develop the Working Capital Components:

- 25 • The Materials and Supplies and Fuel Stocks were restated to a thirteen-
26 month average reflecting actual balances through June 2023 with July
27 through December remaining at 2022 levels. (Company Statement D, page
28 1).
29

- 1 • The Prepayments, which are made up of prepaid insurance, were restated
2 to a thirteen-month average balance based reflecting through June 2023.
3 The July through December 2024 balances were based upon the projected
4 2023 and 2024 insurance expense. (Company Statement D, page 1).
5
6 • Gas in underground storage and prepaid commodity were restated to a
7 thirteen-month average reflecting actual balances through June 2023 with
8 July through December remaining at the 2022 levels. Projected 2024 were
9 adjusted to reflect Montana-Dakota’s proposal to include Great Plains
10 customers into the Montana-Dakota integrated system of gas costs. (Vesey
11 testimony page 17).
12
13 • The Unamortized Loss on Debt was calculated using the balances as of
14 December 31, 2022, and adding the calculated change for 2023, which
15 reflected a reallocation of the balance and the annual amortization, to arrive
16 at a balance for 2023. The 2023 and 2024 balances were averaged to
17 reflect the 2023 average. The process was repeated to calculate the 2024
18 average. (Company Statement D-1, page 6 and Vesey testimony page 18).
19
20 • The Unamortized Redemption of Preferred Stock Cost was calculated using
21 the balances as of December 31, 2022 and adding the calculated change
22 for 2023 to arrive at a balance for 2023. The 2023 and 2024 balances were
23 then averaged to reflect the 2023 average and was repeated to calculate
24 the 2024 average. (Company Statement D Schedule D-1 and Vesey
25 testimony page 18).
26
27 • The Loss on Sale of Buildings is being amortized over 20 years. The
28 projected activity for 2023 is reflected and the 2022 and 2023 balances were
29 then averaged to reflect the 2023 average. The process was repeated to
30 calculate the 2024 average balance. (Company Statement D, Schedule D-
31 1 and Vesey testimony page 18).
32
33 • Pursuant to the approval for inclusion in Case No. PU-20-379, the provision
34 for pension and benefits and post-retirement are shown on Company
35 Statement D Schedule D-1 pages 9 and 10. The projected activity for 2023
36 is reflected and the 2022 and 2023 balances were then averaged to reflect
37 the 2023 average balance. The process was repeated to calculate the 2024
38 average balance. (Vesey testimony page 18-19).

39 **Q. What changes do you have regarding the Company’s Working Capital**
40 **Allowance Components?**

41 **A.** I accept the Company’s proposal related to the components of its Average Working
42 Capital components:

1	Materials and Supplies	\$2,463,479
2	Fuel Stock	\$26,293
3	Prepaid Insurance	\$415,793
4	Unamortized Lost on Debt	\$120,097
5	Unamortized Redemption Cost	
6	Of Preferred Stock	\$35,472

7 I have adjustments related to the following Working Capital Components:

8	Gain/Loss on Sale of Building	\$400,639
9	Provision for Pensions & Benefits	\$18,273,074
10	Provision for Post-Retirement	\$4,511,690

11 **Q. Please explain the Company’s proposal for the three Working Capital**
 12 **Components.**

13 D. Gain/Loss on Sale of Building (Set-3-65)

14 **Q. What has the Company proposed regarding its Gain/Loss on the Sale of**
 15 **Building?**

16 **A.** In response to Set 3-65, the Company included \$400,639 related to the sale of
 17 office buildings in Williston and Watford city in 2013 which resulted in a gain on the
 18 sale. The gain was deferred until several rate proceedings introduced these costs
 19 and transactions which were ultimately settled and approved by the Commission.
 20 During 2012 and 2013, the western portion of North Dakota experienced a
 21 population boom related to oil development in the Bakken oil formation. Because
 22 of this rapid population shift, there was a lack of housing available in the areas and
 23 the Company found it necessary to provide housing options, specifically
 24 manufactured homes, in order to attract and retain employees. In 2016, the
 25 Company found that housing conditions within the affected area were stable, and
 26 employees were able to find their own housing. The Company made the decision

1 to dispose of all housing units. The Company has proposed to amortize this gain
2 over a twenty-year period or \$400,639 annually.

3 **Q. What is your adjustment?**

4 **A.** I am recommending disallowance of these costs in Rate Base. These types of
5 costs are not the sort of expenses that should be recovered from ratepayers
6 through gas utility rates. This situation was extraordinary in nature and unusual
7 in occurrence and therefore should have been borne by the Company, as it is not
8 the sort of recurring expenses that a gas utility realizes in its day to day operations.
9 This transaction was a business risk taken on by the Company to provide housing
10 for its employees during a short period of time when rapid population growth
11 occurred due to the oil development in the Bakken oil formation. As quickly as the
12 occurrence happened, it quickly disappeared. These are past costs that the
13 Company is proposing to include in future rates. The Company should not be able
14 to earn a return on this transaction as these costs do not provide safe and reliable
15 utility services to ratepayers. These costs are solely to recover a loss and a return
16 due to a business decision experience by the Company.

17 E. Provision for Pension & Benefits (NDPSC-3-66)

18 **Q. What has the Company proposed with respect to its Pension and Benefits?**

19 **A.** The Company has proposed to include \$18,273,074 of Pension costs in Rate Base
20 (Statement D Schedule D-1 page 9). The Company stated that in the most recent
21 North Dakota Natural Gas Case (Case No. PU-20-379) and Electric Rate Case
22 (Case No. PU-22-194) the Company proposed the Pension and Benefits balance
23 as a regulatory asset balance in rate base. This was approved in settlements
24 approved by the Commission on May 5, 2021, and on June 6, 2023, respectively.

25 **Q. What is your response?**

26 **A.** I am recommending disallowance of this costs in Rate Base. The Company has
27 not specifically provided a reason for inclusion but for allowance of these costs

1 through prior settlements. Pension costs and such funding vary from year to year,
2 and this inclusion in Rate Base is merely to adjust an accounting mismatch that
3 arises from unique circumstances and the nature of Pension funding in addition to
4 the employer's obligation to comply with specific pension funding requirements. If
5 this adjustment is allowed in Rate Base it may overstate Rate Base indefinitely
6 which will allow the Company to over-earn on this amount going forward, without
7 any offset or amortization of these costs. Moreover, this treatment of inclusion
8 Pension and Benefits in Rate Base would inappropriately allow the Company to
9 earn a return on past pension expense, which violates fundamental principles of
10 ratemaking. While the Company may be required to account for the Pension
11 activity in this manner, (i.e. FAS 87 and/or ASC 715 expense (NDPSC-5-4)), the
12 Commission does not have to accept or allow this approach for ratemaking
13 purposes.

14 **Q. Has the Company provided further information on the development of its**
15 **Pension Funding?**

16 **A.** Yes. In response to NDPSC-5-1, the Company provided five years' worth of
17 Pension funding from 2018 through 2022. Cash contributions ranged from a low
18 of (\$5,133,171) in 2019 due to Corporate reorganization, to a high of \$15,452,375
19 in 2019 (after Corporate reorganization). In 2020, 2021 and 2022 there were no
20 cash contributions to the Pension. The Pension balance allocated to the North
21 Dakota operations averaged about \$14.316 million over a six-year period (2018-
22 2022). In response to NDPSC-5-3, the Company objected to providing actuarial
23 estimates that were used to rely upon in calculating pension and post-retirement
24 benefits. Given this, I am unable to formulate a meaningful recommendation on
25 the development of the Company's Pension asset.

26 My recommendation is shown on my Schedule DM-3.

27

28

1 F. Provision for Post-Retirement

2 **Q. What has the Company proposed with respect to its Post -Retirement?**

3 **A.** The Company has proposed to include \$4,511,690 of Post-Retirement costs in
4 Rate Base (Statement D Schedule D-1 page 10). In the same manner as the
5 Company included its Pension & Benefits adjustments in Rate Base, it is proposing
6 to include the same for its Post-Retirement costs.

7 **Q. What is your recommendation?**

8 **A.** As I stated previously with respect to my disallowance of Pension and Benefits
9 costs in Rate Base above, I am making the same argument here with respect to
10 Post-Retirement costs. These types of costs should not be included in Rate Base
11 in order to earn a return on these costs indefinitely. By including these costs in
12 Rate Base, it may overstate the balance and allow the Company to over-earn going
13 forward without any offset or amortization of these costs.

14 **Q. Has the Company provided further information on the development of its**
15 **Pension Funding?**

16 **A.** Yes. In response to NDPSC-5-2, the Company provided five years' worth of Post-
17 Retirement funding from 2018 through 2022. Cash contributions ranged from a
18 low of (\$403,553) in 2019 due to Corporate reorganization, to a balance of \$69,576
19 in 2018. In 2019, 2020, 2021 and 2022 the funding was \$6,632, \$28,728, \$19,525
20 and \$16,813, respectively. The Post-Retirement balance allocated to the North
21 Dakota operations averaged about 1.372 million over a six-year period (2018-
22 2022). In response to NDPSC-5-3, the Company objected to providing actuarial
23 estimates that were used to rely upon in calculating pension and post-retirement
24 benefits. Given this, I am unable to formulate a meaningful recommendation on
25 the development of the Company's Post-Retirement asset.

26 My recommendation is shown on my Schedule DM-3.

27

1 G. Accumulated Deferred Income Taxes

2 **Q. What has the Company proposed regarding its Accumulated Deferred**
3 **Income Taxes (ADIT)?**

4 **A.** The Company has proposed an ADIT balance of \$28,799,456, as shown on
5 Company Statement A, page 3 and Statement J, Schedule J-2). The Company's
6 projected balances were derived by adding the changes to the deferred income
7 taxes for 2023 and 2024 to the 2022 balances and calculating the average
8 balance. (Vesey testimony page 19). Ms. Vesey stated that the changes
9 associated with book/tax depreciation differences are detailed on Company
10 Schedule J-2. The Company is required to use the Proration Method of computing
11 deferred taxes for all test period filings in which a forecast has been used to
12 develop the revenue requirement to comply with IRS normalization rules. (Vesey
13 testimony page 19). Plant related excess deferred taxes are amortized using the
14 average rate assumption method (ARAM) and is reflected in 2023 and 2024. The
15 accumulated deferred income taxes associated with the unamortized loss on debt,
16 the loss on the sale of the building, the provision for pension and benefits, the
17 provision for post-retirement and customer advances are shown on Statement D,
18 Schedule D-1 pages 6, 8, 9, 10, and 11, respectively. The change in accumulated
19 deferred income taxes associated with the acquisition adjustment are the same as
20 experienced in 2022. (Vesey testimony page 20).

21 **Q. What are your adjustments?**

22 **A.** My adjustments are to my recommended disallowance of certain Gas Plant In
23 Service additions, contingency costs and the Aircraft costs included in the
24 Company's UPIS balance. Since I made adjustments to the Company's
25 Distribution, General and Common plant balance, I am making corresponding
26 adjustments associated with the calculation of the ADIT balance. I utilized the
27 Company's methodology of average balances which are shown on my Schedule
28 DM-3 and DM-7 – Liberalized Depreciation. I removed the ADIT balances related
29 to Gain/Loss on Sale of Building, and the ADIT balances related to the
30 disallowances on the Company's Provision for Pension and Benefits and Post-

1 Retirement balances. My recommended ADIT balance reduces the Company's
2 ADIT balance from \$28,799,456 to \$22,561,781 a difference of \$6,237,675. This
3 is carried over to my Schedule DM-7.

4 IV. Revenue Requirement Issues

5 A. Operating Revenues

6 **Q. What has the Company proposed regarding its total Operating Revenues at**
7 **Present Rates for the Projected Test Year 2024?**

8 **A.** The Company proposed total Present Rate Revenues of \$159,847,677 is shown
9 on Company Statement F, page 1. The Company provided a breakdown of the
10 Present Rate Revenue as follows:

11	• Sales Revenue	\$149,672,336
12	• Transportation Revenue	\$ 6,598,674
13	• Other Operating Revenue	<u>\$ 3,576,667</u>
14	Total	\$159,847,677

15 Included in Other Operating Revenues are \$1,940,754 associated with the
16 Company's Heskett Pipeline of which a portion is assigned to gas operations upon
17 completion of the town border station and pipeline serving Mandan, ND. (NDPSC-
18 4-39).

19 **Q. How did the Company develop its Present Rate Revenues in the 2024 Test**
20 **Year Period?**

21 **A.** Company witness Mr. Bensen stated that natural gas volumes for residential, firm
22 general, the Minot Air Force Base, and select interruptible and transportation
23 customers were adjusted to reflect normal weather patterns, where appropriate.
24 (Direct Testimony of Mr. Bensen page 2). (Include response to NDPSC-4-37
25 weather normalization period). (include response to NDPSC-4-38). Normalization
26 models were separated for the Company and Great Plains customers. (Mr.
27 Bensen testimony page 3).

28

1 **Q. What adjustments do you have regarding the Company's Present Rate**
2 **Revenues of \$159,847,677?**

3 **A.** After a review of the Company's Revenues and Other Operating Revenues, I am
4 accepting the balance of \$159,847,677. My balance is shown on my Schedule
5 DM-4.

6 B. Operating Expenses

7 **Q. How did the Company develop its operation and maintenance (O&M)**
8 **expenses in this proceeding?**

9 **A.** According to Ms. Vesey, the cost of gas used the projected sales volume and the
10 demand cost and a projected 2024 annual commodity cost of gas. The projected
11 sales and volume included a large customer that will begin taking service in 2024
12 and the additional cities of Portal and Kindred, North Dakota. (Ms. Vesey testimony
13 page 8). The Company is proposing to integrate Wahpeton, North Dakota
14 currently provided for under Great Plains North Dakota gas tariff, into the
15 Company's North Dakota gas tariff. (Ms. Vesey testimony page 8). With respect
16 to the remaining O&M expenses, these were reviewed and projected by resource
17 or cost category, some on a North Dakota only basis and some on a total Company
18 basis. The Company developed the O&M expenses for 2023 by reviewing current
19 information, as well as discussions with operations personnel to determine the best
20 information for 2023. (Ms. Vesey testimony page 8). The projections for 2024 were
21 based upon the Company's best estimate for known changes or based on an
22 inflation factor when appropriate. The Company reviewed the indices published
23 by the Congressional Budget Office for Economic Cooperation and Development,
24 International Monetary Fund, PriceWaterhouseCoopers, and Statistica. (Ms.
25 Vesey testimony page 8). The rates are adjusted to reflect inflation of 4.10% for
26 2023 and 2.38% for 2024. (Ms. Vesey testimony page 9).

27 **Q. What is your response to the Company's use of Inflation Factors in the**
28 **development of its O&M expenses for 2023 and 2024?**

29 **A.** I am recommending disallowance of all of the Company's proposed inclusion of
30 inflation adjustments to set rates for service as they are not known and

1 measurable. I am of the opinion that inflationary costs (CPI) or escalation costs
2 should not be used for ratemaking purposes or to set rates for utility services.
3 Inflationary type increases do not provide a good index of cost increases, but rather
4 are overall broad blanket-type economic adjustments that are typically applied to
5 all goods and services that may not be directly related to costs incurred by PGW.
6 Inflation adjustments do not address any particular or individual expense category.
7 It is simply a forecast or prediction of cost adjustments. As costs of goods and
8 services fluctuate over time, applying escalation factors to adjust costs is not a
9 proper approach that should be utilized in setting rates for utility service. While
10 such CPI indexes are used to develop economic data as in changes to broad
11 baskets of consumer goods and services such as housing, clothing, food, etc.,
12 utilizing CPI indexes for ratemaking purposes is not reasonable. Throughout my
13 testimony I will discuss the removal of these inflation related factors.

14 1. Cost of Gas

15 **Q. What has the Company proposed regarding its Cost of Gas?**

16 **A.** The Company proposed total projected Cost of Gas of \$106,767,865 as shown on
17 Company Statement G page 1 and Schedule G-1. The cost of gas rates and Cost
18 of Propane rates used the projected sales volume and the demand cost calculated
19 in the June 2023 demand costs and a projected 2024 annual commodity cost of
20 gas. (Ms. Vesey testimony page 8). The Company provided a detailed breakdown
21 of the components of the Cost of Gas on Company Statement G Schedule G-1
22 page 7.

23 **Q. What changes do you have regarding the Company's Cost of Gas?**

24 **A.** I am accepting the Company's total projected Cost of Gas of \$106,767,865. This
25 is shown on my Schedule DM-10.

26

27

28

1 2. Labor and Benefits Expenses

2 **Q. How did the Company develop and allocate its Labor and Benefits Expenses**
3 **for the average test year 2024?**

4 **A.** As shown on Company Statement G Schedule G-1 page 8 and 9 of 25 and
5 Statement G Schedule G-1 page 9 and 10 of 70, the Company proposed total
6 Labor Expense of \$15,288,799. The breakdown of these costs are as follows:

7 Labor Expense

8	• Straight Time	\$12,429,122
9	• Premium Time	\$ 676,564
10	• Bonuses and Commission	\$ 448,032
11	• Incentive Compensation	\$ 1,538,602
12	• Moving Allowance	\$ 20,915
13	• Meals	<u>\$ 172,058</u>
14	• Total	\$15,288,799

15 The Company proposed total Benefits Expenses of \$2,874,852 as shown on
16 Statement G Schedule G-1 page 9 of which the breakdown is as follows:

17 Benefits Expense

18	• Medical/Dental	\$1,988,383
19	• Pension Expense	\$ 82,270
20	• Post-Retirement	(\$ 4 85,515)
21	• 401K	\$ 1,215,833
22	• Workers Compensation	\$ 51,550
23	• Other Benefits	<u>\$ 22,331</u>
24	• Total Benefits	\$2,874,853

1 Labor Expense - Vacancy Rate Ratio

2 **Q. What is your adjustment related to the Company's Labor Expense?**

3 **A.** My first adjustment to Labor Expense is a Vacancy Rate Ratio. In reviewing the
4 Company Set 3-46 the Company stated that it is having on-going recruiting efforts
5 throughout the year to backfill positions due to employee retirements, resignations,
6 and as part of the normal course of business cycles year over year. The Company
7 stated that it does not have a full list of employees to be hiring but has provided a
8 list of four new positions that will be hired in April and May 2024. In response to
9 Company Set 3-48, the Company stated that it does not have a way to accurately
10 illustrate headcount broken down by expense categories in the same way salary
11 amounts are extracted through the general ledger. There are multiple factors that
12 contribute to the limitation including individual employees performing work across
13 multiple expense categories and across O&M Expense and Capital labor projects.
14 Given this situation, I believe it is appropriate to implement a Vacancy Rate Ratio
15 to take into account the varying fluctuations occurring at any organization that has
16 inflows and outflows of employees being hired and leaving the Company over any
17 given period. Therefore, I believe it is appropriate to take these vacancies into
18 consideration when setting labor rates.

19 **Q. How did you calculate your Vacancy Rate Ratio and what effect does this
20 have on the Company's Labor balance?**

21 **A.** In reviewing the response to Set 3-47, the Company provided 6-years of union and
22 non-union vacancy counts, and turnover rates. I utilized a 5-year vacancy rate ratio
23 for both the union vacancy count and non-union vacancy count. I note that during
24 the COVID-19 pandemic the vacancy count for both union and non-union labor
25 was particularly low at 3.4% and 6.2%, respectively, as compared to prior years
26 (2018-2019) and subsequent years (2021-2023). Thus, given that the COVID-19
27 pandemic did not really affect labor, a 5-year vacancy rate ratio is appropriate.¹⁰
28 A 5-year Vacancy Rate Ratio resulted in an 11.12% rate for union employees and

¹⁰ I note that the use of a 3-year average would increase the vacancy rate ratio for both union and non-union employees.

1 \$12.04% for non-union employees. Averaging out these ratios resulted in an
2 overall Vacancy Rate Ratio of 11.58% which I used to adjust the Company's
3 Straight time labor and Premium time labor. This results in an adjustment of
4 (\$12,429,122 x 11.58%) \$1,439,292 for the Straight time labor and (\$676,564 x
5 11.58%) \$78,346 for the Premium time labor. My vacancy rate ratio flows through
6 to all of the operating expense components as shown on my Schedule DM-21.

7 Labor Expense - Bonuses and Commissions

8 **Q. What has the Company proposed with respect to Bonuses and**
9 **Commissions?**

10 **A.** The Company has proposed to recovery Bonuses and Commissions of \$448,032
11 as shown on Company Statement G Schedule G-1 page 8. The balance of \$41,359
12 are related to awards such as employee recognition, sign on bonuses, recruitment
13 bonuses, relocation allowances and other employee rewards. The balance of
14 \$406,673 are related to long-term incentive compensation in the form of company
15 stock to certain executive employees. (NDPSC-3-42). The plan establishes a total
16 grant that is vested at the end of three years.

17 **Q. What adjustments do you have with respect to the Company's Bonuses and**
18 **Commissions?**

19 **A.** I am recommending disallowance of Bonuses costs of \$41,359 for ratemaking
20 purposes. While the Company can reward its employees for achieving or attaining
21 specific goals, I do not see any connection that these Bonuses benefit ratepayers
22 in the provision of utility service. The Company has not provided a breakdown of
23 which employees are expected to be rewarded, the nature of the reward nor the
24 timing of these Bonuses. These types of costs provide morale and camaraderie
25 among and between employees and the Company and are not specifically
26 customer oriented costs that should be borne by ratepayers. With respect to the
27 Company's long-term stock payment to certain executive employees of \$406,673,
28 I am recommending disallowance of these costs for ratemaking purposes. These
29 types of incentive costs should not be passed on to ratepayers, as I believe they

1 are not geared towards customer service issues. I do not see any nexus between
2 providing executives with company stock and ratepayer benefits. It is not the
3 responsibility of ratepayers to absorb these types of incentive and rewarding
4 executives absent ratepayer benefits. The Company has not provided any
5 evidence that these types of incentive costs are related to safe, reliable and proper
6 utility service to ratepayers.

7 Labor Expense - Incentive Compensation

8 **Q. What has the Company proposed with respect to Incentive Compensation?**

9 **A.** The Company has proposed to include \$1,538,602 of Incentive Compensation as
10 shown on Company Schedule G Statement G-1 page 8. In response to Set 3-44
11 the Company provide its Short-Term Incentive Plans (2023 and 2024) (the Plan)
12 for incentive plans and performance goals. **(BEGIN CONFIDENTIAL)**

13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED] **(END CONFIDENTIAL).**

17
18 **Q. What did the Company state regarding the need for the Plan?**

19 **A.** The Company stated that the Plan was designed to:

- 20 • Establish a strong relationship between pay and Company performance.
- 21 • Provide focus on Company strategic initiatives that increase effectiveness
22 and efficiency.
- 23 • Deliver labor market competitive rewards that attract, retain and motivate
24 talented employees to higher level of performance. (NDPSC-3-44
25 Attachment B page 1 of 21).

26 **Q. What performance metrics has the Company provided that reflects the**
27 **recovery of the Incentive Compensation costs of \$1,538,602?**

1 **A.** In the Company's 2024 Plan, (addendum A.3 and A.4) the Company provided the
2 following goal achievements:

- 3 • O&M Expense Goal – 40%
- 4 • Operational Goal – Customer Service – 30%
- 5 • Cyber Security Goal – 30%
- 6 • Total 100%.

7 **Q. What are your recommendations and adjustments?**

8 **A.** I am recommending recovery of those Incentive Compensation costs that are
9 geared towards ratepayer and customer oriented benefits goals (customer service,
10 satisfaction, safety, and reliability). The Company's Operational Goal at a
11 weighted 30% appears to provide customer benefits. The Company's Cyber
12 Security Goal at a weighted 30% appears to provide customer information
13 protection and protects breaches of customer homes and the Company's physical
14 systems. The Company's O&M Expense Goal at a weighted 40% appears to
15 geared towards financial performance in which these costs are related to the
16 effects of earnings from asset sales/dispositions/retirements; the effect on
17 earnings from Corporate transactions, acquisitions, divestitures, mergers, spin-offs
18 or other strategic transactions; the effects on earnings from unanticipated changes
19 and interpretations of tax laws and; the effects on earnings of corporate overhead
20 allocation differences. (NDPSC-3-44 Attachment B page 5 of 21). I am
21 recommending disallowance of the Company's O&M Expense Goal at a 40%
22 weighted or \$615,441). I believe these types of incentives do not benefit
23 ratepayers in the provision of safe and reliable utility service. These types of
24 benefits are aligned with the Company's financial goals and earnings per share
25 growth. While the Company's Plan stated that these are related to the control of
26 O&M expenses, I believe they are related to non-ratepayer performance
27 measures, such as increasing operating income, increasing in shareholder growth
28 and promoting shareholder interests. I am recommending allowance of the
29 remaining 60% (30% for Operational Goal – Customer Service and 30% for Cyber

1 Security Goal) or \$923,161. My recommendation is shown on my Schedule DM-
2 21.

3 **Q. What are your total adjustments to the Company's Labor Costs?**

4 **A.** My total adjustment is a reduction of \$2,581,111 and a balance of \$12,707,688.
5 This is shown on my Schedule DM-21. I have reflected and carried over these
6 adjustments to each of my discussion to the Company's O&M Expenses.

7 **Q. What has the Company proposed with respect to its Benefits?**

8 **A.** As shown on Company Statement G Schedule G-1 page 9, the Company
9 proposed a total balance of \$2,874,852. I will discuss each component below.

10 Benefits - Medical and Dental

11 **Q. What are your adjustments to the Company's Benefits Expense?**

12 **A.** My first adjustment is to the Company's proposed adjustment to include 13.00%
13 increases to calculated its 2024 Medical and Dental Benefits. In response to Set
14 3-50, the Company stated that this increase is based upon actuarial information
15 (Attachment A CONFIDENTIAL) and projected medical premiums (Statement G
16 Schedule G-1 page 8). I am recommending disallowance of these costs as I
17 believe they are inflationary in nature, and not known and measurable in the setting
18 of utility rates.

19 **Q. Has the Company provided any other information in support of its proposed
20 13.00% increase?**

21 **A.** Yes. In response to NDPSC-3-50, the Company provided 5-years-worth of actual
22 medical and dental expenses (2018-2022). That five-year average calculated to
23 \$1,466,799. The differences in costs from 2018 through 2022 ranged from a
24 negative 2% adjustment from 2021 – 2022, to a high of 15% in 2018-2019. The
25 overall average adjustment for this period was 6.1%.

26

27

1 **Q. What is your response?**

2 **A.** The Company's 2022 Medical and Dental costs are \$1,557,196 or \$903,974 over
3 the Company's five-year average of \$1,466,799 or 6.1% above 2022 costs. Given
4 the fluctuations in costs over the five-year period, I believe that the Company's
5 \$1,557,196 balance is sufficient enough to cover the Company's Medical and
6 Dental costs prospectively. I do not support the Company's 13.00% increase over
7 2022 costs and an additional 13.00% increase over 2023 costs to calculate the
8 Company's Medical and Benefits costs in 2024. This is a \$431,187 increase or
9 28% over actual 2022 costs.

10 **Q. What are your recommendations?**

11 **A.** I am recommending maintaining the Company's Medical and Dental Benefits at
12 the 2022 level or \$1,557,196.

13 Benefits - Pension Expense

14 **Q. What has the Company proposed with respect to its Pension Expense?**

15 **A.** The Company proposed a balance of \$82,270 as shown on Company Statement
16 G Schedule G-1 page 9. The Company referred to its actual 2023 estimates in
17 workpaper Statement G Schedule G-1 pages 13-16 and page 19.

18 **Q. Has the Company provided these workpapers?**

19 **A.** No. In response to DNPSC 5-3, the Company stated that the redacted information
20 is related to activities of other business units and is not relevant to Montana-Dakota
21 which is used for planning purposes related to other pension and post-retirement
22 funding and expenses. The information does not include any recommendations
23 or guidance on the recovery of the balance through established rates.

24 **Q. What is your response and recommendations?**

25 **A.** Given this lack of information on Pension Expense, I am recommending
26 normalizing these costs over 2022-2024 period. This results in a negative balance
27 of \$5,140 ($(\$131,411) + 33,720 + \$82,270$). These are the balance that were

1 booked by the Company over the three year period, and given the variability of
2 these balances, it is appropriate to normalize these costs prospectively.

3 Benefits- Post-Retirement

4 **Q. What has the Company proposed with respect to its Post-Retirement costs?**

5 **A.** The Company proposed a balance of (\$485,515) as shown on Statement G
6 Schedule G-1 page 9.

7 **Q. What is your response and recommendations?**

8 **A.** Given this lack of information on Post-Retirement Expense as in Pension Expense,
9 I am recommending normalizing these costs over 2022-2024 period. This results
10 in a negative balance of \$496,622 ($(\$447,951) + (\$556,400) + (\$485,515)$). These
11 are the balance that were booked by the Company over the three year period, and
12 given the variability of these balances, it is appropriate to normalize these costs
13 prospectively.

14 Benefits - 401k

15 **Q. What has the Company proposed with respect to its 401k?**

16 **A.** The Company proposed a balance of \$1,215,883 as shown on Statement G
17 Schedule G-1 page 9. The Company stated this balance reflects straight time
18 labor increases in 2023 and 2024.

19 **Q. What adjustments do you have?**

20 **A.** Given that I have used a vacancy rate ratio to calculate total labor, I am using a
21 vacancy rate ratio to adjust the Company's 401k costs. Using the vacancy rate
22 ratio of 11.58% and multiplying that ratio by the Company's \$1,215,883 balance I
23 arrive at an adjustment of \$140,793. This results in a balance of \$1,075,040.

24

25

26

1 Benefits - Workers Compensation and Other Benefits

2 **Q. What has the Company proposed with respect to its Workers Compensation**
3 **and Other Benefits?**

4 **A.** The Company has proposed a balance to its Workers Compensation of \$51,550
5 and its Other Benefits of \$22,331 as shown on Statement G Schedule G-1 page
6 9.

7 **Q. What adjustments do you have?**

8 **A.** I am recommending normalizing these costs over the 2022-2024 period. This
9 results in a balance to Workers Compensation of \$49,176 (an adjustment of
10 (\$2,374)); and for the Other Benefits a balance of \$21,303 (an adjustment of
11 (\$1,028)).

12 **Q. What are your total adjustments to the Company's Benefits Expense?**

13 **A.** My total adjustments to the Company's Benefits Expense is a reduction of
14 \$673,900 or a balance of \$2,200,952 as shown on my Schedule DM-21. I have
15 reflected and carried over these adjustments to each of my discussion to the
16 Company's O&M Expenses.

17 3. Other Gas Supply

18 **Q. What has the Company proposed regarding its Other Gas Supply Expenses?**

19 **A.** The Company proposed Projected 2024 expenses related to Other Gas Supply of
20 \$320,085, as shown on Company Statement K Schedule G-1 page 5. The
21 Company provided a breakdown of the components of Other Gas Supply
22 Expenses as follows:

23	• Labor	\$228,395
24	• Vehicles & Work Equip.	\$ 6
25	• All Other O&M	<u>\$ 91,684</u>
26	Total	\$320,085

27 Included in the Labor Expense balance of \$228,395, the Company included
28 Incentive Compensation of \$24,811.

1 **Q. What changes do you have regarding the Company's Other Gas Supply**
2 **Expenses?**

3 **A.** I have two adjustments to the Company's Other Gas Supply. My first adjustment
4 is to the Company's Labor of \$228,395. My second adjustment is to the
5 Company's All Other O&M Expense of \$91,684. I will address these adjustments
6 below.

7 Labor Expenses

8 **Q. Please explain your first adjustment regarding Labor Expense.**

9 **A.** With respect to the Company's Labor Expense balance of \$228,395, the Company
10 included \$24,811 of Incentive Compensation in its Projected 2024 Test Year. As
11 I discussed previously on my adjustments to the Company's Labor Expenses,
12 including incentive compensation, I am carrying over the portion allocated to the
13 Other Gas Supply expense from my Schedule DM-21 that included my inclusion
14 of a vacancy rate ratio of 11.58%. This reduced the Labor expense by \$28,012.
15 My other recommendation to Labor costs is my adjustment to disallow \$9,924
16 related to Incentive Compensation, with the reasonings that I addressed
17 previously. My total recommended Labor costs is \$190,458 or a reduction of
18 \$37,937 from the Company's proposed balance of \$228,395.

19 All Other O&M Expenses

20 **Q. What is your final adjustment to the Company's Other Gas Supply?**

21 **A.** My final adjustment is to the Company's All Other O&M expenses of \$91,684 as
22 shown on Company Statement G, Schedule G-1 page 6 and page 25. The
23 Company included a 4.10% inflation increase to set 2023 expense levels, and
24 another 2.38% inflation increase to set 2024 expense levels. (Ms. Vesey testimony
25 page 13).

26 **Q. What is your recommendation?**

27 **A.** My recommendation is to remove the 4.10% inflation increases for the 2023 and
28 the 2.38% for the 2024 period. The Company has not provided reasons for the

1 increase to this expense but for these inflation increases. These inflation increases
2 are not a true cost of providing service and are not known and measurable.
3 Inflation rates are merely blanket type adjustments which may or may not reflect
4 the true costs of expenses incurred by the Company across all expense
5 categories. Costs increases should be based upon evidence or documentation
6 that supports the Company's adjustments. While such inflationary cost
7 adjustments are used to calculate and measure changes in economic data, they
8 should not be used to set rates for ratemaking purposes.¹¹ My adjustment
9 removes the Company's inflation related increase to arrive at a cost of 86,026, an
10 adjustment of \$5,658. My next adjustment to the Company's O&M Expense is the
11 disallowance of corporate aircraft of \$1,305 as identified in response to NDPSC-
12 3-13. I am recommending disallowance of these costs because I do not believe
13 that ratepayers should be funding corporate aircraft for employees to travel within
14 the Company's service territory. While I understand that commercial air travel may
15 not be accessible, I believe these costs should be paid for by the Company and
16 not require ratepayers to bear these costs. I do not see any benefits accruing to
17 ratepayers. My total adjustment is \$6,963 and a balance of \$84,721. My
18 recommendation is shown on my Schedule DM-11.

19 **Q. What are your total adjustments to the Company's Other Gas Supply?**

20 **A.** My total adjustments is a reduction of \$44,900 as shown on my Schedule DM-11.

21 4. Transmission

22 **Q. What has the Company proposed regarding its level of Transmission**
23 **Expenses?**

24 **A.** The Company proposed a Projected 2024 Transmission Expense balance of
25 \$11,371 as shown on Company Statement G page 1 and Schedule G-1 page 5.
26 The Company provided a breakdown of its Transmission Expenses as follows:

27 • Labor \$4,693

¹¹ My arguments for disallowing inflationary types cost adjustments are carried over to the remaining O&M expense categories.

1	• Subcontract Labor	\$4,864
2	• Materials	\$ 34
3	• Vehicles and Work Equip.	<u>\$1,780</u>
4	• Total	<u>\$11,371</u>

5 Included in the Transmission Labor Balance is Incentive Compensation costs of
6 \$495.

7 **Q. What adjustments do you have?**

8 **A.** I have adjustments to the Company's Labor Expense balance of \$4,693;
9 Subcontract Labor of \$4,864; Materials of \$34 and Vehicles and Work Equipment
10 of \$1,780. I will address these adjustments below:

11 Labor Expense

12 **Q. What is your adjustment to Labor Expense?**

13 **A.** As I discussed previously on my adjustments to the Company's Labor Expenses,
14 including incentive compensation, I am carrying over the portion allocated to the
15 Transmission expense from my Schedule DM-21 that included my inclusion of a
16 vacancy rate ratio of 11.58% or a reduction of \$573. My next adjustment to Labor
17 Expenses is related to the Company's Incentive Compensation. As stated
18 previously in my testimony I am disallowing \$198 of Incentive Compensation costs.
19 My total recommending disallowance to Labor costs is \$771. This is shown on
20 my Schedule DM-12.

21

22 Subcontract Labor

23 **Q. What is your next adjustment to the Company's Transmission Expenses?**

24 **A.** My next adjustment is to the Company's Subcontract Labor. The Company
25 included \$4,894 as shown on Statement G, Schedule G-1 page 10. Included in
26 that amount is an inflation factor of 4.10% in 2023 and 2.38% in 2024. The
27 Company stated that these increases reflect additional subcontractor costs for line
28 locating and leak surveying. (Ms. Vesey testimony page 10).

29

1 **Q. What is your recommendation?**

2 **A.** My recommendation is to remove the Company's proposed 4.10% and 2.38%
3 inflation increases for 2023 and 2024, respectively, as these types of increases
4 are not known and measurable and do not reflect the true costs of doing business.
5 I am recommending keeping these costs at the 2022 level of \$4,564, a reduction
6 of \$300. My recommendation is shown on my Schedule DM-12.

7

8 Materials

9 **Q. What is your next adjustment to the Company's Transmission Expense?**

10 **A.** My next adjustment is to the Company's Materials. The Company included \$34 of
11 Materials as shown on Statement G Schedule G-1 page 11. Included in those
12 costs is an adjustment of 9.4% increase in gas distribution and transmission
13 materials in 2023, and 2.38% inflation rate increase in 2024.

14

15 **Q. What is your recommendation?**

16 **A.** My recommendation is to remove the 9.4% increase in 2023 and 2.38% in 2024,
17 respectively or \$4 from the Company's Materials Expense. The Company
18 increased this expense only to account for expected inflation. Given that the
19 Company has not been specifically notified of any cost increases, it is appropriate
20 to keep the Material Expense at 2022 level or \$30. My arguments that recommend
21 disallowance of inflation related increases are discussed previously in my
22 testimony. My recommendation is shown on my Schedule DM-12.

23

24 Vehicles and Work Equipment

25 **Q. What is your next adjustment to the Company's Transmission Expense?**

26 **A.** My next adjustment is to the Company's Vehicles and Work Equipment. The
27 Company included \$1,780 for Transmission Costs as shown in Statement G
28 Schedule G-1 page 12. The Company stated that these expenses reflect
29 expenses associated with the Company's vehicles and equipment such as
30 backhoes, skid steers and excavators, including fuel costs, insurance,
31 maintenance and depreciation. The depreciation is charged to a clearing account

1 where it is recorded in O&M expenses or capitalized as part of a project as the
2 vehicle or work equipment is used. (Ms. Vesey testimony page 10-11).

3 **Q. What is your recommendation?**

4 **A.** My recommendation is to average out the Company's Vehicles and Work
5 Equipment using the 2022-2024 average to take into account the change in the
6 way the Company accounts for its vehicles and work equipment directly
7 attributable to work performed rather than being allocated to any specific
8 jurisdiction. It unclear how the Company allocates its Vehicles and Work
9 Equipment and how they are actually being charged to the North Dakota gas
10 operations. My three-year average for the 2022-2024 results in a balance of
11 \$1,573, and adjustment of \$207. My recommendation is shown on my Schedule
12 DM-12.

13 **Q. What are your total adjustments to the Company's Transmission Expense?**

14 **A.** My total adjustments is a reduction of \$1,282 as shown on my Schedule DM-12.
15

16 5. Distribution

17 **Q. What has the Company propose regarding the level of Distribution**
18 **Expenses?**

19 **A.** The Company propose Projected 2024 Distribution Expenses in the amount of
20 \$13,113,336 as shown on Company Statement G, Schedule G-1 page 5. The
21 Company provided a breakdown of its Distribution Expenses as follows:

22	• Labor	\$9,162,323
23	• Subcontract Labor	\$1,038,828
24	• Materials	\$ 751,770
25	• Vehicles & Work Equip.	\$ 1,329,294
26	• Company Consumption	\$ 409,902
27	• Postage	\$ 10,826
28	• Software Maintenance	\$ 8,241
29	• Rent Expense	\$ 47,525
30	• Annual Easement	\$ 43,647
31	• All Other O&M	<u>\$ 286,971</u>
32	Total	\$13,113,336

1
2 Included in the Company's Distribution Labor Expense are Bonuses and
3 Commissions of \$20,549 and Incentive Compensation of \$922,420. (Company
4 Statement G Schedule G-1 page 10).

5
6 **Q. What changes do you have regarding the Company's proposed Distribution
7 Expenses?**

8 **A.** I have several adjustments to the Company's Distribution Expenses. These relate
9 to all of the categories above with the exception of (1) Company Consumption; (2)
10 Uncollectible Accounts; (3) Rent Expense and : (4) Subcontract Labor.

11
12 Labor Expenses

13 **Q. Please explain your first adjustment to Labor Expense.**

14 **A.** My first adjustment is to the Company's Labor Expense of \$9,162,323. I am
15 carrying over the portion allocated to the Distribution Expense from my Schedule
16 DM-21 that included my inclusion of a vacancy rate ratio of 11.58%. That reduces
17 the Company's Labor Expense by \$1,150,526. My next adjustment is to the
18 Company's Incentive Compensation. As I previously discuss the reasoning for my
19 disallowance, I am recommending a reduction of \$368,968. My next adjustment
20 is to the Company's Bonuses and Commissions. As I previously discussed my
21 recommended disallowance, I am carrying over the portion that is allocated to the
22 Distribution Expense of \$20,549. My total disallowance to the Company's Labor
23 Distribution Expenses is \$1,540,043.

24
25 Materials

26 **Q. What is your next adjustment to the Company's Distribution Expense?**

27 **A.** My next adjustment is to the Company's Materials. The Company included
28 \$751,770 of Materials as shown on Statement G Schedule G-1 page 5 and 11.
29 Included in those costs is an inflation adjustment of 9.40% in 2023 and 2.38% in
30 2024. The Company stated that it is expecting an increase of 9.40% as shown on
31 Workpaper Statement G Schedule G-1 page 21.

1 **Q. What is your recommendation?**

2 **A.** My recommendation is to remove the 9.40% inflation increase in the 2023 period
3 and an additional 2.38% inflation increase in 2024 from the Company's Materials
4 Expense. As I previously stated inflationary costs adjustments are not known and
5 measurable and do not provide a true cost adjustments. The Company increased
6 this expense only to account for expected inflation which may or may not occur.
7 Given that the Company has not been specifically notified of any cost increases, it
8 is appropriate to keep the Material Expense at 2022 level or \$671,201 or a
9 decrease of \$80,569. My recommendation is shown on my Schedule DM-13.

10

11 Vehicles and Work Equipment

12 **Q. What is your next adjustment to the Company's Distribution Expense?**

13 **A.** My next adjustment is to the Company's Vehicles and Work Equipment. The
14 Company included \$1,329,294 for Distribution Costs as shown in Statement G
15 Schedule G-1 page 5 and 12. As previously indicated the total costs for Vehicles
16 and Work Equipment reflects all expenses associated with the Company's vehicles
17 and equipment costs. The depreciation expenses on these items are charged to
18 a clearing account rather than to a depreciation expense, where it is recorded in
19 O&M expense or capitalized as part of a project as the vehicle or work equipment
20 is used. (Ms. Vesey testimony page 10-11).

21

22 **Q. What is your recommendation?**

23 **A.** My recommendation is to average out the Company's Vehicles and Work
24 Equipment using the 2022-2024 average to take into account the change in the
25 way the Company accounts for its vehicles and work equipment directly
26 attributable to work performed rather than being allocated to any specific
27 jurisdiction. As indicated previously in my testimony, it is unclear how the
28 Company allocates its Vehicles and Work Equipment and how they are actually
29 being charged to the North Dakota gas operations. My three-year average for the
30 2022-2024 results in a decrease of \$153,669 from the Company's proposed

1 balance of \$1,329,294 or a recommended balance of \$1,175,625. My
2 recommendation is shown on my Schedule DM-13.

3
4 Postage

5 **Q. What has the Company proposed with respect to its Postage Expense?**

6 **A.** The Company proposed a balance to its Postage Expense of \$10,836 as shown
7 on Company Statement G Schedule G-1 page 6 and 15. The Company stated
8 that it reflected a 13.28% increase for 2023 based upon the projected weighted
9 average increase, partially offset by electronic billing savings in 2022. (Ms. Vesey
10 testimony page 12).

11
12 **Q. What is your adjustment?**

13 **A.** I am recommending disallowing the Company's proposed 13.28% increase. I
14 believe this is an inflation adjustment in which the Company has not provided any
15 evidence to support it. Also, the Company's 2022-2024 balance for Postage
16 reflects the same \$10,836, so it is not clear how the Company developed this
17 balance in the 2024 test year period. Therefore, I am recommending disallowance
18 of the Company 2023 2.38% inflation adjustment or a reduction of \$252 for
19 Postage expense in 2024. My recommendation is shown on my Schedule DM-13.

20
21 Software Maintenance

22 **Q. What is your next adjustment to the Company's Distribution Expenses?**

23 **A.** My next adjustment is to the Company's Software Maintenance costs of \$8,241 as
24 shown on Statement G, Schedule G-1 page 6 and 16. The Company included a
25 2.38% inflation increase over the 2023 Projected year. The Company indicated
26 that the increase is due to new 2024 software maintenance expenses.

27
28 **Q. What is your recommendation?**

29 **A.** As I indicated previously in my testimony, I am recommending that inflation related
30 costs increases be disallowed in the Company's O&M Expenses. My

1 recommendation removes the 2.38% inflation increase, an adjustment of \$192.
2 My recommendation is shown on my Schedule DM-13.

3
4 Annual Easement

5 **Q. What has the Company proposed related to Annual Easements?**

6 **A.** The Company has proposed Annual Easements expenses of \$43,647. This is
7 shown on Company Statement G Schedule G-1 page 6 and 24. The Company
8 stated that this cost is adjusted to include radio tower leases in support of the new
9 two-way radio replacement project and includes a projected 2.38% inflation
10 increase in 2024. (M. Vesey testimony page 13).

11 **Q. What is your response?**

12 **A.** I am recommending disallowing the inflation adjustment of 2.38% in the 2024
13 Projected year. This reduces the balance by \$1,015 and sets the 2024 Projected
14 year to \$42,632. My reasoning for disallowing inflation related expense
15 adjustments are discussed previously in my testimony. My recommendation is
16 shown on my Schedule DM-13.

17
18 All Other O&M Expenses

19 **Q. What is your final adjustment to the Company's Distribution Expenses?**

20 **A.** My final adjustment is to the Company's All Other O&M Expenses of \$286,971 as
21 shown on Statement G Schedule G-1 page 6 and 25. The Company stated that
22 these expenses were adjusted in 2023 by 4.10% and in 2024 by 2.38% to reflect
23 the effects of inflation. (Ms. Vesey testimony page 13-14).

24 **Q. What is your recommendation?**

25 **A.** I am recommending removing these inflation adjustments in 2023 and in 2024.
26 This reduces the balance by \$17,711 and sets the balance in 2024 of \$269,260.
27 My next adjustment is to removal the costs associated with aircraft costs of \$1,586
28 (NDPSC-3-13). My reasonings for disallowing these costs have been previously
29 discussed. Given that there are no specific cost increases or adjustments, the

1 removal of these inflation adjustments are appropriate, and my adjustment is
2 shown on my Schedule DM-13.

3 **Q. What is your total adjustment to the Company's Distribution Expense?**

4 **A.** My total adjustment is a reduction of \$1,795,036 as shown on my Schedule DM-
5 13.

6 6. Customer Accounting

7 **Q. What has the Company proposed regarding its Customer Accounting**
8 **Expenses?**

9 **A.** The Company proposed Projected 2024 Customer Accounting Expenses of
10 \$3,030,742 as shown on Company Statement G Schedule G-1, page 5. The
11 Company provided a breakdown of its Customer Accounting Expenses as follows:

12	• Labor	\$1,847,324
13	• Subcontract Labor	\$ 71,845
14	• Materials	\$ 416
15	• Vehicles & Work Equip.	\$ 88,297
16	• Company Consumption	\$ 4,152
17	• Uncollectible Accounts	\$ 382,296
18	• Postage	\$ 425,275
19	• Software Maintenance	\$ 50,385
20	• All Other O&M	<u>\$ 160,752</u>
21	Total	\$3,030,742

22
23 Included in the Labor balances are Bonuses and Commissions of \$8,523 and
24 Incentive Compensation of \$196,944. (Company Statement G Schedule G-1 page
25 10).

26
27 **Q. What changes do you have regarding the Company's proposed Customer**
28 **Accounting Expenses?**

29
30 **A.** I have several adjustments to the Company's Customer Accounting Expenses.
31 They are addressed below.

32

1 Labor Expense

2 **Q. What are your adjustments regarding the Company's Labor Expense?**

3 **A.** My first adjustment is to the use of a Vacancy Rate Ratio that I previously use to
4 adjustment the Company's Labor Expense. My reasonings is a discussed
5 previously. I am carrying over the portion allocated to the Customer Accounts
6 Expense category from my Schedule DM-21 that included my inclusion of a
7 vacancy rate ratio of 11.58%. That reduces the Company's Labor Expense by
8 \$221,767. My next adjustment is to the Company's Incentive Compensation. As I
9 previously discuss the reasoning for my disallowance, I am recommending a
10 reduction of \$78,778. My next adjustment is to the Company's Bonuses and
11 Commissions. As I previously discussed my recommended disallowance, I am
12 carrying over the portion that is allocated to the Customer Accounting expense
13 category of \$8,523. My total disallowance to the Company's Customer Accounting
14 Expenses is \$309,067. This is shown on my Schedule DM-14.

15 Materials

16 **Q. What is your next adjustment to the Company's Customer Accounts**
17 **Expense?**

18 **A.** My next adjustment is to the Company's Materials. The Company included \$416
19 of Materials as shown on Statement G Schedule G-1 page 5 and 11. Included in
20 those costs are adjustments of 4.10% in 2023 and 2.38% in 2024 related to
21 inflation factors.

22 **Q. What is your recommendation?**

23 **A.** My recommendation is to remove the 4.10% increase in 2023, and 2.38% increase
24 in 2024 related to inflation or a disallowance of \$26 from the Company's Materials
25 Expense. The proposed inflation adjustments are not a known and measurable
26 cost increase, but a blanket increase with no known specific increases to the
27 Materials Expense. My further argument to disallowing inflation costs are as
28 discussed previously. My recommendation is shown on my Schedule DM-14.

29

1 Vehicles and Work Equipment

2 **Q. What is your next adjustment to the Company's Customer Accounts**
3 **Expense?**

4 **A.** My next adjustment is to the Company's Vehicles and Work Equipment. The
5 Company has included a total expense level of \$88,297 shown on Statement G
6 Schedule G-1 page 5 and 12. As stated previously, the increase reflects all
7 expenses associated with the Company's vehicles and equipment including the
8 cost of fuel, insurance, maintenance and depreciation. The depreciation
9 expenses on these items are charged to a clearing account where it is then
10 recorded in O&M expenses or capitalized as part of a project as the vehicle or work
11 equipment is used. (Ms. Vesey testimony page 10-11).

12 **Q. What is your recommendation?**

13 **A.** My recommendation is to average the Company's Vehicles and Work Equipment
14 using the 2022-2024 years to take into account the change in the way the
15 Company accounts for its vehicles and work equipment that is directly attributable
16 to work performed rather than being allocated to any specific jurisdiction.
17 Therefore, I believe that a three-year average is reasonable to set costs for 2024.
18 The three-year average reduces the Company's costs from \$88,297 to \$78,094 or
19 a reduction of \$10,203. This is shown on my Schedule DM-14.

20 Postage Expense

21 **Q. What has the Company proposed regarding Postage Expense?**

22 **A.** The Company has proposed a Postage Expense of \$425,275 as shown on
23 Statement G Schedule G-1 page 6 and 15. The Company stated that a 13.18%
24 inflation in 2023 and in 2024 was included in the development of this expense.
25 (Ms. Vesey testimony page 12).

26 **Q. What is your recommendation?**

27 **A.** I am recommending that Postage Expense remain at the 2023 level. As I indicated
28 earlier in my testimony, inflation or CPI increases do not reflect the true cost of

1 doing business. These are merely blanket increases for all categories of expenses
2 and not specific increases attributable to one particular expense item. My
3 adjustment reduces the Company's Postage expense by \$11,405 and is shown on
4 my Schedule DM-14.

5 Software Maintenance

6 **Q. What is your next adjustment to the Company's Customer Accounts**
7 **Expense?**

8 **A.** My next adjustment is to the Company's Software Maintenance Expense of
9 \$50,385 as shown on Statement G Schedule G-1 page 6 and 16. The Company
10 included a 2.38% inflation increase over 2023 projections.

11 **Q. What is your recommendation?**

12 **A.** My recommendation is to keep the Company's Software and Maintenance
13 Expense levels at 2023 levels or \$49,214. This disallows the 2.38% inflation
14 increase from the 2024 level and reduces the balance by \$1,171. My
15 recommended level is shown on Schedule DM-14.

16 All Other O&M

17 **Q. What is your final adjustment to the Company's Customer Accounts**
18 **Expense?**

19 **A.** My final adjustment is to the Company's All Other O&M Expenses of \$160,752 as
20 shown on Statement G Schedule G-1 page 6 and 25. The Company included a
21 4.10% inflation increase in 2023 and an additional 2.38% inflation increase in 2024
22 to arrive at its Projected 2024 expense level.

23 **Q. What is your recommendation?**

24 **A.** My recommendation removes the Company's 4.10% inflation increase in 2023 and
25 2.38% in 2024. As indicated earlier, these types of blanket increases are not
26 known and measurable. My adjustment removes these inflation costs and keeps
27 the All Other O&M Expense at 2022 levels or \$150,752, reducing the amount by
28 \$10,000 as shown on my Schedule DM-14.

1 **Q. What are your total adjustments to the Company's Customer Accounting**
2 **Expenses?**

3 **A.** My total adjustments is a reduction of \$341,873 as shown on my Schedule DM-
4 14.

5 7. Customer Service & Information

6 **Q. What has the Company propose regarding its Customer Service &**
7 **Information Expenses?**

8 **A.** The Company proposed Projected 2024 Customer Service & Information
9 Expenses of \$358,394 and is shown on Company Statement G page 1 and
10 Schedule G-1 page 5. The Company provided a breakdown of its Customer
11 Service & Information Expenses as follows:

12	• Labor	\$226,322
13	• Subcontract Labor	\$ 1,584
14	• Vehicles & Work Equip.	\$ 12,674
15	• Postage	\$ 3
16	• Advertising	\$ 79,018
17	• All Other O&M	<u>\$ 38,793</u>
18	Total	\$358,394

19
20 Included in the Labor amount are costs related to Bonuses and Commissions of
21 \$760 and Incentive Compensation of \$24,544.

22
23 **Q. What changes do you have regarding the Company's proposed Customer**
24 **Service & Information Expenses?**

25
26 **A.** I have several changes to the Company's Customer Service & Information
27 Expenses. They are addressed below:

28
29 Labor Expense

30 **Q. What is your adjustment to the Company's Labor Expense?**

31 **A.** My first adjustment is to the use of a Vacancy Rate Ratio that I previously use to
32 adjustment the Company's Labor Expense. My reasonings is a discussed
33 previously. I am carrying over the portion allocated to the Customer Accounts

1 Expense category from my Schedule DM-21 that included my inclusion of a
2 vacancy rate ratio of 11.58%. That reduces the Company's Labor Expense by
3 \$26,963. My next adjustment is to the Company's Incentive Compensation. As I
4 previously discuss the reasoning for my disallowance, I am recommending a
5 reduction of \$9,818. My next adjustment is to the Company's Bonuses and
6 Commissions. As I previously discussed my recommended disallowance, I am
7 carrying over the portion that is allocated to the Customer Service and Information
8 expense category of \$760. My total disallowance to the Company's Customer
9 Services and Information Expenses is \$37,540. This is shown on my Schedule
10 DM-15.

11
12 Subcontract Labor

13 **Q. What is your next adjustment to the Company's Customer Service and**
14 **Information?**

15
16 **A.** My next adjustment is to the Company's Subcontract Labor of \$1,584 as shown
17 on Company Statement G Schedule G-1 page 5 and 10. Included in that amount
18 is an inflation factor of 4.10% in 2023 and 2.38% in 2024. The Company stated
19 that these increases reflect additional subcontractor costs for line locating and leak
20 surveying. (Ms. Vesey testimony page 10).

21
22 **Q. What is your recommendation?**

23 **A.** My recommendation is to remove the Company's proposed 4.10% and 2.38%
24 inflation increases for 2023 and 2024, respectively, as these types of increases
25 are not known and measurable and do not reflect the true costs of doing business.
26 I am recommending keeping these costs at the 2022 level of \$1,486, a reduction
27 of \$98. My recommendation is shown on my Schedule DM-15.

1 Vehicles & Work Equipment

2 **Q. What is your next adjustment to the Company's Customer Service &**
3 **Information Expense?**

4
5 **A.** My next adjustment is to the Company's Vehicles & Work Equipment. The
6 Company has included total costs of \$12,674 as shown on Company Schedule G
7 Schedule G-1 page 5 and 12. As previously indicated, the Company stated that
8 this increase was due to the expenses associated with the Company vehicles and
9 equipment including cost of fuels, insurance, maintenance and depreciation
10 expenses. The depreciation expense on these items is charged to a clearing
11 account where it is then recorded in O&M expenses or capitalized as part of a
12 project as the vehicle or work equipment is used. (Ms. Vesey testimony page 10-
13 11).

14
15 **Q. What is your recommendation?**

16 **A.** Given this change and the arguments I previously address in the other categories
17 of expenses, it is reasonable to average out these costs over the 2022-2024
18 period. My adjustment reduces the Company's Vehicles & Work Equipment by
19 \$1,465 and a balance in the 2024 Projected period of \$11,209 and is shown on my
20 Schedule DM-15.

21
22 Advertising

23 **Q. What has the Company proposed with respect to its Advertising Expense?**

24 **A.** The Company proposed total Advertising Expense related to Customer Service &
25 Information of \$79,018 as shown on Company Statement G Schedule G-1 page 6
26 and 17. Ms. Vesey stated that projected 2023 costs eliminated promotional
27 advertising expenses and expenses not applicable to North Dakota gas
28 operations. The Company included an inflation rate of 2.38% based upon the
29 average five indices. (Ms. Vesey testimony page 12). The Company provided a
30 breakdown of these Advertising expenses shown on Workpaper Statement G
31 Schedule G-1 page 46 through 60.

1 **Q. What is your recommendation?**

2 **A.** I am recommending disallowing the 2.38% inflation rate increase in the 2024 test
3 year. As I previously discussed, these types of adjustments are not known and
4 measurable and do not provide true cost adjustments. My disallowance reduces
5 the Company's Advertising expense by \$1,837 and sets the level for 2024 of
6 \$77,181.

7

8 All Other O&M Expenses

9 **Q. What is your final adjustment to the Company's Customer Service &**
10 **Information Expense?**

11

12 **A.** My final adjustment is to the Company's All Other O&M Expenses of \$38,793,
13 shown on Company Schedule G, Schedule G-1 page 6 and 25. The Company
14 has included a 4.10% inflation increase in 2023 and 2.38% in 2024 to set its 2024
15 expense levels.

16

17 **Q. What is your recommendation?**

18 **A.** My recommendation is to remove the inflation increases for both periods. My
19 argument is the same as indicated previously in my testimony. This reduces the
20 Company's increase from \$38,793 to \$36,399, or \$2,394. I am also disallowing
21 costs related to the use of aircraft in the expense category. My reasoning for the
22 disallowance has been discussed previously. This reduced the Other O&M costs
23 by \$353. My total recommended disallowance is \$2,747 and is shown on my
24 Schedule DM-15.

25

26

27 **Q. What is your total adjustment to the Company's Customer Service and**
28 **Information Expense?**

29

30 **A.** My total adjustment is a reduction of \$43,688 as shown on my Schedule DM-15.

31

32

1 8. Sales

2 **Q. What has the Company proposed regarding its Sales Expenses?**

3 **A.** The Company proposed Projected 2024 Sales Expenses of \$139,303 as shown
4 on Company Statement G, Statement G-1 page 5. The Company provided a
5 breakdown of its Sales Expenses as follows:

6 • Labor	\$127,338
7 • Vehicles & Work Equip.	\$ 8,454
8 • All Other O&M	<u>\$ 3,511</u>
9 Total	\$139,303

10 Included in the Labor Expenses are costs associated with Bonuses and
11 Commissions of \$760 and Incentive Compensation of \$13,773.

12 **Q. What changes do you have regarding the Company's proposed Sales**
13 **Expenses?**

14 **A.** I have several adjustments to the Company's Sales Expense. They are discussed
15 below.

16 Labor Expense

17 **Q. Please explain your adjustments to the Company's Labor Expense.**

18 **A.** My first adjustment is to the use of a Vacancy Rate Ratio that I previously use to
19 adjust the Company's Labor Expense. My reasoning is as discussed
20 previously. I am carrying over the portion allocated to the Sales Expense category
21 from my Schedule DM-21 that included my inclusion of a vacancy rate ratio of
22 11.58%. That reduces the Company's Labor Expense by \$14,897. My next
23 adjustment is to the Company's Incentive Compensation. As I previously discuss
24 the reasoning for my disallowance, I am recommending a reduction of \$5,509. My
25 next adjustment is to the Company's Bonuses and Commissions. As I previously
26 discussed my recommended disallowance, I am carrying over the portion that is
27 allocated to the Sales expense category of \$760. My total disallowance to the
28 Company's Sales Expenses is \$21,166. This is shown on my Schedule DM-16.

1 Vehicles and Work Equipment

2 **Q. What is your next adjustment to the Company's Sales Expense?**

3 **A.** My next adjustment is to the Company's Vehicles and Work Equipment. The
4 Company proposed a total cost of \$8,454 as shown on Statement G Schedule G-
5 1, page 5 and 12. As I previously stated in my testimony, the Company stated that
6 this increase was due to the expenses associated with the Company vehicles and
7 equipment including cost of fuels, insurance, maintenance and depreciation
8 expenses. The depreciation expense on these items is charged to a clearing
9 account where it is then recorded in O&M expenses or capitalized as part of a
10 project as the vehicle or work equipment is used. I am averaging 2022-2024 costs
11 to arrive at a balance of \$7,471. This reduces the Company's expense by \$983
12 and is shown on my Schedule DM-16.

13 All Other O&M

14 **Q. What is your final adjustment to the Company's Sales Expense?**

15 **A.** My final adjustment to the Company's Sales Expense is the All Other O&M
16 Expenses as shown on Company Statement G Schedule G-1, page 6 and 25, in
17 the amount of \$3,511. The Company included a 4.10% inflation increase to the
18 2013 expense level and an additional 2.38% in 2024.

19 **Q. What is your recommendation?**

20 **A.** My recommendation is to remove the 4.10% inflation increase in 2023 and 2.38%
21 inflation increase in 2024. This reduces the costs by \$217 and sets the balance to
22 \$3,294. My recommendation is shown on my Schedule DM-16.

23 **Q. What is your total adjustment to the Company's Sales Expense?**

24 **A.** My total adjustment is a reduction of \$22,366 as shown on my Schedule DM-16.

25

26

27

1 9. Administrative & General (A&G)

2 **Q. What has the Company proposed regarding its Administrative & General**
3 **Expenses?**

4 **A.** The Company proposed Projected 2024 A&G Expenses of \$12,145,856 as shown
5 on Company Statement G Schedule G-1 page 5. The Company provided a
6 breakdown of its Administrative & General Expenses as follows:

7	• Labor	\$3,692,404
8	• Benefits	\$2,874,852
9	• Subcontract Labor	\$ 435,677
10	• Materials	\$ 28,247
11	• Vehicles & Work Equip.	\$ 50,355
12	• Company Consumption	\$ 61,928
13	• Postage	\$ 54,493
14	• Software Maintenance	\$1,311,987
15	• Rent Expense	\$1,018,250
16	• Advertising	\$ 33,370
17	• Industry Dues	\$ 81,249
18	• Insurance	\$1,084,845
19	• Regulatory Commission Exp.	\$ 253,074
20	• All Other O&M	<u>\$1,165,125</u>
21	Total	\$12,145,856

22 Included in the Labor Expenses are costs associated with Bonuses and
23 Commissions of \$417,440 and Incentive Compensation of \$355,615.

24 **Q. What changes do you have regarding the Company's proposed**
25 **Administrative and General Expenses?**

26 **A.** I have several adjustments to the Company's A&G expenses. They are addressed
27 and discussed below:

28

29

30

1 Labor Expense

2 **Q. Please explain your first adjustment to Labor Expense?**

3 **A.** My first adjustment is to the use of a Vacancy Rate Ratio that I previously use to
4 adjustment the Company's Labor Expense. My reasonings is a discussed
5 previously. I am carrying over the portion allocated to the A&G Expense category
6 from my Schedule DM-21 that included my inclusion of a vacancy rate ratio of
7 11.58%. That reduces the Company's Labor Expense by \$74,901. My next
8 adjustment is to the Company's Incentive Compensation. As I previously discuss
9 the reasoning for my disallowance, I am recommending a reduction of \$142,246.
10 My next adjustment is to the Company's Bonuses and Commissions. As I
11 previously discussed my recommended disallowance, I am carrying over the
12 portion that is allocated to the Sales expense category of \$417,440. My total
13 disallowance to the Company's A&G Labor Expenses is \$634,587. This is shown
14 on my Schedule DM-16

15 Benefits

16 **Q. What did the Company propose with respect to its Employee Benefits?**

17 **A.** The Company proposed total Employee Benefits of \$2,874,852 as shown on
18 Statement G Schedule G-1 page 5 and 9. These costs consists of medical/dental
19 insurance, pension, post-retirement, 401K, and workers compensation. The
20 Company stated that each of these items were adjusted individually.
21 Medical/dental expenses reflect an increase of 13.00% for 2023 and 2024.
22 Pension and Post-retirement expenses were based upon 2023 Actuarial
23 estimates. Projected 401K, workers compensation and other expenses reflected
24 the straight time labor increases of 4.07% for 2023 and 5.32% for 2024. (Ms.
25 Vesey testimony page 9).

26 **Q. What adjustments do you have with regard to the Company's Benefits**
27 **Expense?**

28 **A.** As I previously discussed in my testimony related to the adjustments for each of
29 the Company's Benefits categories, and the reasoning for such adjustments, I am

1 recommending a reduction of \$673,900 or a balance of \$2,200,952. This is shown
2 on my Schedule DM-17.

3 Subcontract Labor

4 **Q. What is your next adjustment to the Company's A&G Expenses?**

5 **A.** My next adjustment is to the Company's Subcontract Labor in the amount of
6 \$435,677, shown on Company Statement G Schedule G-1, page 10. Included in
7 that amount is an inflation factor of 4.10% in 2023 and 2.38% in 2024. As I
8 previously discussed, these types of increases are not known and measurable and
9 do not reflect the true costs of doing business I am removing these inflation
10 adjustments from the Company's proposed Subcontract labor. which amounts to
11 a balance of \$388,775 or a reduction of \$46,902. My adjustment is shown on my
12 Schedule DM-17.

13 Materials

14 **Q. What is your next adjustment to the Company's A&G Expenses?**

15 **A.** My next adjustment is to the Company's Materials Expense in the amount of
16 \$28,247, shown on Company Statement G Schedule G-1, page 11. Included in
17 this cost is a 4.10% inflation increase in 2023 and an additional 2.38% inflation
18 increase in 2024.

19 **Q. What is your recommendation?**

20 **A.** I am recommending disallowance the 4.10% inflation increase in 2023 and 2.38%
21 inflation increase in 2024 or a reduction of \$1,744 from the Company expense, as
22 these proposed inflation adjustments are not a known and measurable cost
23 increase, but a blanket increase with no known specific increases to the Materials
24 Expense. My recommendation is shown on my Schedule DM-17.

25

26

27

1 Vehicles and Work Equipment

2 **Q. What has the Company propose with respect to its Vehicle and Work**
3 **Equipment within its A&G Expenses?**

4 **A.** The Company has included a total expense related to its Vehicles and Work
5 Equipment of \$50,355, shown on Company Statement G Schedule G-1, page 12.
6 As I explained earlier,

7 **Q. What is your recommendation?**

8 **A.** As the Company stated that this increase was due to the expenses associated with
9 the Company vehicles and equipment including cost of fuels, insurance,
10 maintenance and depreciation expenses. The depreciation expense on these
11 items is charged to a clearing account where it is then recorded in O&M expenses
12 or capitalized as part of a project as the vehicle or work equipment is used. I
13 adjusted the Vehicles and Work Equipment Expenses by averaging the 2022-2024
14 costs. My three-year average produces an adjustment of \$5,826, and a 2024
15 balance of \$44,529 and is shown on my Schedule DM-17.

16 Postage

17 **Q. What has the Company proposed with respect to Postage?**

18 **A.** The Company proposed a balance to its Postage expense of \$54,493. The
19 Company stated that a 13.18% inflation in 2023 and in 2024 was included in the
20 development of this expense, partially offset by electronic billing savings for the
21 twelve months ending December 31, 2022. (Ms. Vesey testimony page 12).

22 **Q. What is your recommendation?**

23 **A.** I am recommending disallowing the Company's proposed 13.28% increase. I
24 believe this is an inflation adjustment in which the Company has not provided any
25 evidence to support it. Also, the Company's 2022-2024 balance for Postage
26 reflects the same \$54,493, so it is not clear how the Company developed this
27 balance in the 2024 test year period. Therefore, I am recommending disallowance

1 of the Company 2023 2.38% inflation adjustment or a reduction of \$1,267 for
2 Postage expense in 2024. My recommendation is shown on my Schedule DM-17.

3
4 Software Maintenance

5 **Q. What has the Company proposed with respect to its Software Maintenance**
6 **in its A&G Expenses?**

7 **A.** The Company proposed a Software Maintenance level of \$1,311,987, shown on
8 Statement G Schedule G-1 page 16. Included in that amount is a 2.38% inflation
9 increase in 2024. This balance includes new 2024 Software Maintenance
10 expenses.

11 **Q. What is your recommendation?**

12 **A.** I am recommending disallowing the 2.38% inflation increase in 2024 as these
13 proposed inflation adjustments are not a known and measurable cost increase, but
14 a blanket increase with no known specific increases. This reduces the Company's
15 balance by \$30,499. This is shown on my Schedule DM-17.

16
17 Rent Expense

18 **Q. What has the Company proposed regarding its Rent Expense within its A&G**
19 **Expenses?**

20 **A.** The Company proposed a Rent Expense of \$1,018,250, shown on Statement G
21 Schedule G-1 page 23. The Company stated that its balance reflects the projected
22 level of increase in rent. The projected 2023 reflects an adjustment for increases
23 in additional building lease as well as a change to the treatment of printer rentals.
24 These expense increase are also related to North Dakota's allocation of shared
25 software. Projection for 2024 reflect a lease extension resulting in a higher rental
26 cost. (Ms. Vesey testimony page 13).

1 **Q. What did the Company provide to support its Rent Expense?**

2 **A.** The Company provided information in response to NDPSC-3-29 reflecting lease
3 agreements related to a leasing facility in Bismarck, ND. The Leasing reflect a
4 monthly agreement of \$6,697.86 per month or \$80,374.32 annually. In response
5 to NDPSC-3-59, the Company stated that the Company built and owned a
6 shop/warehouse (building) that was located on Government land at the Minot Air
7 Force base (MAFB). In 2022 the Company agreed to give the building to MAFB in
8 exchange for using space in another MAFB owned building for thirty years
9 beginning in 2023. The Company accounted for this exchange as an operating
10 lease. The Company retired the original fixed asset and used a fair market value
11 of what a similar building would cost to lease. The Company calculated the present
12 value of the future lease payments on the other MAFB building and recorded that
13 as salvage value of the retired building, which became the total amount of lease
14 payments, which were used as monthly lease payments beginning in January
15 2023. This is the additional building lease expense referred to on Company
16 Statement G Schedule G-1 page 23 of 25.

17 **Q. What is your recommendation?**

18 **A.** I did not see any evidence or information that supported the Company's remaining
19 Rent Expense adjustments and increases from the per books balance of \$760,326
20 in 2022, the balance in 2023 of \$1,012,668 and the 2024 balance of \$1,018,250.
21 Given this situation, I am recommending normalizing the Rent Expense over three
22 years to arrive at a balance of \$930,415, or a reduction of \$87,835. This is shown
23 on my Schedule DM-17.

24 Advertising

25 **Q. What has the Company proposed with respect to its Advertising Expense?**

26 **A.** The Company proposed total Advertising Expense in the amount of \$33,370 as
27 shown on Statement G Schedule G-1 page 17. As stated previously, the Company
28 eliminated the promotional advertising expenses and advertising expenses not
29 applicable to North Dakota gas operations. (Ms. Vesey testimony page 12).

1 **Q. What is your recommendation?**

2 **A.** I am disallowing the 2.38% inflation adjustment projected in 2024 or a reduction of
3 \$776. My reasoning for disallowance of inflation adjustments are as previously
4 discussed earlier in my testimony. In reviewing the Company's Advertising
5 expenses as shown on Company Workpaper Statement G Schedule G-1
6 beginning on page 46, the Company eliminated promotional advertising expenses
7 and advertising expenses not applicable to the North Dakota gas operations. My
8 adjustment is a reduction of \$776 as shown on my Schedule DM-17.

9 Industry Dues

10 **Q. What has the Company proposed with respect to its Industry Dues?**

11 **A.** The Company proposed total Industry Dues of \$81,249 as shown on Statement G,
12 Schedule G-1 page 20.

13 **Q. What are your adjustments?**

14 **A.** In reviewing Company Statement G Schedule G-1, pages 18-20, there are many
15 entries that do not particularly relate to gas service operations in North Dakota.
16 Some of the entries that I believe do not reflect or provide a benefit to natural gas
17 ratepayers are as follows:

- 18 • Bismarck-Mandan Convention - \$284
- 19 • Bismarck-Mandan Home Builders - \$204
- 20 • Cavalier Retail Committee - \$150
- 21 • Downtown Bismarck Community - \$3,400
- 22 • Downtown Business Association of Bismarck - \$1,131
- 23 • Economic Development Association of ND - \$275
- 24 • Jamestown Downtown Association - \$450
- 25 • Mandan Progress Organization - \$48
- 26 • Minot Association of Builders - \$425
- 27 • North Dakota Petroleum Council - \$106
- 28 • New England Lions Club- \$43

- 1 • Stark Development Corporation - \$135
- 2 • Valley City- Barnes County - \$1,580
- 3 • Various Chambers of Commerce - \$9,160
- 4 • Various Business and Rotary Clubs - \$853
- 5 • West Associates - \$177
- 6 • Western Area Buildings Association - \$26
- 7 • Williston Area Builders Associates - \$425

8 These Industry Dues amount to \$18,872 I believe these sort of Industries Dues
9 related to chambers of commerce, civic donations, social and fraternal
10 organizations, and state and local donations that do not provide customer oriented
11 benefits in the provision of gas service to ratepayers. My adjustment reduces the
12 Company's Industry Dues to \$62,377 and is shown on my Schedule DM-17.

13 Insurance Expense

14 **Q. What has the Company proposed regarding its Insurance Expense?**

15 **A.** The Company has proposed a level of Insurance Expense of \$1,084,845 as
16 shown on Company Statement G Schedule G-1 page 21. The Company has
17 included various costs increases based upon risk management and market
18 analysis. (Ms. Vesey testimony page 12).

19 **Q. What is your recommendation?**

20 **A.** In reviewing the Company's Workpaper Statement G Schedule G-1 page 21, the
21 Company projected estimated increases from 5.00% to 20.00% on various
22 premium adjustments to its Insurance Coverages. In response to NDPSC-3-57,
23 the Company provided a schedule of Insurance Premiums invoices. In Company
24 Workpaper Statement G page 68, the Company reflected the premium
25 reconciliation on certain coverage costs. The Company stated that the projected
26 increases for 2024 were based upon risk management market analysis of
27 estimated increases in 2024. Given that there has been no formal or written
28 notification from its Insurance providers, I am recommending that these estimated
29 cost increases be disallowed. I am recommending that these costs be kept at 2023

1 current levels or \$956,167. This reduces the Company's expense by \$128,678.
2 My recommendation is shown on my Schedule DM-17.

3 All Other O&M Expenses

4 **Q. What has the Company proposed with respect to its All Other O&M Expenses**
5 **within its A&G Expense category?**

6 **A.** The Company has proposed total All Other O&M Expenses of \$1,165,125 as
7 shown on Company Statement G Schedule G-1 page 25. Included in this amount
8 are inflation increases of 4.10% in 2023 and 2.38% inflation increases in 2024.

9 **Q. What is your recommendation?**

10 **A.** My recommendation is to remove the 4.10% inflation increase in 2023 and 2.38%
11 inflation increase in 2024. My arguments for removal of the inflation adjustment
12 has been stated previously in my testimony. This reduces the Company's expense
13 from \$1,165,125 to \$1,093,218 or \$71,907. My adjustment is shown on my
14 Schedule DM-17.

15 Aircraft Expenses

16 **Q. Did the Company propose or address any adjustments to Aircraft Expenses?**

17 **A.** Yes. In response to Data Request No. 3-13, the Company provided expenses
18 related to aircraft used by employees to travel within its service territory that may
19 not be readily accessible using commercial air travel or when a number of
20 employees utilize the plane to one location.

21 **Q. How much is allocated to MDU-North Dakota Gas?**

22 **Q.** In response to Data Request No. 3-13, approximately \$10,765 of expenses are for
23 Corporate Aircraft. This balance is included in the Company's All Other O&M
24 Expense.

25 **Q. What recommendations do you have with regard to Aircraft Expenses?**

26 **A.** In the same manner as I recommended removal of Rate Base assets related to
27 Aircraft, I am recommending removal of the associated expenses of \$10,765.

1 **Q. What are your total adjustments to the Company's A&G Expenses?**

2 **A.** My total adjustments is a reduction of \$1,713,550 as shown on my Schedule DM-
3 17.

4 C. Depreciation & Amortization

5 **Q. What has the Company proposed regarding its Depreciation & Amortization**
6 **Expense?**

7 **A.** The Company proposed Projected 2025 Depreciation Expense of \$13,076,262 as
8 shown on Company Statement H, page 1. The Company computed its
9 Depreciation Expense based on a Depreciation Study conducted by Concentric
10 Advisors (Mr. Kennedy's testimony page 1). The Company provided a breakdown
11 of its Depreciation & Amortization Expense as follows:

12	• Transmission	\$ 38,157
13	• Distribution	\$9,642,948
14	• General	\$ 472,524
15	• General Intangible	\$ 566,581
16	• Common	\$ 894,295
17	• Common Intangible	\$1,432,515
18	• Amort. Of Preferred Stock Cost	\$ 3,978
19	• Amort. Of (Gain)/Loss on Building	\$ 22,443
20	• Acquisition Adjustment	<u>\$ 2,821</u>
21	Total	\$13,076,262

22 **Q. What are the Depreciation Rates that the Company is proposing in this**
23 **Filing?**

24 **A.** The Company is proposing to use the following composite Depreciation Rates as
25 outlined in on Company Statement H Schedule H-2 page 4 of 8.

26

27 **Q. What changes do you have regarding the Company's proposed Depreciation**
28 **Expense?**

29 **A.** I am accepting the Company's Depreciation Study, and the related Depreciation
30 Rates that are included in the development of the Depreciation Expense balance.
31 My adjustments are related to my adjustments to the Company's Plant in Service

1 additions (Schedule DM-5) that related to my adjustments to certain of the
2 Company's plant additions in Distribution, General and Common categories. My
3 total adjustments to the Company Depreciation Expense is a reduction of \$210,122
4 as shown on my Schedule DM-18.

5 D. Taxes Other Than Income

6 **Q. What has the Company proposed regarding its Taxes Other Than Income?**

7 **A.** The Company proposed total Taxes Other Than Income of \$3,073,189 as shown
8 on Company Statement I, page 1. The Company provided a breakdown of its
9 Taxes Other Than Income Taxes as follows:

10	• Ad Valorem Taxes	\$2,030,312
11	• Payroll Taxes	\$1,030,465
12	• Delaware Franchise	\$ 10,647
13	• Other	<u>\$ 1,765</u>
14	Total	<u>\$3,073,189</u>

15 The Company calculated its Ad Valorem Taxes using the Projected 2023 and 2024
16 plant in service balances and applying a projected tax rate based on the ratio of
17 2022 Ad Valorem Taxes to average plant balances, as of December 31, 2022, by
18 function. (Ms. Vesey testimony page 14).

19 The Company calculated its Payroll Taxes based upon the ratio of payroll taxes to
20 labor expense for 2022 and applying that rate to the projected 2023 and 2024 labor
21 expense. All other Taxes Other Than Income were projected to remain at 2022
22 levels. (Ms. Vesey Testimony page 13-14).

23
24 **Q. What are your changes with respect to the Company's Taxes Other than**
25 **Income?**

26 **A.** I have two changes to the Company's Taxes Other than Income. My first
27 adjustment is to the Company's Ad Valorem Tax. Since I made adjustments to the
28 Company's Plant Balance, I am making adjustments to the Company's Ad Valorem

1 Taxes related to its Distribution, General Plant and Common Plant. I accepted the
2 Company's Tax Rates. My adjustments total a reduction of \$26,198.

3 **Q. What is your next adjustment?**

4 **A.** My next adjustment is to the Company's Payroll Taxes. Since I made adjustments
5 to the Company's Bonus and Commission costs, Incentive Compensation, and the
6 use of a vacancy rate ratio, I am making adjustments to the payroll taxes
7 associated with these costs. I accepted the Company's 6.74% tax rate. My
8 adjustments calculate to a reduction of \$173,967 and are shown on my Schedule
9 DM-19.

10 **Q. What are your total adjustments to the Company's Taxes Other Than**
11 **Income?**

12 **A.** My total adjustments is a reduction of \$200,165 as shown on my Schedule DM-
13 19.

14 E. Income Taxes

15 **Q. What has the Company proposed regarding its calculation of its Income**
16 **Taxes?**

17 **A.** As shown on Company Statement J, page 1, the Company computed its Income
18 Taxes at present rate revenue (before additional proposed revenue requirements)
19 of \$197,338. Under the proposed revenue requirement increase of \$11,635,044
20 the Company calculated Income Taxes of \$3,036,859. The Company has
21 calculated interest expense based upon the projected Rate Base and the projected
22 debt ratio and weighted cost of debt (\$216,970,104 x 2.070%) to compute a level
23 of interest expense of \$4,977,294. (Company Statement J Schedule J-1 page 1).
24 The Company also included excess deferred income taxes related to the use of
25 the average rate assumption method (ARAM) in the amount of \$602,506. The
26 Company stated that North Dakota federal and state income taxes are fully
27 normalized so the calculation of income taxes are made on the taxable income
28 after interest, since any tax deductions would be fully offset by deferred income
29 taxes. (Ms. Vesey testimony page 15).

1 **Q. Do you agree with the methodology the Company used to compute its**
2 **Federal and State Income Taxes?**

3 **A.** Yes, I agree with the Company's methodology used to compute its Federal and
4 State Income Taxes, and the Combined Federal and State Tax Rate of 24.4049%.
5 What I am adjusting is my recommended Gross Operating Income based upon my
6 changes to the Company's Operating Revenues and Operating Expenses.

7 **Q. What is your recommended Federal and State Income Tax Expense?**

8 **A.** My recommended Federal and State Income Tax Expense is \$1,385,780, which is
9 \$1,651,079 lower than the Company's level of \$3,036,859 and is shown on my
10 Schedule DM-20. My recommended Federal and State Income Taxes includes the
11 Company's ARAM adjustment of \$602,506.

12 **Q. Does this conclude your testimony?**

13 **A.** Yes, it does. I reserve the right to update my testimony once the Company has
14 updated its filing.

15

PCMG and Associates LLC

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 – Snavely King Majoros and Associates	2013 – 2014
Independent Consultant	2012 – 2013
Bureau Chief/Administrative Analyst/Accountant – New Jersey Board of Public Utilities	1983 – 2011

Professional Experience

Mr. Mugrace has 35 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; 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

PCMG and Associates LLC

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 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), National Association of State Utility Consumer Advocates (NASUCA)

References

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

Victor Schock, Director- Advocacy Staff
North Dakota Public Service Commission
State Capital Building
600 East Boulevard, Dept. 408
Bismarck, ND 58505-0480
(701) 328-2400
Vschock@nd.gov

Susan McClure, Esq.
Managing Attorney, Water
NJ Division of Rate Counsel
140 East Front Street, 4th Floor
Trenton, NJ 08625
(609) 984-1460
smcclure@rpa.nj.gov

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

PCMG and Associates LLC

Jeanne M. Fox, Esq.
Former NJ BPU President
(973) 271-0500
Jeannefox1@aol.com

Michael Kammer, Director, Water Division
New Jersey Board of Public Utilities
44 South Clinton Avenue, 9th Floor
Trenton, NJ 08625
(609) 292-2422
Mike.Kammer@bpu.nj.gov

Connie Hughes
Former NJ BPU President/Commissioner
(609) 366-3421
Co.hughes47@gmail.com

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

Michael Schuler, Esq.
Office of the Ohio Consumer Counsel
10 West Broad Street, Suite 1800
Columbus, OH 43215-3485
(614) 466-9547
Michael.Schuler@occ.ohio.gov

Brian Weeks, Esq.
NJ Division of Rate Counsel
140 East Front Street, 4th Floor
Trenton, NJ 08625
(609) 984-1460
bweeks@rpa.nj.gov

PCMG and Associates LLC

Regulatory Projects and Appearances

1. In Re: Northern States Power Company for Approval of a 2024 Natural Gas Rate Increase. (Appearance: Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff).
North Dakota Public Service Commission – Docket No. PU-23-367.
2. In Re: FirstEnergy Pennsylvania Electric Company for Approval of a General Base Rate Case increase for Electric Distribution rates for service. (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2024-3047068
3. In Re: Duquesne Light Company for Approval of a General Base Rate Case to increase Electric Distribution rates for service. (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No.- R-2024-3046523
4. In Re: Peoples Natural Gas Company, LLC for Approval of a General Base Rate Case increases in Natural Gas Service. (Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2023-3044549
5. In Re: Black Hills Energy Arkansas, Inc. (BHEA) and Summit Utilities Arkansas, Inc. (SUA) for a General Change, or Modification in its Rates, Charges and Tariffs (Appearance: Incentive Compensation Proposals on behalf of the Attorney General Office) Arkansas Public Service Commission – Docket No. (BHEA) - 23-074-U and Docket No. (SUA) - 23-079-U.
6. In Re: Montana Dakota Utilities Co. for Approval to increase Gas Rates for Natural Gas Service in North Dakota (Appearance- Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission – Docket No. PU-23-341
7. In Re: Otter Tail Power Company for Approval to increase Electric Rates in North Dakota. (Appearance: Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission – Docket No. PU-23-342
8. In Re: New Jersey-American Water Company for Approval to change the level of its Purchased Water and Purchased Wastewater Treatment Adjustment Clause for 2023. (Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)

PCMG and Associates LLC

New Jersey Board of Public Utilities – Docket No. WR23110791

9. In Re: Verified Petition of Jersey Central Power & Light Company to establish a Rate for Rider Lost Revenue Adjustment Mechanism for Sales Losses incurred during Program Year 2 Pursuant to the Energy Efficiency and Peak Demand Reductions Programs (PY Rider LRAM Filing).
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23110865
10. In Re: Fitchburg Gas & Electric Company; The Berkshire Gas Company; Boston Gas Company d/b/a National Grid; Liberty Utilities; Eversource Gas of Massachusetts d/b/a Eversource Energy and; NSTAR Gas Company d/b/a Eversource Energy – 2023 Gas System Enhancement Program Plan Filings. (DPU GSEP-01; DPU GSEP-02; DPU GSEP-03; DPU GSEP-04; DPU GSEP-05; and DPU GSEP-06, respectively)
(Appearance: Accounting Issues on behalf of the Commonwealth of Massachusetts Office of the Attorney General)
Department of Public Utilities
11. In Re: Northern States Power Company – Advance Determination of Prudence – 345 kV Transmission Line – MN.
(Appearance: Accounting Issues and Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff.
North Dakota Public Service Commission – Docket No. PU-23-142.
12. In Re: Northern States Power Company – Advance Determination of Prudence- Brookings Second Circuit Project.
(Appearance: Accounting Issues and Revenue Requirement on behalf of the North Dakota Public Service Commission Advocacy Staff.
North Dakota Public Service Commission – Docket No. PU-23-295.
13. In Re: Northern States Power Company – Advance Determination of Prudence – 345 kV Big Stone to Sherburne.
(Appearance: Accounting Issues and Revenue Requirements on behalf of the North Dakota Public Service Commission Advocacy Staff.
North Dakota Public Service Commission – Docket No. PU-23-329.
14. In Re: Rockland Electric Company – Annual Conservation Incentive Program Filing – Reconciliation for the period July 1, 2022 – June 30, 2023.
(Appearance: Accounting Issues on behalf the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070471
15. In Re: Public Service Electric & Gas Company for Approval of Incremental COVID-19 Costs for Recovery through a New Special Purpose Clause and for Authorization to Recovery Uncollectible Costs for Gas Through the Societal Benefits Charge
16. (Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070448

PCMG and Associates LLC

17. In Re: Jersey Central Power & Light Company's Verified Petition Seeking Review and Approval of the Net Deferred Costs Included in its COVID-19 Regulatory Asset and Establishment of a COVID-19 Recovery Charge (JCP&L CRC-Filing)
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070453.
18. In Re: Aqua New Jersey, Inc. Petition for 2024 PSTAC Rate and True-up for 2021 and 2022 PSTAC.
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR23080576
19. In Re: Public Service Electric & Gas Company for Approval of Changes in its Electric Tax Adjustment Credit and Gas Tax Adjustment Credit 2023 (2023 TAC Filing)
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23090634 and GR23090635
20. In Re: New Jersey – American Water Company for Deferral Accounting Authority for the Costs of Implementing the Clean Energy Act of 2018 Benchmarking Requirements.
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WF23060346
21. In Re: Public Service Electric & Gas Company – Annual BGSS (2023-2024) Commodity Charge Filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for Changes in its Balancing Charge Rate.
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR23060331
22. In Re: Public Service Electric & Gas Company – Electric and Gas Green Programs Recovery Charges 2023. (GPRC).
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23070423 and GR23070424
23. In Re: Public Service Electric & Gas Company – Electric Solar Pilot Recovery Charge (SPRC) for its Solar Loan I Program (2023).
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER23060412
24. In Re: Middlesex Water Company for approval of Proposed Cost Recovery of Lead Service Line Replacement Program
(Appearance: Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR23050291
25. In Re: Black Hills Wyoming Gas, LLC d/b/a Black Hills Energy for Approval of a General Rate Increase of \$19,262,412 to the Retail Gas Rates.

PCMG and Associates LLC

(Appearance: Revenue Requirement on behalf of the Wyoming Office of Consumer Advocate)
Wyoming Public Service Commission – Docket No. 30026-78-GR-23

26. In Re: Pittsburgh Water and Sewer Authority for an Increase in Rates for Water Service, Wastewater Service and Stormwater Service
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2023-3039920 (water), R-2023-3039921 (wastewater), and R-2023-3039919 (stormwater)
27. In Re: Massachusetts Electric and Nantucket Electric Companies d/b/a National Grid – Request for recovery of Incremental Storm related expenses associated with fourteen weather events between February 2020 and December 2020.
(Appearance: Storm Cost recovery (Operating and Maintenance Expenses) on behalf of the Massachusetts Office of Attorney General.
Massachusetts Department of Public Utilities – DPU No. 22-43.
28. In Re: Philadelphia Gas Works – for approval of an Increase in rates for Distribution Gas Service for 2023
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2023-3037933
29. In Re: Lanai Water Company, Inc. for Review and Approval of Rate Increases, Revised Rate Schedules and Charges to its Tariff.
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2022-0233
30. In Re: Hawaii Water Service Company, Inc., For Approval of a General Rate Increase for Its Pukalani Wastewater Division and Certain Tariff Changes
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2022-0186
31. In Re: UGI Utilities – Electric Division for Review of an Electric Base Rate Case proceeding for 2023.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3037368
32. In Re: Southern Maryland Electric Cooperative, Inc. (SMECO) for Authority to Revise its Rates and Charges for Electric Service and Certain Rate Design Changes.
(Appearance: Revenue Requirement on behalf of the Maryland Office of People’s Counsel)

PCMG and Associates LLC

Maryland Public Service Commission – Case No. 9688

33. In Re: Public Service Electric and Gas Company – 2022 Electric and Gas Tax Adjustment Credit (TAC)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket Nos. ER22100667 and GR22100668
34. In Re: Public Service Electric and Gas Company – 2022 Green Program Recovery Charge.
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket Nos. ER22070413 and GR22070414
35. In Re: Rockland Electric Company – Annual Conservation Incentive Program Filing – Reconciliation for the Period July 1, 2021 – June 30, 2022.
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket No. ER22070469.
36. In Re: Atlantic City Electric Company for Implementation to its Conservation Incentive Program Rate Mechanism and Associated Customer Class Rate (2022)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket No. ER22070463
37. In Re: Public Service Electric and Gas Company – 2022/2023 Annual BGSS Commodity Charge filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for changes to its Balancing Charge.
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
NJ Board of Public Utilities – BPU Docket No. GR22060363
38. In Re: Citizens’ Electric Company of Lewisburg, PA – 2022 Base Rate Case Proceeding for an Increase in Electric Distribution Rates.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3032369
39. In Re: Valley Energy, Inc. – 2022 Base Rate Case for an Increase in Gas Distribution Rates.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3032300
40. In Re: Berkshire Gas Company – 2021 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General’s Office)
Massachusetts Department of Public Utilities – D.P.U. 22-GREC-02

PCMG and Associates LLC

41. In Re: Liberty Utilities (New England Natural Gas Company) 2021 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office)
Massachusetts Department of Public Utilities – D.P.U. 22-GREC-04
42. In Re: Eversource Gas Company (Eversource Energy) 2021 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Attorney General's Office)
Massachusetts Department of Public Utilities – D.P.U. 22-GREC-05
43. In Re: South Jersey Gas Company – 2022 Base Rate Case Proceeding for an Increase in rates for Distribution Gas Service.
(Appearance: Revenue Requirement, CWC and Consolidated Income Taxes on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GR22040253
44. In Re: Public Service Electric and Gas Company – 2022 Electric Conservation Incentive Program (CIP) for changes in its Electric CIP rate for 2022.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. ER22020035
45. In Re: PECO Energy Company-Gas Division – 2022 Base Rate Case Proceeding for an Increase in rates for Distribution Gas Service.
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3031113.
46. In Re: Nova Scotia Power Company- 2022-2024 General Rate Application for an Increase in Rates for Electric Service
(Appearance- Review of COSS – Subcontract with Synapse Energy Economics, Inc. on behalf of the Nova Scotia Utility Review Board)
Nova Scotia Utility and Review Board – Docket No. M10431
47. In Re: Georgia Power Company – 2022 Base Rate Case petition for an Increase in rates for Electric Distribution Service
(Appearance: Review of O&M Expenses for calendar years 2023-2025 on behalf of the Georgia Public Service Commission – Docket No. TBD)
48. In Re: UGI Utilities Inc, Gas Division – 2022 Base Rate Case petition for an Increase in Distribution Gas Service Rates
(Appearance: Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2022-3030218

PCMG and Associates LLC

49. In Re: Hawaii-American Water Company – Approval of Rate Increases and Revised Rate Schedules for Wastewater Services – 2021
(Appearances: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0063
50. In Re: Kalaheo Water Company – Approval of a General Rate Increase / Adjustments for Water and Wastewater Services – 2021
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0005
51. In Re: Northern States Power Company – 2021 Natural Gas Rate Increase Application
(Appearance: Revenue Requirements on behalf of the Advocacy Staff of the North Dakota Public Service Commission – Case No. PU-21-381)
52. In Re: Shore Water Company – Petition for an Increase in Rates for Water Service and Other Relief
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21091141
53. In Re: Atlantic City Sewerage Company – Petition for an Increase in Rates for Sewerage Service and other Tariff Changes
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21071006
54. In Re: Gordon’s Corner Water Company – Petition for an Increase in Rates and Charges for Water Service
(Appearance: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21070979
55. In Re: The Petition of HPBS Inc., for review and approval of Central Scheduling System (CSS) charge increase and revised CSS Schedule (2021)
(Appearance – Accounting and Revenue Requirement on behalf of the Hawaii Division of Commerce and Consumer Affairs)
Hawaii DCCA – Docket No. PTP-2021-001
56. In Re: The Berkshire Gas Company, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance – Massachusetts Attorney General’s Office – Accounting and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-02

PCMG and Associates LLC

57. In Re: Eversource Gas Company of Massachusetts d/b/a Eversource Energy, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance – Massachusetts Attorney General’s Office – Account and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-05
58. In Re: NSTAR Gas Company d/b/a Eversource Energy, 2020 Gas System Enhancement Program Reconciliation Filing
(Appearance: Massachusetts Attorney General’s Office – Accounting and Revenue Requirement)
Massachusetts Department of Public Utilities – DPU Docket No. 21-GREC-06
59. In Re: Joint Petition of New Jersey Natural Gas Company and Public Service Electric and Gas Company for Authorization and Approval of a Waiver of Certain Accounting Treatment Pursuant to the Clean Energy Order
(Appearance – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement.
New Jersey Board of Public Utilities – BPU Docket No. EO20030254
60. In Re: Public Service Electric and Gas Company – 2021/2022 Annual BGSS Commodity Charge Filing for its Residential Gas Customers under its Periodic Pricing Mechanism and for Changes in its Balance Charge.
(Appearance – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. GR21060878
61. In Re: Middlesex Water Company – Petition for Approval of an Increase in Rates for Water Service and Other Tariff Changes.
(Appearances – New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket No. WR21050813
62. In Re: New Jersey Natural Gas Company – Petition for an Increase in Gas Base Rates and Changes in its Tariff for Gas Service and for a Change to Depreciation Rates for Gas Property and for Approval of a Base Rate Adjustment Pursuant to the NJ RISE and SAFE II Programs.
(Appearances: New Jersey Division of Rate Counsel – Accounting and Revenue Requirement)
New Jersey Board of Public Utilities – BPU Docket Nos. GR21030679 and GR21030680.
63. In Re: PECO Energy Company – a division of Exelon Corp., for a General Base Rate Case Filing for Electric Operations
(Appearances: Accounting and Policy on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2021-3024601

PCMG and Associates LLC

64. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for Water, Wastewater and Stormwater services
(Appearance: Accounting and Policy, and Regulatory Policy on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2021-3024773 (Water) R-2021-3024774 (Wastewater) and R-2021-3024779 (Stormwater).
65. In Re: Northern States Power Company – 2021 Electric Base Rate Case Increase
(Appearance: Revenue Requirement on behalf of the Advocacy Staff of the North Dakota Public Service Commission)
North Dakota Public Service Commission – Case No. PUC-20-441
66. In Re: Public Service Electric and Gas Company – Approval of a Tax Adjustment Clause (TAC).
(Appearance; Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20100685 and GR20100686.
67. In Re: Pike County Light and Power Company – Approval to increase base rates for Electric and Gas Service.
(Appearance: Revenue Requirement in behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3022134 (Gas) and R-2020-3022135 (Electric)
68. In Re: Jersey Central Power and Light Company for Approval of JCP&L’s Energy Efficiency and Conservation Plan Including Energy Efficiency and Peak Demand Reduction Programs.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090620
69. In Re: Atlantic City Electric Company for Approval of an Energy Efficiency Program, Cost Recovery Mechanism, and Other Related Relief for Plan Years One Through Three.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090621
70. In Re: Rockland Electric Company for Approval of Its Energy Efficiency and Peak Demand Reduction Programs.
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. QO19010040 and EO20090623
71. In Re: Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charge and its Gas Green Programs Recovery Charge 2020 PSE&G Green Programs Cost Recovery filing

PCMG and Associates LLC

(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER20060467 and GR20060468

72. In Re: Public Service Electric and Gas Company's 2020/2021 Annual BGSS Commodity Charge filing for its Residential Gas Customers under its Pricing Mechanism and for Changes in its Balance Charge
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060379
73. In Re: Public Service Electric and Gas Company's 2020 Annual Margin Adjustment Clause (MAC)
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060384
74. In Re: South Jersey Gas Company for Approval to Revise the Rider H Rate Associated with the Tax Cuts and Jobs Act of 2017
(Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR20060382
75. In Re: Berkshire Gas Company -2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts -Department of Public Utilities – DPU 20-GREC-02
76. In Re: Bay States Gas Company d/b/a Columbia Gas – 2019 Gas System Enhancement Program Reconciliation Filing.
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-05
77. In Re: NSTAR Gas Company – 2019 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts – Department of Public Utilities – DPU 20-GREC-06
78. In Re: South Jersey Gas Company for Approval of Increased Base Tariff Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearances: Revenue Requirement and Cash Working Capital) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. GR20030243
79. In Re: Jersey Central Power & Light Company for Review and Approval of Increased in, and Other Adjustments to Rates and Charges for Electric Services and approval of Other Proposed Tariff Revisions (Appearance: Revenue Requirement, Cash Working Capital,

PCMG and Associates LLC

Consolidated Income Taxes, LED Conversion and Reliability Roll-In) on behalf of the New Jersey Division of Rate Counsel.
New Jersey Board of Public Utilities – Docket No. ER20020146

80. In Re: The Pittsburgh Water and Sewer Authority for approval of increased rates and charges for water and wastewater service and for approval of a multi-year rate plan. (Appearance: Accounting and Policy, Customer Service and Regulatory Policy) on behalf of the Pennsylvania Office of the Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3017951 and R-2020-3017970.
81. In Re: New Jersey-American Water Company, Inc. for approval of Increased Base Tariff Rates and Charges for Water and Wastewater Services and Other Tariff Revisions. (Appearance: Accounting and Revenue Requirement and Cash Working Capital / Consolidated Income Taxes) on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19121516
82. In Re: Hawaiian Electric Company, Inc., for approval of a General Rate Increase and Revised Rate Schedules and Rules. (Appearance: Accounting and Revenue Requirement on behalf of the Hawaiian Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0085
83. In Re: Mount Olive Villages Water Company for approval of an Increase in Rates for Water Service and Other Tariff Changes. (Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060770
84. In Re: Mount Olive Villages Sewer Company for approval of an Increase in Rates for Sewer Service and Other Tariff Changes. (Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. WR19060769
85. In Re: Public Service Electric and Gas Company for approval of changes in its Electric Green Programs Recovery and its Gas Green Programs Recovery Charge (2019 PSE&G Green Programs Cost Recovery Filing). (Appearance: Accounting and Consulting Services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket Nos. ER19070764 and GR19070765
86. In Re: Proposed Amendment to N.J.A.C. 14:9- Adoption by reference to the Uniform System of Accounts for Water Utilities and Wastewater Utilities. (Appearance: Consulting Services on behalf of the New Jersey Division of Rate Counsel)

PCMG and Associates LLC

New Jersey Board of Public Utilities- Docket Nos. WX19050612 (Water) and WX19050613 (Wastewater)

87. In Re: Public Service Electric and Gas Company's 2019/2020 Annual BGSS Commodity Charge filing for its Residential Gas Customers Under its Periodic Pricing Mechanism and for Changes in its Balancing Charge.
(Appearance: Revenue Requirement and accounting/consulting services on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR190600699
88. In Re: Bay States Gas Company d/b/a Columbia Gas of Massachusetts for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-05
89. In Re: NSTAR Gas Company d/b/a Eversource Energy for Approval of a 2018 Gas System Enhancement Program Reconciliation Filing
(Appearance: Revenue Requirement on behalf of the Massachusetts Office of the Attorney General)
Commonwealth of Massachusetts Department of Public Utilities – Docket No. 19-GREC-06
90. In Re: Public Service Electric and Gas Company for Approval of Gas Rate Base Adjustments Pursuant to its Gas System Modernization Program (April 2019 GSMP)
(Appearance: Revenue Requirement on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – Docket No. GR19040522
91. In Re: Kalaeloa Water Company, LLC for Approval of General Rate Case and Revised Rules, Regulations and Rates.
(Appearance: Revenue Requirement on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Utilities Commission – Docket No. 2019-0057
92. In Re: Elizabethtown Gas Company for Approval of an Increase in Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the New Jersey Division of Rate Counsel).
New Jersey Board of Public Utilities – Docket No. GR19040586
93. In Re: Petition of Peoples Natural Gas Company for Approval of an Increase in Rates for Natural Gas Distribution Service.
(Appearance: Revenue Requirement and Other Accounting Issues on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2018-3006818

PCMG and Associates LLC

94. In Re: Petition of Aqua New Jersey, Inc. for Approval of an Increase in Rates for Water Service and other Tariff Changes.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WR18121351
95. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Efficiency (CEF-EE) Program on a Regulated Basis.
(Appearance: Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket Nos. GO18101112 and EO18101113.
96. In Re: Petition of Public Service Electric and Gas Company for Approval of its Clean Energy Future – Energy Vehicle and Energy Storage (CEF-EVES) Program on a Regulated Basis. (Appearance – Revenue Requirement and other Accounting Issues on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. EO18101111.
97. In Re: Petition of New Jersey Natural Gas Company- Request for Deferred Accounting Authority for Costs Related to New Information Technology Systems. (Appearance: Impact on Revenues, prudence of costs on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. GR18101096
98. In Re: Petition for Approval of An Indirect Change in Control of the New Jersey Public Utilities Subsidiaries of SUEZ Water Resources, Inc. and Other Related Approvals.
(Appearance: Impact on Rates, Service, Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18090982
99. In Re: The Matter of the Merger of Roxbury Water Company into New Jersey American Water Company (Appearance: Impact on Rates, Service and Employees, Positive Benefits on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities – BPU Docket No. WM18080904
100. In Re: The Matter of the Application of Maryland-American Water Company for Authorization to Adjust its Existing Schedule of Tariffs and Rates.
(Appearance: Revenue Requirement on behalf of the Maryland Office of People’s Counsel)
Maryland Public Service Commission – Case No. 9487
101. In Re: The Matter of the Joint Petition for Approval of an Increase in Rates for Water and Wastewater Service and Other Tariff Changes for SUEZ Water NJ, Inc., Toms River, Inc., Arlington Hill, Inc., West Milford, Inc., Matchaponix, Inc., and Princeton Meadows, Inc.

PCMG and Associates LLC

(Appearance: Revenue Requirement and the development of Consolidated Income Taxes on behalf of the NJ Division of Rate Counsel)

New Jersey Board of Public Utilities – BPU Docket No. WR18050593

102. In Re: The Matter of the Application of Atlantic City Electric Company to Adjust the Level of its Rider RGGI Rate Associated with its Solar Renewable Energy Certificate Financing Program 2018 (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)

New Jersey Board of Public Utilities – BPU Docket No. ER18050543

103. In Re: The Matter of the Petition of New Jersey Natural Gas Company's Approval of the Cost Recovery Associated with Energy Efficiency Programs (Appearance; Revenue Requirement on behalf of the NJ Division of Rate Counsel)

New Jersey Board of Public Utilities – BPU Docket No, GR18050585

104. In Re: The Matter of Bay States Gas Company d/b/a Columbia Gas of Massachusetts, 2017 Gas System Enhancement 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. 18-GREC-05.

105. In Re; The Matter of NSTAR Gas Company d/b/a Eversource Energy, 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. 18-GREC-06.

106. In Re: The Matter of the Merger of SUEZ Water NJ, SUEZ Water Toms River, SUEZ Water Arlington Hills, SUEZ Water West Milford, SUEZ Water Princeton Meadows and SUEZ Water Matchaponix (Appearance: Positive Benefits related to the Merger on behalf of the NJ Division of Rate Counsel)

New Jersey Board of Public Utilities – BPU Docket No. WR18030266

107. In Re: The Matter of the Columbia Gas of Pennsylvania for a General Rate Increase in Distribution Gas Service (Appearance; Accounting Issues and Revenue Requirement on behalf of the Pennsylvania Office of Consumer Advocate)

Pennsylvania Public Utility Commission – Docket No. R-2018-2647577

108. In Re: The Matter of the New Jersey Board of Public Utilities Consideration of the Tax Cuts and Jobs Act of 2017 – Generic Proceeding (Appearance: Revenue Requirement on behalf of the NJ Division of Rate Counsel)

New Jersey Board of Public Utilities – BPU Docket No. AX18010001

109. In Re: Acquisition of Elizabethtown Gas, a Division of Pivotal Utilities Holdings, Inc. by ETG Acquisition Corp., a Division of South Jersey Industries, Inc., and Related

PCMG and Associates LLC

Transactions. (Appearance: Customer Service Issues/Employee and Labor Relations on behalf of the NJ Division of Rate Counsel)

New Jersey Board of Public Utilities – BPU Docket No. GM17121309.

110. In Re: Middlesex Water Company – Base Rate Case Proceeding for Water Service. (Appearance: revenue requirement on behalf of the NJ Division of Rate Counsel).
New Jersey Board of Public Utilities – BPU Docket No. WR17101049.
111. In Re: Township of East Brunswick – Sewer Rate Study – (Evaluation of the existing sewer rate structure and examining and quantify costs for future expansion).
112. In Re: Montana-Dakota Utilities – Base Rate Case Proceeding for Gas Service. (Appearance: revenue requirement on behalf of the North Dakota Public Service Commission). NDPSC Docket No. PU-17-295.
113. 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.
114. In Re: Public Service Electric and Gas Company- Approval of Changes in its Electric and Gas Green Programs Recovery Charges “2017 Public Service Electric & Gas 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.
115. 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.
116. 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.
117. 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
118. 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

PCMG and Associates LLC

119. 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
120. 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
121. 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
122. 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
123. 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
124. 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
125. In Re: Petition of Public Service Electric and Gas Company for Approval of Changes in its Electric Green Programs Recovery Charges and its Gas Green Program Recovery Charges 2016 PSEG Program Cost Recovery Filing
(Appearance: reconciliation and rate setting on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket Nos. ER16070613 and GR16070614
126. 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
127. 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)

PCMG and Associates LLC

New Jersey Board of Public Utilities Docket No. WR16050390

128. 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
129. 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
130. 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, review of contract, and ratemaking on behalf of the New Hampshire Office of Consumer Advocate)
NH Public Utilities Commission Docket No. DE 16-241
131. 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
132. 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
133. In Re: 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)
134. In Re: 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
135. In Re: 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)
New Jersey BPU Docket No. GM15101196

PCMG and Associates LLC

136. In Re: 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)
New Jersey BPU Docket No. WR15101177
137. 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
138. 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
139. 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
140. In Re: 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
141. In Re: The Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc. (Atlantic City Electric Company) (2014-2015) - (Appearance: customer service impacts)
New Jersey BPU Docket No. EM14060581
91. In Re: Public Utilities Commission of Ohio – In the Matter of the Application of Ohio Power Company (American Electric Power Ohio) (AEP Ohio) to Adopt a Final Implementation Plan for the Retail Stability Rider – (Appearance - Accounting Issues) (2014) on behalf of the Ohio Office of Consumer Counsel (OCC)
PUCO Case No. 14-1186-EL-RDR
92. In Re: 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

PCMG and Associates LLC

93. In Re: 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
94. In Re: 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)
North Dakota Case No. PU-12-813
95. 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
96. 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
97. 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
98. In the Matter of the Petition of United Water Arlington Hills Sewerage, Inc. for an Increase in Rates for Wastewater 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
99. 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

PCMG and Associates LLC

100. 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
101. In the Matter of the Joint Petitioners of New Jersey-American Water Company, Inc., S.J. Services, Inc., South Jersey Water Company, Inc. and Penns Grove Water Supply Company, Inc. for Among Other Things Approval of a Change in Control of South Jersey Water Supply Company, Inc. and Penns Grove 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
102. 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
103. 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
104. 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
105. 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
106. 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

PCMG and Associates LLC

requirement and overall rate proceeding on behalf of the Staff of the NJ Board of Public Utilities)

BPU Docket No. WR07040275

107. 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

SUMMARY REVENUE REQUIREMENT

	(1) Company Proposed	Adjustments	ND PSC Staff Recommended	References
Rate Base Balance	\$ 216,970,104	\$ (21,605,091)	\$ 195,365,013	
Rate of Return	7.563%		7.174%	
Income Requirement	\$ 16,409,449	\$ (2,394,087)	\$ 14,015,362	
Present Income Requirement	\$ 7,613,926	\$ 3,184,541	\$ 10,798,467	
Income Deficiency	\$ 8,795,523	\$ (5,578,627)	\$ 3,216,896	
Gross Revenue Factor	1.3228371		1.3228371	Set 3-64
Proposed Revenue Requirement	\$ 11,635,044	\$ (7,379,615)	\$ 4,255,429	
	7.28%		2.66%	
Current Revenues	\$ 159,847,677		\$ 159,847,677	
Total Proposed Revenues	\$ 171,482,721		\$ 164,103,106	

(1) Company Statement A

RATE OF RETURN

1 Company Proposed (1)		Balance	Ratio	Cost	Required Return	References
2	Long Term Debt	\$ 887,851,964	45.296%	4.569%	2.070%	
3	Short Term Debt	\$ 88,586,888	4.519%	4.954%	0.224%	
4	Preferred Stock	\$ -	0.000%	0.000%	0.000%	
5	Common Equity	\$ 983,670,833	50.185%	10.500%	5.269%	
6	Total	\$ 1,960,109,685	100.000%		7.563%	
					2.294%	

(1) Company Statement D

NDPSC Staff Proposed

7	Long Term Debt	\$ 887,851,964	45.296%	4.569%	2.070%	
8	Short Term Debt	\$ 88,586,888	4.519%	4.954%	0.224%	
9	Preferred Stock	\$ -	0.000%	0.000%	0.000%	
10	Common Equity	\$ 983,670,833	50.185%	9.725%	4.880%	
11	Total	\$ 1,960,109,685	100.000%		7.174%	
					-0.389%	

(1) Company Statement E

AVERAGE RATE BASE				
	(1)			
	Company			
	Proposed	Adjustments	NDPSC Staff	References
Average Gas Plant In Service	\$ 378,345,500	\$ (4,867,486)	\$ 373,478,014	
Accumulated Depreciation	\$ 152,660,393	\$ (210,122)	\$ 152,450,271	
Net Average Gas Plant In Service	\$ 225,685,107	\$ (4,657,364)	\$ 221,027,743	
Average Working Capital				
Additions to Rate Base				
Materials and Supplies	\$ 2,463,479	\$ -	\$ 2,463,479	
Fuel Stock	\$ 26,293	\$ -	\$ 26,293	
Prepayments	\$ 415,793	\$ -	\$ 415,793	
Unamortized Loss on Debt	\$ 120,097	\$ -	\$ 120,097	
Unamortized Redemption Cost of Preferred Stock	\$ 35,472	\$ -	\$ 35,472	
Gain/Loss on Sale of Building	\$ 400,639	\$ (400,639)	\$ -	Set-3-65
Provision for Pension & Benefits	\$ 18,273,074	\$ (18,273,074)	\$ -	
Provision for Post-Retirement	\$ 4,511,690	\$ (4,511,690)	\$ -	Set-3-66 Set 5-1
Total Additions to Rate Base	\$ 26,246,537	\$ (18,273,074)	\$ 3,061,134	
Sub-Total	\$ 251,931,644		\$ 224,088,877	
Deductions to Rate Base				
Accumulated Deferred Income Taxes	\$ 28,799,456	\$ (6,237,675)	\$ 22,561,781	
Customer Advances	\$ 6,162,084	\$ -	\$ 6,162,084	
Total Deductions to Rate Base	\$ 34,961,540	\$ (6,237,675)	\$ 28,723,865	
Total Average Rate Base	\$ 216,970,104	\$ (21,605,091)	\$ 195,365,013	

(1) Company Statement A

OPERATING INCOME SUMMARY

	(1)						
	Company Present	Adjustments	Company Proposed	Adjustments	NDPSC Staff	References	
1 Operating Revenues							
2 Sales	\$ 149,672,336	\$ 11,635,044	\$ 161,307,380	\$ -	\$ 149,672,336	Set-3-37	
3 Transportation	\$ 6,598,674	\$ -	\$ 6,598,674	\$ -	\$ 6,598,674	Set-3-38	
4 Other	\$ 3,576,667	\$ -	\$ 3,576,667	\$ -	\$ 3,576,667	Set-3-39	
5 Total Revenues	\$ 159,847,677	\$ 11,635,044	\$ 171,482,721	\$ -	\$ 159,847,677		
% Increase		7.28%		2.662%			
6 Operating Expenses							
7 Operation and Maintenance							
8 Cost of Gas	\$ 106,767,865	\$ -	\$ 106,767,865	\$ -	\$ 106,767,865		
9 Other Operation and Maintenance Other	\$ 29,119,097	\$ -	\$ 29,119,097	\$ (3,962,694)	\$ 25,156,403	Set 3-14	
10 Depreciation Expense	\$ 13,076,262	\$ -	\$ 13,076,262	\$ (210,123)	\$ 12,866,139		
11 Taxes Other Than Income	\$ 3,073,189	\$ -	\$ 3,073,189	\$ (200,166)	\$ 2,873,023		
12 Income Taxes	\$ 197,338	\$ 2,839,521	\$ 3,036,859	\$ (1,651,079)	\$ 1,385,780		
13 Total Expenses	\$ 152,233,751	\$ 2,839,521	\$ 155,073,272	\$ (3,184,541)	\$ 149,049,210		
14 Operating Income	\$ 7,613,926	\$ 8,795,523	\$ 16,409,449	\$ 3,184,541	\$ 10,798,467		
15 Rate Base	\$ 216,970,104	\$ -	\$ 216,970,104	\$ (21,605,091)	\$ 195,365,013		
16 Rate of Return	3.509%		7.563%		7.174%		
(1) Company Statement A		1.32284	\$ 16,409,168		\$ 14,015,362		
<input checked="" type="checkbox"/>					\$ 3,216,896		

GAS UTILITY PLANT IN SERVICE				
	(1)			
	Company Proposed	Adjustments	NDPSC Staff	References
Transmission	\$ 2,015,586	\$ -	\$ 2,015,586	Set-3-35
Distribution	\$ 307,568,774	\$ (3,191,194)	\$ 304,377,580	Set 3-15/16
Total	\$ 309,584,360	\$ (3,191,194)	\$ 306,393,166	
				Set-3-24/25
General				Set-3-26
Other	\$ 7,742,141	\$ -	\$ 7,742,141	Set 3-33
Structures and Improvememnts	\$ 3,369,920	\$ (503,950)	\$ 2,865,970	Set-3-30/31
Computer Equipment	\$ 43,484	\$ -	\$ 43,484	
Vehicles	\$ 5,927,396	\$ -	\$ 5,927,396	
Work Equipment	\$ 3,787,641	\$ -	\$ 3,787,641	Set-3-22
Total	\$ 20,870,582	\$ (503,950)	\$ 20,366,632	
General Intangibles	\$ 10,358,478	\$ -	\$ 10,358,478	
Common				
Other	\$ 3,932,446	\$ (294,118)	\$ 3,638,328	Set 3-32
Structures and Improvements	\$ 13,153,956	\$ -	\$ 13,153,956	
Computer Equipment	\$ 1,527,699	\$ -	\$ 1,527,699	
Vehicles	\$ 1,676,551	\$ (877,954)	\$ 798,597	Stat H-2 p 5
Total	\$ 20,290,652	\$ (1,172,072)	\$ 19,118,580	
Common Intangible	\$ 17,143,892	\$ -	\$ 17,143,892	Set-3-18
Acquisition Adjustment	\$ 97,266	\$ -	\$ 97,266	
Total Gas Plant In Service	\$ 378,345,230	\$ (4,867,216)	\$ 373,478,014	

(1) Company Statement B

ACCUMULATED DEPRECIATION

	(1)			
	Company Proposed	Adjustments	NDPSC Staff	References
Transmission	\$ 698,986		\$ 698,986	
Distribution	\$ 123,881,873	\$ (100,051)	\$ 123,781,822	
General	\$ 5,440,204	\$ (49,078)	\$ 5,391,126	
General Intangible	\$ 3,407,400	\$ -	\$ 3,407,400	
Common	\$ 7,617,822	\$ (60,994)	\$ 7,556,828	
Common Intangible	\$ 11,526,463	\$ -	\$ 11,526,463	
Acquisition Adjustment	\$ 87,645	\$ -	\$ 87,645	
Total	\$ 152,660,393	\$ (210,122)	\$ 152,450,271	

(1) Company Statement C

**ACCUMULATED DEFERRED
 INCOME TAXES**

(1)

	Company			
	Projected Bal.	Adjustments	NDPSC Staff	References
Liberalized Depreciation	\$ 21,328,709	\$ (51,280)	\$ 21,277,429	
Excess Plant DIT	\$ 6,007,345	\$ -	\$ 6,007,345	
Contribution In Aid of Construction	\$ (3,255,673)	\$ -	\$ (3,255,673)	
Customer Advances	\$ (1,503,850)	\$ -	\$ (1,503,850)	
Unamortized Gain/Loss on Debt	\$ 32,005	\$ -	\$ 32,005	
Gain/Loss on Sale of Building	\$ 97,777	\$ (97,777)	\$ -	
Provision for Pension & Benefits	\$ 4,872,136	\$ (4,872,136)	\$ -	
Provision for Post-Retirements	\$ 1,216,482	\$ (1,216,482)	\$ -	
Acquisition Adjustment	\$ 4,525	\$ -	\$ 4,525	
Balance	\$ 28,799,456	\$ (6,237,675)	\$ 22,561,781	

(1) Company Schedule J

SUMMARY OF REVENUES

		(1)			
		Company			
		Present	Adjustments	NDPSC Staff	References
1	Sales				
2	Residential	\$ 76,032,566	\$ -	\$ 76,032,566	
3	Propane	\$ 223,553	\$ -	\$ 223,553	
4	Sub-Total	\$ 76,256,119	\$ -	\$ 76,256,119	
5	Firm	\$ 58,200,452	\$ -	\$ 58,200,452	
6	Firm Propane	\$ 289,836	\$ -	\$ 289,836	
7	Sub-Total	\$ 58,490,288	\$ -	\$ 58,490,288	
8	Air Force	\$ 1,810,639	\$ -	\$ 1,810,639	
9	Seasonal	\$ 72,225	\$ -	\$ 72,225	
10	Contract Demand	\$ 6,556,486	\$ -	\$ 6,556,486	
11	Small Interruptible	\$ 6,486,579	\$ -	\$ 6,486,579	
12	Total Sales	\$ 149,672,336		\$ 149,672,336	
13	Transportation	\$ 6,598,674	\$ -	\$ 6,598,674	
14	Total Sales and Transportation	\$ 156,271,010	\$ -	\$ -	
15	Miscellaneous Service Revenue	\$ 538,238		\$ 538,238	Set-3-39
16	Rent from Property	\$ 668,010	\$ -	\$ 668,010	
17	Other Revenue	\$ 2,370,419	\$ -	\$ 2,370,419	
19	Total Miscellaneous Service Revenue	\$ 3,576,667	\$ -	\$ -	
19	Total Operating Revenue	\$ 159,847,677	\$ -	\$ 159,847,677	

(1) Company Schedule F

SUMMARY OF O&M EXPENSES

	Company Proposed	Adjustments	NDPSC Staff	References
1 Cost of Gas	\$ 106,767,865	\$ -	\$ 106,767,865	
2 Other Gas Supply	\$ 320,085	\$ (44,900)	\$ 275,185	
Transmission	\$ 11,371	\$ (1,282)	\$ 10,089	
3 Distribution	\$ 13,113,346	\$ (1,795,036)	\$ 11,318,310	
4 Customer Accounting	\$ 3,030,742	\$ (341,873)	\$ 2,688,869	
5 Customer Service and Information	\$ 358,394	\$ (43,688)	\$ 314,706	
6 Sales	\$ 139,303	\$ (22,366)	\$ 116,937	
7 Administrative and General	\$ 12,145,856	\$ (1,713,550)	\$ 10,432,306	
8 Aircraft Expenses	\$ -	\$ -	\$ -	
9 Other - Shared Services	\$ -	\$ -	\$ -	
10 Total O & M Expenses	\$ 135,886,962	\$ (3,962,694)	\$ 131,924,268	
(1) Company Statement G				

COST OF GAS

	Projected Cost	Adjustments	NDPSC Staff	References
Residential	\$ 46,161,277	\$ -	\$ 46,161,277	
Residential - Propane	\$ 142,308	\$ -	\$ 142,308	
Firm General Service	\$ 43,055,168	\$ -	\$ 43,055,168	
Firm General - Propane	\$ 235,855	\$ -	\$ 235,855	
Air Force	\$ 1,664,309	\$ -	\$ 1,664,309	
Seasonal	\$ 49,034	\$ -	\$ 49,034	
Contracted Demand	\$ 5,982,245		\$ 5,982,245	
Small Interruptible	\$ 5,188,538	\$ -	\$ 5,188,538	
Large Interruptible	\$ -	\$ -	\$ -	
Transport Interruptible	\$ 4,289,131		\$ 4,289,131	
Total Cost of Gas	\$ 106,767,865	\$ -	\$ 106,767,865	

(1) Company Statement G

OTHER GAS SUPPLY

	(1)			
	Company Proposed	Adjustments	NDPSC Staff	References
Projected - 2024	\$ 320,085	\$ -	\$ 320,085	
(2) Labor	\$ 201,123	\$ (28,012)	\$ 173,111	
(3) Labor - Incentive Compensation	\$ 24,811	\$ (9,924)	\$ 14,887	
(4) Labor - Bonus and Commission	\$ -	\$ -	\$ -	
Vacation/Other	\$ 2,461		\$ 2,461	
Total Labor	\$ 228,395	\$ (37,937)	\$ 190,458	
Subcontract Labor	\$ -	\$ -	\$ -	
Vehicles & Work Equipment	\$ 6	\$ -	\$ 6	
Software Maintenance	\$ -	\$ -	\$ -	
All Other O&M	\$ 91,684	\$ (6,963)	\$ 84,721	Set 3-13
Total	\$ 320,085	\$ (44,900)	\$ 275,185	

(1) Company Statement G



TRANSMISSION

	(1)			
	Company		NDPSC Staff	References
	Proposed	Adjustments		
Projected - 2024	\$ 11,371		\$ 11,371	
(2) Labor	\$ 4,130	\$ (573)	\$ 3,557	
(3) Labor - Incentive Compensation	\$ 495	\$ (198)	\$ 297	
(4) Taxable Meals	\$ 17	\$ -	\$ 17	
Vacation /Other	\$ 51	\$ -	\$ 51	
Total Labor	\$ 4,693	\$ (771)	\$ 3,922	
Subcontract Labor	\$ 4,864	\$ (300)	\$ 4,564	
Materials	\$ 34	\$ (4)	\$ 30	
Vehicles & Work Equipment	\$ 1,780	\$ (207)	\$ 1,573	
Software Maintenance	\$ -	\$ -	\$ -	
All Other O&M	\$ -	\$ -	\$ -	
Total	\$ 11,371	\$ (1,282)	\$ 10,089	

(1) Company Statement G

DISTRIBUTION		(1)			
	Company Proposed	Adjustments	NDPSC Staff	References	
Projected 2024	\$ 13,113,346		\$ 13,113,346		
(2) Labor	\$ 8,095,050	\$ (1,150,526)	\$ 6,944,524		
(3) Labor - Incentive Compensation	\$ 922,420	\$ (368,968)	\$ 553,452		
(4) Labor - Bonus and Commission	\$ 20,549	\$ (20,549)	\$ -		
Moving Allowance	\$ 20,504	\$ -	\$ 20,504		
Taxable Meals	\$ 3,376	\$ -	\$ 3,376		
Vacation/Other	\$ 100,424	\$ -	\$ 100,424		
Total Labor	\$ 9,162,323	\$ (1,540,043)	\$ 7,622,280		
Subcontract Labor	\$ 1,038,838	\$ -	\$ 1,038,838		Set-3-51
Materials	\$ 751,770	\$ (80,569)	\$ 671,201		
Vehicles & Work Equipment	\$ 1,329,294	\$ (153,669)	\$ 1,175,625		
Company Consumption	\$ 409,902	\$ -	\$ 409,902		
Uncollectible Accounts	\$ 24,009		\$ 24,009		
Postage	\$ 10,826	\$ (252)	\$ 10,574		
Software Maintenance	\$ 8,241	\$ (192)	\$ 8,049		Set-3-55
Rent Expense	\$ 47,525	\$ -	\$ 47,525		Set 3-59
Annual Easement	\$ 43,647	\$ (1,015)	\$ 42,632		Set 3-60
All Other O&M	\$ 286,971	\$ (19,297)	\$ 267,674		Set 3-13
Total	\$ 13,113,346	\$ (1,795,036)	\$ 11,318,310		

(1) Company Statement G

CUSTOMER ACCOUNTING

	(1)			
	Company Proposed	Adjustments	NDPSC Staff	References
Projected 2024	\$ 3,030,742		\$ 3,030,742	
(2) Labor	\$ 1,621,934	\$ (221,767)	\$ 1,400,167	
(3) Labor - Incentive Compensation	\$ 196,944	\$ (78,778)	\$ 118,166	
(4) Labor - Bonus and Commission	\$ 8,523	\$ (8,523)	\$ -	
Taxable Meals	\$ 16	\$ -	\$ 16	
Vacation/Other	\$ 19,907	\$ -	\$ 19,907	
Total Labor	\$ 1,847,324	\$ (309,067)	\$ 1,538,257	
Subcontract Labor	\$ 71,845	\$ -	\$ 71,845	
Materials	\$ 416	\$ (26)	\$ 390	
Vehicles & Work Equipment	\$ 88,297	\$ (10,203)	\$ 78,094	
Company Consumption	\$ 4,152	\$ -	\$ 4,152	
Uncollectible Accounts	\$ 382,296	\$ -	\$ 382,296	
Postage	\$ 425,275	\$ (11,405)	\$ 413,870	
Software Maintenance	\$ 50,385	\$ (1,171)	\$ 49,214	
All Other O&M Expenses	\$ 160,752	\$ (10,000)	\$ 150,752	
Total	\$ 3,030,742	\$ (341,873)	\$ 2,688,869	

(1) Company Statement K page 10/11 of 37

**CUSTOMER SERVICE
AND INFORMATION**

	(1)			
	Company		NDPSC Staff	References
	Proposed	Adjustments		
Projected 2024	\$ 358,394		\$ 358,394	
Labor	\$ 198,502	\$ (26,963)	\$ 171,539	
Incentive Compensation	\$ 24,544	\$ (9,818)	\$ 14,726	
Bonuses and Commissions	\$ 760	\$ (760)	\$ -	
Vacation/Other	\$ 2,516	\$ -	\$ 2,516	
Total Labor	\$ 226,322	\$ (37,540)		
Subcontract Labor	\$ 1,584	\$ (98)	\$ 1,486	
Materials	\$ -			
Vehicles & Work Equipment	\$ 12,674	\$ (1,465)	\$ 11,209	
Postage	\$ 3	\$ -	\$ 3	
Advertising	\$ 79,018	\$ (1,837)	\$ 77,181	Set-3-56
All Other O&M	\$ 38,793	\$ (2,747)	\$ 36,046	Set 3-13
Total	\$ 358,394	\$ (43,688)	\$ 314,706	

(1) Company Statement G

SALES	(1)			
	Company		NDPSC Staff	References
	Proposed	Adjustments		
Projected 2024	\$ 139,303		\$ 139,303	
Labor	\$ 111,412	\$ (14,897)	\$ 96,515	
Labor - Incentive Compensation	\$ 13,773	\$ (5,509)	\$ 8,264	
Labor - Bonus and Commission	\$ 760	\$ (760)	-	
Vacation/Other	\$ 1,393	\$ -	\$ 1,393	
	\$ 127,338	\$ (21,166)	\$ 106,172	
Subcontract Labor	\$ -	\$ -	\$ -	
Vehicles & Work Equipment	\$ 8,454	\$ (983)	\$ 7,471	
Postage	\$ -	\$ -	\$ -	
All Other O&M	\$ 3,511	\$ (217)	\$ 3,294	
Total	\$ 139,303	\$ (22,366)	\$ 116,937	

(1) Company Statement G

ADMINISTRATIVE AND GENERAL				
	(1)			
	Company Proposed	Adjustments	NDPSC Staff	References
Projected 2024	\$ 12,145,856		\$ 12,145,856	
Labor	\$ 2,873,535	\$ (74,901)	\$ 2,798,634	
Labor - Incentive Compensation	\$ 355,615	\$ (142,246)	\$ 213,369	
Labor - Bonus and Commission	\$ 417,440	\$ (417,440)	\$ -	
Moving Allowance	\$ 411	\$ -	\$ 411	
Taxable Meals	\$ 97	\$ -	\$ 97	
Vacation/Other	\$ 45,306	\$ -	\$ 45,306	
Total Labor	\$ 3,692,404	\$ (634,587)	\$ 3,057,817	
Benefits	\$ 2,874,852	\$ (673,900)	\$ 2,200,952	
Subcontract Labor	\$ 435,677	\$ (46,902)	\$ 388,775	
Materials	\$ 28,247	\$ (1,744)	\$ 26,503	
Vehicles & Work Equipment	\$ 50,355	\$ (5,826)	\$ 44,529	
Company Consumption	\$ 61,928	\$ -	\$ 61,928	
Postage	\$ 54,493	\$ (1,267)	\$ 53,226	
Software Maintenance	\$ 1,311,987	\$ (30,499)	\$ 1,281,488	
Rent Expense	\$ 1,018,250	\$ (87,835)	\$ 930,415	Set-3-29 Set-3-59
Advertising	\$ 33,370	\$ (776)	\$ 32,594	Set-3-56
Industry Dues	\$ 81,249	\$ (18,872)	\$ 62,377	Sch G-1 p 18
Insurance	\$ 1,084,845	\$ (128,678)	\$ 956,167	Set-3-57
Regulatory Commission Expense	\$ 253,074	\$ -	\$ 253,074	Set-3-58
All Other O&M	\$ 1,165,125	\$ (82,663)	\$ 1,082,462	Set 3-13
Total	\$ 12,145,856	\$ (1,713,550)	\$ 10,432,306	

(1) Company Statement G

DEPRECIATION EXPENSE						
Plant Account	(1) Company Proposed	Composite Depreciation Rate	Depreciation Expense	Adjustment	NDPSC Staff	References
Transmission	\$ 2,015,856	1.893%	\$ 38,157	\$ -	\$ 38,157	
Distribution	\$ 307,568,774	3.135%	\$ 9,642,948	\$ (100,051)	\$ 9,542,897	
General	\$ 20,870,582	9.739%	\$ 2,032,517	\$ (49,078)	\$ 1,983,439	
General Intangible	\$ 10,358,478	5.470%	\$ 566,581	\$ -	\$ 566,581	
Common	\$ 20,290,652	5.204%	\$ 1,055,907	\$ (60,994)	\$ 994,913	
Common Intangible	\$ 17,143,892	8.356%	\$ 1,432,515	\$ -	\$ 1,432,515	
Amort of Preferred Stock	\$ -		\$ -	\$ -	\$ -	
Amort of Gain/Loss on Building	\$ -		\$ -	\$ -	\$ -	
Acquisition Adjustment	\$ 97,266	2.899%	\$ 2,820	\$ 9	\$ 2,820	
Total	\$ 378,345,500		\$ 14,771,445	\$ (210,122)	\$ 14,561,323	Set 3-62
Adjustment	\$ 378,345,500		\$ (1,721,605)	\$ -	\$ (1,721,605)	
			\$ 13,049,840	\$ (210,122)	\$ 12,839,718	
Amortization - Preferred Stock			\$ 3,978	\$ -	\$ 3,978	
Amortization - Gain/Loss on Building			\$ 22,443	\$ -	\$ 22,443	
Common - Vehicles			\$ -	\$ -	\$ -	
Total Depreciation Expense	\$ 378,345,500		\$ 13,076,261	\$ (210,122)	\$ 12,866,139	

(1) Company Statement H and H-2

TAXES OTHER THAN INCOME

	(1) Company Projected	Tax Rate	Tax	Adjustments	NDPSC Staff	References
Ad Valorem Taxes						
Transmission Plant	\$ 2,015,856	0.6214%	\$ 12,527			
Distribution Plant	\$ 307,568,774	0.5992%	\$ 1,842,952	\$ (7,044)	\$ 1,835,908	
General Plant	\$ 20,870,582	0.4948%	\$ 103,268	\$ (2,494)	\$ 100,774	
General Intangible Plant	\$ 10,358,478	0.0000%	\$ -	\$ -	\$ -	
Common Plant	\$ 20,290,652	0.3527%	\$ 71,565	\$ (4,134)	\$ 67,431	
Common Intangible Plant	\$ 17,143,892	0.0000%	\$ -	\$ -	\$ -	
Acquisition Adjustment	\$ 97,266					
Total Ad Valorem Taxes	\$ 378,345,500		\$ 2,030,311	\$ (26,198)	\$ 2,004,113	
Payroll Taxes	\$ 15,288,799	6.74%	\$ 1,030,465	\$ (173,967)	\$ 856,498	
Franchise Taxes			\$ -	\$ -	\$ -	
Delaware Taxes			\$ 10,647	\$ -	\$ 10,647	
Other			\$ 1,765	\$ -	\$ 1,765	
			\$ 3,073,188	\$ (200,165)	\$ 2,873,023	

Set 3-63

(1) Company Statement I

INCOME TAXES						
	(1)				Present Rates	References
	Company Present Rates	Adjustment	Company Proposed Rates	Adjustment	NDPSC Staff	
Total Operating Revenues	\$ 159,847,677	\$ 11,635,044	\$ 171,482,721		\$ 159,847,677	
Operating Expenses						
Cost of Gas	\$ 106,767,865		\$ 106,767,865		\$ 106,767,865	
Other O&M Expenses	\$ 29,119,097		\$ 29,119,097		\$ 25,156,403	
Depreciation and Amortization	\$ 13,076,261		\$ 13,076,261		\$ 12,866,139	
Taxes Other than Income	\$ 3,073,188		\$ 3,073,188		\$ 2,873,023	
Total Operating Expenses	\$ 152,036,411		\$ 152,036,411	\$ (4,372,981)	\$ 147,663,430	
Gross Operating Income	\$ 7,811,266		\$ 19,446,310	\$ (7,262,063)	\$ 12,184,247	
AFUDC Equity Add Back	\$ 68,462		\$ 68,462		\$ 68,462	
Permanent Additions	\$ 374,958		\$ 374,958		\$ 374,958	
Interest Synchronization	\$ 4,977,294		\$ 4,977,294		\$ 4,480,590	
Taxable Income	\$ 3,277,391		\$ 14,912,435	\$ (6,765,359)	\$ 8,147,077	
Federal and State Tax Rate	24.4049%		24.4049%		24.4049%	
Total Federal and State Income Taxes	\$ 799,844	\$ 2,839,521	\$ 3,639,365	\$ (1,651,079)	\$ 1,988,286	
ARAM	\$ (602,506)		\$ (602,506)		\$ (602,506)	
Total Income Taxes	\$ 197,338	\$ 2,839,521	\$ 3,036,859	\$ (1,651,079)	\$ 1,385,780	

(1) Company Statement J

(2) Recommended Rate Base	\$ 195,365,013
Recommended Cost of Debt	2.293%
Interest Synchronization	\$ 4,480,590

LABOR AND BENEFITS WORKSHEET

Labor	(1)			References
	Company Proposed	Adjustments	NDSC Staff	
Straight Time	\$ 12,429,122	\$ (1,439,292)	\$ 10,989,830	Set 3-47
Premium Time	\$ 676,564	\$ (78,346)	\$ 598,218	Set 3-48
Bonuses and Commissions	\$ 448,032	\$ (448,032)	\$ -	Set-3-42
Incentive Compensation	\$ 1,538,602	\$ (615,441)	\$ 923,161	Set 3-44
Moving Allowances	\$ 20,915	\$ -	\$ 20,915	
Meals	\$ 3,506	\$ -	\$ 3,506	
Vacation	\$ 172,058	\$ -	\$ 172,058	
Total Labor	\$ 15,288,799	\$ (2,581,111)	\$ 12,707,688	Set-3-46

Benefits

Medical and Dental	\$ 1,988,383	\$ (431,187)	\$ 1,557,196	
Pension Expenses	\$ 82,270	\$ (87,410)	\$ (5,140)	
Post-Retirement	\$ (485,515)	\$ (11,107)	\$ (496,622)	
401K	\$ 1,215,833	\$ (140,793)	\$ 1,075,040	Set 3-47
Workers Compensation	\$ 51,550	\$ (2,374)	\$ 49,176	
Other Benefits	\$ 22,331	\$ (1,028)	\$ 21,303	
Total Benefits	\$ 2,874,852	\$ (673,900)	\$ 2,200,952	

Labor Category Allocation

Other Gas Supply	1.494%	\$ 228,395	\$ (38,558)	\$ 189,837
Transmission	0.031%	\$ 4,693	\$ (792)	\$ 3,901
Distribution	59.928%	\$ 9,162,323	\$ (1,546,817)	\$ 7,615,506
Customer Accounts	12.083%	\$ 1,847,324	\$ (311,872)	\$ 1,535,452
Customer Service	1.480%	\$ 226,322	\$ (38,209)	\$ 188,113
Sales	0.833%	\$ 127,338	\$ (21,498)	\$ 105,840
Administrative & General	24.151%	\$ 3,692,404	\$ (623,365)	\$ 3,069,039
Total	100.00%	\$ 15,288,799	\$ (2,581,111)	\$ 12,707,688

Benefits Category Allocation

Other Gas Supply	\$ -			
Transmission	\$ -			
Distribution	\$ -			
Customer Accounts	\$ -			
Customer Service	\$ -			
Sales	\$ -			
Administrative & General	100.00%	\$ 2,874,852	\$ (673,900)	\$ 2,200,952
Total	100.00%	\$ 2,874,852	\$ (673,900)	\$ 2,200,952

**BEFORE THE NORTH DAKOTA
PUBLIC SERVICE COMMISSION**

**IN THE MATTER OF THE APPLICATION)
OF MONTANA-DAKOTA UTILITIES CO.)
FOR AUTHORITY TO INCREASE RATES)
FOR NATURAL GAS SERVICE)
IN NORTH DAKOTA)**

DOCKET NO. PU-23-341

**DIRECT TESTIMONY
OF
MARLON F. GRIFFING, PH.D.**

ON BEHALF OF

**THE ADVOCACY STAFF OF THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION**

July 31, 2024

1
2
3 **TABLE OF CONTENTS**
4

5 I. INTRODUCTION 5
6 II. THE COST OF EQUITY IN THE REGULATORY ENVIRONMENT 8
7 A. The Role of Economic Theory 8
8 B. Standards for Finding a Fair Rate of Return 11
9 III. OVERVIEW OF THE RETURN ON EQUITY ANALYSIS 15
10 IV. SELECTING THE COMPARISON GROUP 18
11 V. DCF MODEL OVERVIEW 25
12 VI. DCF ANALYSIS FOR THE COMPARISON GROUP 27
13 A. Constant-Growth DCF Analysis 27
14 B. Multistage DCF Analysis 31
15 VII. CAPM ANALYSIS FOR THE COMPARISON GROUP 34
16 VIII. RECOMMENDED ROE 40
17 IX. REASONABLENESS CHECK OF THE RECOMMENDED ROE 42
18 X. RECOMMENDED CAPITAL STRUCTURE AND OVERALL RATE OF RETURN 43
19 XI. REVIEW OF THE COMPANY’S ROE ANALYSIS 48
20 A. Summary of ROE Analysis **Error! Bookmark not defined.**
21 B. DCF Analysis **Error! Bookmark not defined.**
22 C. CAPM Analysis **Error! Bookmark not defined.**
23 D. Risk-Premium Approach **Error! Bookmark not defined.**
24 E. Summary of Ms. Bulkley's ROE Analyses xx
25 XII. CONCLUSION 54

26

1

2 **EXHIBITS:**

3

4 MFG-1.....Qualifications and Prior Testimony

5 MFG-2.....S&P’s Montana-Dakota Utilities Co. Credit Rating

6 MFG-3.....Value Line Natural Gas Utilities

7 MFG-4.....Natural Gas Industry Screens

8 MFG-5.....Southwest Gas Press Release Regarding Spin-Off of Centuri
9 Infrastructure Services Unit

10 MFG-6.....S&P Key Attributes of Creditworthiness

11 MFG-7.....NAIC Credit Rating Equivalency Table

12 MFG-8.....S&P’s New Jersey Natural Gas Credit Rating

13 MFG-9.....Regulated Natural Gas Percentage

14 MFG-10.....Regulated Percentage Analysis

15 MFG-11.....Comparison Group

16 MFG-12.....Common Equity Prices

17 MFG-13.....Dividends

18 MFG-14, Schedule 1.....Constant-Growth DCF ROE Analysis

19 MFG-14, Schedule 2.....Flotation Cost Equation Morin Excerpt

20 MFG-14, Schedule 3.....SSA Long-Term GDP Growth Rate

21 MFG-14, Schedule 4.....EIA Long-Term GDP Growth Rate

22 MFG-14, Schedule 5.....Multistage DCF Analysis Blended Approach Morin Excerpt

23 MFG-14, Schedule 6.....Multistage DCF ROE Analysis

24 MFG-15, Schedule 1.....Daily Treasury Yield Curve, Risk-Free Rate Analysis

25 MFG-15, Schedule 2.....Value Line Betas

26 MFG-15, Schedule 3.....Moody’s 10-Year Baa Corporate Bonds Index, May 6, 2024-May 31,
27 2024

28 MFG-15, Schedule 4.....Kroll Estimate of the Market Risk Premium

29 MFG-15, Schedule 5.....Kroll CAPM ROE Analysis

30 MFG-15, Schedule 6.....S&P 500 Stocks with Value Line Earnings per Share and Value Line
31 Dividend Yields

32 MFG-15, Schedule 7.....Value Line CAPM ROE Analysis

33 MFG-15, Schedule 8.....Low-End Test Mean Calculation

34 MFG-16.....Regulatory Research Associates 2021-2023 Authorized ROEs

- 1 MFG-17, Schedule 1Return on Equity (ROE) Analysis
- 2 MFG-17, Schedule 2Capital Structure Analysis
- 3 MFG-17, Schedule 3Rate of Return (ROR) Analysis
- 4

1 **I. INTRODUCTION**

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

3 A. My name is Dr. Marlon F. Griffing. I am a Senior Consultant with the economic
4 consulting firm of PCMG & Associates Inc. (“PCMG”). My business address is 22
5 Brookes Drive, Gaithersburg, MD 20877.

6 **Q. WHAT DOES PCMG DO?**

7 A. PCMG was founded in 2015 to conduct research on a consulting basis into the rates,
8 revenues, costs, and economic performance of regulated firms and industries. The firm has
9 a professional staff of four with expertise in economics, accounting, and cost analysis.
10 Most of its work involves the development, preparation, and presentation of expert witness
11 testimony before federal and state regulatory agencies.

12 **Q. HAVE YOU PREPARED A SUMMARY OF YOUR QUALIFICATIONS AND**
13 **EXPERIENCE, INCLUDING COST-OF-CAPITAL TESTIMONY IN**
14 **REGULATORY PROCEEDINGS?**

15 A. Yes. Exhibit MFG-1 is a summary of my qualifications, experience, and testimony given
16 before state regulatory agencies regarding cost of capital.

17 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE NORTH DAKOTA**
18 **PUBLIC SERVICE COMMISSION (“NDPSC” OR “COMMISSION”)?**

19 A. Yes. I submitted written testimony in the prior NDPSC general rate cases of Northern
20 States Power Minnesota (“NSPM”) in Docket No. PU-21-381, Northern States Power
21 Minnesota in Docket No. PU-20-441, and Montana-Dakota Utilities Co. in Docket No.
22 PU-17-295. I am currently engaged in the general rate cases of Otter Tail Power Company

1 before the Commission in Docket No. PU-23-342 and Northern States Power Company in
2 Docket No. PU-23-367.

3 **Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?**

4 A. I am appearing on behalf of the Advocacy Staff of the NDPSC.

5 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

6 A. My responsibility is to determine a fair rate of return on common equity capital and a fair
7 overall cost of capital for Montana-Dakota Utilities Co. (“MDU” or “Company”). MDU is a
8 subsidiary of MDU Resources Group, Inc.¹ MDU provides natural gas distribution service
9 in North Dakota. The Company is seeking an increase in its North Dakota natural gas rates
10 in this docket. Ann E. Bulkley testifies regarding return on equity (“ROE”)² and Tammy
11 Nygard testifies regarding, cost of long-term debt, cost of short-term debt, capital structure,
12 and rate of return (“ROR”) for the Company.³ I respond to the Direct Testimonies of these
13 witnesses.

14 **Q. HOW DO YOU PREPARE RECOMMENDED RATES FOR THE COMPANY?**

15 A. To arrive at recommended rates for common equity capital and overall cost of capital, I
16 analyze the Company’s capital structure and the costs for each component of that structure,
17 including the return on equity and cost of debt.

18 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

19 A. My testimony is organized in the following way:

¹ Direct Testimony of Nicole A. Kvisto on Behalf of Montana-Dakota Utilities Co. and Great Plains Natural Gas Co, November 1, 2023, page 1 [hereinafter “Kvisto Direct”].

² Direct Testimony of Ann E. Bulkley on Behalf of Montana-Dakota Utilities Co., November 1, 2023, page 2 [hereinafter “Bulkley Direct”].

³ Direct Testimony of Tammy Nygard on Behalf of Montana-Dakota Utilities Co., November 1, 2023, pages 2-3 [hereinafter “Nygard Direct”].

- 1 • First, I discuss economic considerations and legal precedents underlying the cost of
2 equity in regulatory proceedings.
- 3 • Second, I provide an overview of the return on equity analysis.
- 4 • Third, I explain how I selected the members of the Comparison Group of companies
5 used in my analysis.
- 6 • Fourth, I perform discounted cash flow (“DCF”) model analysis and Capital Asset
7 Pricing Model (“CAPM”) analysis for the Comparison Group, recommended an ROE
8 for the Company, and checked the ROE for reasonableness.
- 9 • Fifth, I recommend a capital structure and overall cost of capital for the Company.
- 10 • Sixth, I critique the Company’s cost of capital analysis.
- 11 • Seventh, I summarize my testimony and recommendations.

12 **Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE COMPANY’S ROE AND**
13 **OVERALL COST OF CAPITAL?**

14 A. I recommend an ROE of 9.725 percent for the Company. For MDU’s capital structure, I
15 adopt the Company’s requested ratios of 42.296 percent long-term debt, 4.954 percent
16 short-term debt, and 50.185 percent common equity. When my recommended ROE is
17 incorporated into the foregoing capital structure along with MDU’s proposed cost of long-
18 term debt of 4.569 percent and cost of short-term debt of 4.954 percent, the result is an
19 overall rate of return of 7.174 percent for MDU.

1 **II. THE COST OF EQUITY IN THE REGULATORY ENVIRONMENT**

2 **A. The Role of Economic Theory**

3 **Q. WHAT IS THE BASIS IN ECONOMIC THEORY FOR REGULATING CERTAIN**
4 **INDUSTRIES?**

5 A. According to economic theory, the forces of supply and demand interacting in a competitive
6 environment produce an allocation of resources that yields an optimal mix of goods and
7 services. Firms and individuals maximize profits and satisfaction given the prices and incomes
8 that the interplay of market forces generates. This outcome is described as economically
9 efficient. Put simply, there is no better output of goods and services that can be produced
10 with the available resources.

11 **Q. DOES THE ECONOMICALLY EFFICIENT OUTCOME OCCUR IN ALL**
12 **INDUSTRIES?**

13 A. No. Several conditions must be present for the economically efficient outcome to occur in
14 an industry. These conditions include many buyers and sellers, identical products, perfect
15 information about prices, and so forth. If these conditions exist, then price is the only way
16 for providers of goods and services to compete in markets. If the conditions for competition
17 do not exist, however, then letting supply and demand work unfettered will not produce the
18 socially desired efficient outcome.

19 **Q. ARE THERE LEGAL OBSTACLES TO COMPETITION IN PUBLIC UTILITY**
20 **MARKETS?**

21 A. Yes. Even if a firm is willing and able to raise the capital needed to be a viable natural gas
22 distribution company, state and local governments typically have permitting processes that

1 govern where and when utilities can build facilities. Thus, high start-up costs are not the
2 only barrier that must be overcome.

3 **Q. ARE THERE OTHER ASPECTS OF A NATURAL GAS DISTRIBUTION**
4 **UTILITY'S COSTS THAT RESULT IN FEW SELLERS?**

5 A. Yes. The natural gas utility industry is what is typically known as a declining-cost industry.

6 **Q. WHAT IS A DECLINING-COST INDUSTRY?**

7 A. A declining-cost industry is one where the average cost of service declines over the range
8 of effective demand.

9 **Q. IS A DECLINING AVERAGE COST OF SERVICE SUFFICIENT FOR AN**
10 **INDUSTRY TO BE TERMED "DECLINING COST?"**

11 A. No. In fact, average costs decline in most industries as production and sales increase.
12 However, in the typical industry, the average cost eventually rises and does so at a sales
13 level that is smaller than the total demand for the product in a given industry. As a
14 consequence, a few to several firms share the market because beyond the sales volume at
15 which average costs rise, firms lose, rather than gain, cost advantage.

16 **Q. ARE PUBLIC UTILITIES DECLINING-COST INDUSTRIES?**

17 A. Yes. With their high fixed costs, public utilities have high initial average costs, but as their
18 sales increase, the average cost drops. This fact alone does not make public utilities
19 declining-cost industries. In most industries, average costs fall as sales increase. However,
20 in most industries, average costs start to rise at sales levels that are much less than the total
21 demand for the product produced in any given industry. Therefore, the number of firms
22 sharing the market ranges from a few to many. What sets public utilities apart is that their
23 average costs continue to decline over very high volumes of sales, up to and beyond total,

1 or effective, market demand. A declining-cost industry creates market failure—that is,
2 when the market produces an outcome that is inefficient. In this case, the inefficiency is
3 caused by the market leading to a monopoly provider.

4 **Q. HOW DOES BEING A DECLINING-COST INDUSTRY CREATE A MARKET**
5 **FAILURE?**

6 A. As an utility increases its sales and market share, its average costs decline, and continue to
7 do so. Thus, the firm with the largest market share has an increasing advantage over
8 competitors. In effect, there is not enough room in the market for another distributor. The
9 logical result is a market with one producer—often referred to as a natural monopoly—not
10 the many firms envisioned in the theory of competition.

11 **Q. HOW HAS SOCIETY RESPONDED TO THE ABSENCE OF COMPETITION IN**
12 **PUBLIC UTILITY MARKETS?**

13 A. Because sufficient competition does not exist in the markets for public utilities, including
14 the gas utility industry, to ensure low prices and adequate service, society has typically
15 turned to regulation to achieve these goals. The government regulators generally are
16 charged with pursuing an outcome that approximates the efficient outcome of the
17 competitive model. Regulation thus is viewed as a way to decrease prices and increase
18 services provided by a natural monopoly. A challenge for regulators is to set policies which
19 ensure that the regulated firm provides an appropriate supply of services at reasonable
20 rates. A reasonable rate enables a public utility not only to recover its operating expenses,
21 depreciation, and taxes, but also to earn a reasonable rate of return on its capital.

1 **B. Standards for Finding a Fair Rate of Return**

2 **Q. DO ANY STANDARDS EXIST FOR DETERMINING A REASONABLE RATE OF**
3 **RETURN?**

4 A. Yes. Two United States Supreme Court cases are the basis for rate of return regulation in
5 the United States. They are the *Bluefield Water Works*⁴ and the *Hope Natural Gas*⁵ cases.
6 In *Hope*, the Court established the following standards for the return on equity that must
7 be allowed a regulated public utility to provide for a reasonable return:

8 ...[T]he return to the equity owner should be commensurate with the returns
9 on investments in other enterprises having corresponding risks. That return,
10 moreover, should be sufficient to assure confidence in the financial integrity
11 of the enterprise, so as to maintain its credit and to attract capital.⁶

12 It can be seen from this excerpt that there are essentially three standards for determining
13 an appropriate return on equity from the standpoint of the equity owners of a regulated
14 utility. The first is the “comparable earnings” standard; i.e., that the earnings must be
15 “commensurate with the returns on investments in other enterprises having corresponding
16 risks.” The second is that earnings must be sufficient to assure “confidence in the financial
17 integrity of the enterprise.” The third is that earnings must allow the utility to attract capital.

18 **Q. CAN THE COMPARABLE EARNINGS STANDARD BE APPLIED IN**
19 **ESTIMATING THE RATE OF RETURN ON EQUITY CAPITAL?**

20 A. No. There is circularity to the comparable earnings standard because the competitive nature
21 of the capital markets virtually ensures that the returns to *all* enterprises are comparable
22 with each other. Investors establish the price of each traded stock based on that stock’s

⁴ *Bluefield Water Works & Improvement Co. v. Pub. Serv. Comm’n of W. Va.*, 262 U.S. 679 (1923).

⁵ *Fed. Power Comm’n v. Hope Nat. Gas Co.*, 320 U.S. 591 (1944).

⁶ *Hope*, 320 U.S. at 603.

1 present and prospective earnings and perceived risk. The prices for common equity for
2 companies with high earnings are bid up, while the prices for companies with low earnings
3 are bid down. If earnings were the only concern, the ratio of earnings to share prices, the
4 return for investors, would become equal for all companies. However, investors recognize
5 relative risk as they buy and sell common equity shares. For companies with high risk,
6 share prices will be lower; for companies with low risk, share prices will be higher. Thus,
7 the comparable earnings test becomes a nullity. All returns, because they are adjusted for
8 risk, are comparable with all other returns.

9 **Q. HOW IS THIS CIRCULARITY TYPICALLY RESOLVED IN PUBLIC UTILITY**
10 **REGULATION?**

11 A. In public utility regulation, the conventional procedure for resolving this circularity is to
12 identify the required equity return for a utility's stock. That return is combined with the
13 cost of debt, and the blended return to total capital is then applied to a rate base reflective
14 of the book value of the utility's investment. The book value is the accountant's
15 quantification of the depreciated original cost of the utility's assets adjusted for ratepayer
16 contributions such as deposits and deferred taxes. Under this procedure, the market price
17 of a stock is used only to determine the return that investors expect from that stock. That
18 expectation is then applied to the book value of the utility's investment to identify the level
19 of earnings that regulation will allow the utility's common shareholders to recover.

1 **Q. HOW CAN THE FINANCIAL INTEGRITY AND CAPITAL ATTRACTION**
2 **STANDARDS ENUNCIATED IN *HOPE* BE APPLIED IN ESTIMATING THE**
3 **RATE OF RETURN ON EQUITY CAPITAL?**

4 A. If a utility can earn a return on its investment comparable to that required by enterprises of
5 comparable risk, then it should have no difficulty in attracting capital and maintaining
6 credit. Investors would have no reason to pass on purchasing the common equity of such a
7 utility in favor of other investment opportunities. Thus, if the comparable earnings test is
8 met, then the financial integrity and capital attraction standards are met as well.

9 **Q. WHAT IS RISK?**

10 A. Risk is the chance of a loss or less-than-expected return on an investment. A business, for
11 example, may introduce a new product with the expectation that it will sell well. There is,
12 of course, no guarantee that consumers will purchase the product. The risk investors attach
13 to the company varies inversely with their view as to the probability of the product doing
14 well. In general, the greater the risk of an investment, the greater the return required to
15 attract investors, and vice versa.

16 **Q. WHAT SHOULD THE COMMISSION CONSIDER IN SETTING AN**
17 **APPROPRIATE RATE OF RETURN?**

18 A. The Commission should look to current market conditions as it balances investor and
19 consumer interests. The rate of return should reflect the condition of the capital markets in
20 which MDU will have to compete with other firms for funding. Historically allowed rates
21 and historical performances are not the most reliable inputs in this forward-looking
22 approach. This statement does not mean that historical rates and performance are irrelevant.

1 They are factors because they affect investors' views of a company's prospects and,
2 therefore, the investors' willingness to purchase its common equity shares.

3 **Q. HOW DO THE METHODS YOU USED TO DETERMINE THE COST OF**
4 **COMMON EQUITY CAPITAL REFLECT CURRENT MARKET CONDITIONS?**

5 A. I used a market-oriented approach to determine the common equity cost for the Company.
6 I analyzed the equity return that investors currently expect to receive from investing in
7 companies with risks similar to risk of the Company. Many factors influence these investor
8 expectations, among them: past performance of the companies, estimates of how the
9 companies will perform in the future, possible technological change, tax rates, and
10 predicted general economic conditions. As investors decide where to place their funds
11 among the investment options available to them, they weigh the information they have.
12 Then they decide how to pay to acquire common equity shares, or to turn to the other side
13 of the question, what price will lead them to sell the shares. Either way, the factors are
14 reflected in current prices in capital markets. Thus, my analysis is forward-looking because
15 it relies on investors' current assessment of what is likely to happen with their investments.

16 **Q. WHAT IS THE ROLE OF OPPORTUNITY COSTS IN YOUR ANALYSIS?**

17 A. An opportunity cost is the value of the next best choice forgone as the result of making a
18 decision. Opportunity costs are central to my analysis. As investors decide where to place
19 their assets, they have many opportunities from which to choose in the financial markets.
20 Economic theory says they will choose the opportunity they think will provide them the best
21 return, taking into account the level of risk with which they are comfortable. Thus, for a
22 company to attract capital, its forward-looking fair rate of return must at least equal the
23 expected rate of return for the best alternative opportunity with similar risk.

1 **III. OVERVIEW OF THE RETURN ON EQUITY ANALYSIS**

2 **Q. HOW DO YOU KNOW WHAT EQUITY RATE OF RETURN THE COMPANY**
3 **MUST OFFER TO INVESTORS TO BE AN ATTRACTIVE OPPORTUNITY?**

4 A. No one knows with certainty what specific rate of return the Company must offer to
5 investors that is just sufficient to make the Company an attractive opportunity. However,
6 various methods based on finance theory have been derived for reliably estimating what
7 investors currently think that rate is.

8 **Q. WHAT METHODS HAVE YOU ADOPTED IN YOUR ROE ANALYSIS?**

9 A. I use the Discounted Cash Flow (DCF) method, which is widely used in utility general rate
10 cases in determining rate of return. I also include the results of the Capital Asset Pricing
11 Model (“CAPM”), combining them with the DCF results for my recommended ROE. I
12 use recently authorized returns for natural gas utility operating companies in U.S.
13 jurisdictions as a check on the reasonableness of the ROE outcome.

14 **Q. WHAT IS THE DCF METHOD?**

15 A. The DCF method uses the current dividend yield and the expected growth rate of this yield
16 to determine a required rate of return on an investment opportunity. The required rate of
17 return from a DCF analysis is derived from a formula for determining the net present value,
18 or price, of a share of stock. There are several variations of DCF, but the constant-growth
19 form I have selected assumes that dividends (D) are received at the end of each year, the
20 annual growth rate of dividends (g) is constant to forever, and the discount rate for
21 dividends (k) is constant to infinity. The equation form of this constant-growth DCF model
22 is the following:

1
$$k = \frac{D_1}{P_0} + g$$

2 Where:

3 k is the discount rate, which also is the fair rate of return for equity;

4 D_1 is the annual dividend one year from the present;

5 P_0 is the current price of a stock share; and

6 g is the expected growth rate of the dividend.

7 **Q. HOW IS THE ANNUAL DIVIDEND ONE YEAR FROM THE PRESENT**
8 **CALCULATED?**

9 A. The annual dividend one year from now is derived by applying the growth-rate estimate
10 (g) to the actual current annual dividend (D_0). The equation form is:

11
$$D_1 = D_0 * (1 + g)$$

12 **Q. WHAT ARE THE ELEMENTS OF THE DCF MODEL?**

13 A. The first element of the DCF model is the dividend-yield component, while the second
14 element is the dividend growth-rate component. The sum of these two components
15 produces the required ROE for a company.

16 **Q. WHAT IS THE CAPM METHOD?**

17 A. The premise of the CAPM method is that any risk which is company-specific can be
18 diversified away by investors. Therefore, the only risk that matters is the systematic risk of
19 the stock. This systematic risk is measured by beta (β). Expressed simply, the CAPM
20 assumes the following form:

1 $k = r + \beta (k_m - r)$

2 Where:

3 k is the required rate of return for the subject stock;

4 β is beta, the measure of systematic risk;

5 r is the rate of return on a riskless asset; and

6 k_m is the required rate of return on the broad market.

7 $[(k_m - r)]$ is known as the “market risk premium”]

8 **Q. HOW WOULD YOU CHARACTERIZE THE CAPM METHOD?**

9 A. In the CAPM, the required ROE for a company also is the sum of two components. The
10 first of these is the return on a riskless asset. To this base value, a return is added that
11 reflects the additional rate of return earned by other companies in the broad equity market
12 adjusted for the risk of the subject company relative to the risk of an average company in
13 the market. The subsequent amount thus reflects the risk of the subject company.

14 **Q. DOES YOUR EQUITY RATE OF RETURN ANALYSIS USE DCF
15 INFORMATION FOR MDU?**

16 A. No. As noted, MDU is an operating subsidiary of MDU Resources. MDU is not publicly
17 traded, so common equity share price information is unavailable. Therefore, a direct DCF
18 analysis cannot be performed on the Company.

1 **Q. DOES YOUR EQUITY RATE OF RETURN ANALYSIS USE OTHER COMPANY**
2 **INFORMATION?**

3 A. Yes. MDU has its own credit rating from Standard & Poor's ("S&P"). That rating is
4 BBB+.⁷ This credit rating reflects S&P's evaluation of the risk for the Company. I
5 considered this credit rating as I set the a credit rating criterion for inclusion in my proxy
6 group.

7 **Q. HOW DO YOU USE THE ROE ANALYSIS TO ESTIMATE THE COMPANY'S**
8 **REQUIRED RATE OF RETURN?**

9 A. I performed an ROE analysis on a group of natural gas utilities comparable to MDU that
10 are publicly traded and have similar investment risk, as discussed below. The estimated
11 rates of return for members of this group form the basis for my estimate of a fair rate of
12 return for the Company.

13 **IV. SELECTING THE COMPARISON GROUP**

14 **Q. WHAT PROCEDURE DID YOU USE FOR SELECTING THE COMPARISON**
15 **GROUP?**

16 A. I set out to find a group of companies that are, from the perspective of investors, like MDU.
17 Thus, I wanted firms that are natural gas utility companies that represent approximately the
18 same investment risk as the Company.

⁷ Exhibit MFG-2.

1 **Q. HOW DID YOU FIND SUITABLE CANDIDATE COMPANIES FOR THE**
2 **COMPARISON GROUP?**

3 A. I looked at Value Line, a widely used investor service, for companies that Value Line
4 classifies as part of the Natural Gas Utility Industry. The edition of the *Value Line*
5 *Investment Survey* available at the Value Line website on July 18, 2024, included 12
6 companies in this category.⁸

7 **Q. WAS MDU ONE OF THE 12 COMPANIES IN THE VALUE LINE NATURAL GAS**
8 **INDUSTRY?**

9 A. No.

10 **Q. WHAT WAS THE NEXT STEP IN YOUR SELECTION PROCESS?**

11 A. I applied screens to the initial set of Value Line natural gas utility companies to ensure that
12 the companies included in my Comparison Group were similar in risk to the risk of the
13 Company.⁹

14 **Q. PLEASE LIST THE CRITERIA YOU APPLIED IN THE SELECTION OF THE**
15 **COMPARISON GROUP.**

16 A. I applied the following screens to the initial set of natural gas utility companies:

- 17 1. U.S.-based firm;
- 18 2. shares publicly traded on a stock exchange;
- 19 3. a stable record of paying dividends;
- 20 4. not be expected to sell, merge into or be acquired by another company, or
- 21 be engaged in an unusual regulatory proceeding;

⁸ Exhibit MFG-3.

⁹ Exhibit MFG-4.

- 1 5. have a Standard & Poor's ("S&P") credit rating of BBB- (investment
- 2 grade) or better;
- 3 6. have positive growth-rate projections from expert analysts; and
- 4 7. have 65 percent or more of the three-year average of net operating income,
- 5 net income, or operating revenue be derived from regulated natural gas
- 6 operations.

7 **Q. WHAT IS THE PURPOSE OF APPLYING THE CRITERION THAT THE**
8 **COMPANIES BE BASED IN THE CONTINENTAL UNITED STATES?**

9 A. I sought companies that face a business environment like that in which MDU operates. The
10 Company's operating utility in this case is in North Dakota and subject to state regulation,
11 statutes, and rules that are similar to those found in the rest of the United States. All the
12 companies are U.S.-based.

13 **Q. WHAT PURPOSE IS SERVED BY REQUIRING THAT THE COMPANIES BE**
14 **PUBLICLY TRADED?**

15 A. One analytical tool that I used for finding a company's ROE, the DCF model,¹⁰ requires
16 information about common equity share prices, dividends, and growth-rate projections.
17 The requirement that companies be publicly traded ensures that their common equity share
18 prices are available. All the Value Line Natural Gas Utility companies were publicly
19 traded.¹¹

¹⁰ As will be seen in a later section, the forward-looking Value-Line-based CAPM I have applied incorporates a DCF analysis and, thus, also relies on publicly traded companies.

¹¹ Exhibit MFG-4.

1 **Q. WHAT PURPOSE IS SERVED BY REQUIRING THAT THE COMPANIES HAVE**
2 **A STABLE RECORD OF PAYING DIVIDENDS?**

3 A. The DCF model requires dividends as an input. If a company is not paying dividends or
4 has a record of cutting dividends, then its DCF analysis is not reliable. All the companies
5 still under consideration have been consistently paying dividends.¹²

6 **Q. WHY IS IT IMPORTANT THAT COMPANIES INVOLVED IN SALES,**
7 **MERGERS, OR ACQUISITIONS BE EXCLUDED FROM YOUR ANALYSIS?**

8 A. The share prices of companies involved in sales, mergers, or acquisitions can be volatile.
9 Extreme increases in the share prices of companies that are part of sales, mergers, or
10 acquisitions drive down the ROE results in DCF analysis, while extreme decreases in the
11 share prices drive up the ROE results. Neither outcome yields meaningful DCF results.
12 Therefore, it is usually appropriate to exclude such companies from the analysis.

13 **Q. WERE ANY COMPANIES IN THE INITIAL SET INVOLVED IN SALES,**
14 **MERGERS, OR ACQUISITIONS?**

15 A. Yes. Southwest Gas Holdings is in the process of spinning off its Centuri infrastructure
16 construction unit. The transaction has reached the stage where shares in Centuri Group, the
17 name of the new company, were sold in an April 18, 2024, public offering.¹³ Southwest
18 Gas Holdings common equity share prices surged upward after the offering but stabilized
19 thereafter. The company's shares no longer are volatile because uncertainty about the
20 spinoff has been removed and investors have internalized the spinoff in their decisions.
21 Therefore, I continued to consider the company for the Comparison Group.¹⁴

¹² Exhibit MFG-4.

¹³ Exhibit MFG-5, page 1

¹⁴ Exhibit MFG-5, page 2.

1 **Q. WHAT IS THE PURPOSE OF USING THE S&P CREDIT RATING AS A**
2 **SCREEN?**

3 A. S&P's experts incorporate financial risk and business risk into a firm's credit rating. Within
4 these risk categories, S&P assesses such factors for public utilities as competitive
5 advantage and operating efficiency. S&P also assesses scale, scope, and customer diversity,
6 which include the effects of a utility's markets, service territories, and customer diversity
7 on the company's cash-flow stability, and in turn on its risk level. After considering all the
8 factors, S&P assigns a credit rating to a company. If companies have identical or similar
9 credit ratings as determined by expert analysts, then their relative risks are similar. As S&P
10 states:

11 Creditworthiness is a multi-faceted phenomenon. Although there is
12 no "formula" for combining the various facets, our credit ratings
13 attempt to condense their combined effects into rating symbols
14 along a simple, one-dimensional scale. Indeed, as discussed below,
15 the relative importance of the various factors may change in
16 different situations.¹⁵

17 **Q. HOW DID YOU APPLY THE S&P CREDIT RATING SCREEN?**

18 A. A credit rating of BBB- or better is termed "investment grade." This level rating is an
19 important threshold and gets its name from the fact that some institutional investors will
20 not purchase the stock of a company if it does not have an investment-grade credit rating.
21 By applying this screen, I ensure that there is a robust market for the common equity of
22 companies. Please note that the credit rating screen does not require that companies have
23 a credit rating identical to that of the subject company. The credit rating need only be
24 similar to that of the subject company.

¹⁵ Exhibit MFG-6.

1 **Q. WHAT WAS THE RESULT OF YOUR APPLICATION OF THE CREDIT**
2 **RATING SCREEN IN THIS DOCKET?**

3 A. Of the remaining utilities, Adams Resources & Energy, RGC Resources Inc., Star Group
4 L.P, and UGI Corp. did not have an S&P credit rating, nor did any of their units or
5 subsidiaries. Hence, the four companies were excluded.¹⁶

6 **Q. ARE THERE NATURAL GAS UTILITIES WITHOUT S&P CREDIT RATINGS**
7 **THAT YOU DID CONTINUE TO CONSIDER?**

8 A. Yes. Neither Chesapeake Utilities nor New Jersey Resources has a credit rating from S&P.
9 They qualify for retention through equivalent ratings. Chesapeake Utilities has ratings of
10 “2B” and “2A” from the National Association of Insurance Commissioners.¹⁷ These ratings
11 are equivalent to a BBB credit rating (or higher) from S&P.¹⁸ As for New Jersey Resources,
12 Moody’s has a credit rating for New Jersey Natural Gas, a subsidiary of New Jersey
13 Resources, of A1.¹⁹ This Moody’s credit rating is equivalent to an S&P credit rating of
14 A+.²⁰

15 **Q. WHAT IS THE RANGE OF THE CREDIT RATINGS FOR THE QUALIFYING**
16 **COMPANIES?**

17 A. The eight remaining companies have S&P credit ratings (or an equivalent rating) ranging
18 from BBB- to A+. Thus, the credit ratings of these public utilities are investment grade.

¹⁶ Exhibit MFG-4.

¹⁷ See, Annual Statement of the Metropolitan Life Insurance Company (December 31, 2023), Schedule D, Part 1, (e.g.) at 1334.
https://s201.q4cdn.com/280976757/files/doc_downloads/statutory-filings/metropolitan/2023/2023-mlic-annual-statement-includes-investment-schedules.pdf

¹⁸ Exhibit MFG-7.

¹⁹ Exhibit MFG-8.

²⁰ Exhibit MFG-7.

1 **Q. YOU REQUIRED THAT THE NATURAL GAS UTILITIES HAVE POSITIVE**
2 **EARNINGS PER SHARE (“EPS”) GROWTH-RATE FORECASTS TO BE**
3 **INCLUDED IN THE COMPARISON GROUP. WHAT PURPOSE DOES THIS**
4 **SCREEN SERVE?**

5 A. If the growth-rate projections are negative or missing, then any DCF analysis performed
6 on them is not meaningful. All eight companies still under consideration for the
7 Comparison Group had at least two positive EPS growth-rate forecasts.²¹

8 **Q. WHAT IS THE PURPOSE OF THE SCREEN REQUIRING MORE THAN 65**
9 **PERCENT OF A COMPANY’S THREE-YEAR AVERAGE OF AN INCOME OR**
10 **REVENUE INDICATOR BE DERIVED FROM REGULATED NATURAL GAS**
11 **UTILITY OPERATIONS?**

12 A. For the firms to have similar risks, they must operate in similar business environments. The
13 Company is predominantly a regulated natural gas utility operation, so the firms considered
14 for the Comparison Group also must have predominantly regulated operations. This
15 criterion ensures that most of the Comparison Group firms’ operations are in the same
16 environment as that of the Company.

17 **Q. WHAT WAS THE OUTCOME OF YOUR APPLICATION OF THIS SCREEN?**

18 A. I included seven of the remaining companies in the Comparison Group after applying the
19 operating income/net income/operating revenue screen.²² New Jersey Resources is
20 eliminated with a natural gas operating income ratio of 52.2 percent.²³

²¹ Exhibit MFG-4.

²² Exhibit MFG-9.

²³ Exhibit MFG-10.

1 **Q. WHAT WAS THE COMPOSITION OF THE COMPARISON GROUP AFTER**
2 **YOUR SCREENING?**

3 A. The Comparison Group is composed of Atmos Energy, Chesapeake Utilities, NiSource,
4 Northwest Natural Holding Co., ONE Gas, Southwest Gas Holdings, and Spire, Inc.²⁴

5 **Q. HOW DOES THE MEMBERSHIP OF MS. BULKLEY'S PROXY GROUP**
6 **COMPARE WITH THE MEMBERSHIP OF YOUR COMPARISON GROUP?**

7 A. Ms. Bulkley's Proxy Group includes five of the seven natural gas utilities in my
8 Comparison Group. She does not include Chesapeake Utilities or Southwest Gas
9 Holdings.²⁵

10 **V. DCF MODEL OVERVIEW**

11 **Q. WHAT IS THE PURPOSE OF A DCF ANALYSIS?**

12 A. The goal of this analysis was to estimate an appropriate, forward-looking rate of return on
13 equity. A DCF analysis requires a determination of expected growth rates and dividend
14 yields in order to estimate this return.

15 **Q. HOW ARE EXPECTED GROWTH RATES USED?**

16 A. Because a DCF analysis is forward-looking, I want to estimate the expected growth rate of
17 dividends. Historical growth rates would be good indicators of the expected growth rate if
18 both of the following are true:

- 19 • the dividend payout ratio and the realized rate of return on equity capital
20 were constant in the past and could be assumed to remain constant in the
21 future; and
- 22 • any growth in book equity was attributable solely to retained earnings.

²⁴ Exhibit MFG-11.

²⁵ Bulkley Direct, page 25.

1 If, in practice, these conditions held, then EPS, dividends per share (“DPS”), and book
2 value per share (“BPS”) would all grow at the same rate, and the past growth rates for these
3 factors would be the rate at which they would grow in the future.

4 **Q. DO YOU USE HISTORICAL GROWTH RATES IN YOUR ANALYSIS?**

5 A. No. The conditions necessary for historical growth rates to be good indicators of future
6 growth rates are rarely satisfied. Most utilities’ returns on equity and payout ratios have not
7 remained constant over time. Further, growth in book value has occurred not only due to
8 retained earnings, but also due to the issuance of new shares of common stock.
9 Consequently, past growth rates of earnings, dividends, and book equity are frequently
10 unequal. Moreover, an industry may face a changed business environment, thereby making
11 the past a poor basis for projecting the future. Historical growth rates can differ significantly
12 from forward-looking projected growth rates due to such factors as inflation rates, tax rates,
13 the role of an industry in the economy, and the regulatory environment.

14 **Q. WHAT ESTIMATES OF GROWTH RATES DO YOU RELY ON RATHER THAN**
15 **USING HISTORICAL GROWTH RATES?**

16 A. In view of the limitations of using historical growth rates, I based my estimated growth rates
17 on projected growth rates as publicly provided by (1) Zacks Investment Research (“Zacks”),
18 a respected investor services company, (2) Thomson Financial Network estimates provided
19 on Yahoo! Finance, and (3) The Value Line Investment Survey.

20 **Q. WHAT DIVIDEND YIELDS WERE USED IN YOUR DCF ANALYSIS?**

21 A. To estimate the required rate of return on equity capital today, I estimated the expected
22 dividend yield, D_1/P_0 where P_0 is the price of a share of common equity today and D_1 is
23 the dividend in the next period. To find the dividends expected a year from now, I

1 multiplied the current annual dividends paid by one plus the EPS growth rates for each
2 company. The use of this dividend yield assumes that dividends are distributed at the end
3 of each period (year). Since the current equity share price incorporates all market
4 information considered relevant by investors, generally speaking, non-recent historical
5 prices should be avoided in calculating the dividend yield. However, since share prices are
6 volatile in the short run, it is desirable to use a period long enough to avoid short-term
7 aberrations in the capital market.

8 **Q. WHAT COMMON EQUITY SHARE PRICES DID YOU USE IN YOUR DCF**
9 **ANALYSIS?**

10 A. I used the average of four weeks of share prices for each natural gas utility. This period
11 achieves the goals of using current information and avoiding cases where short-run
12 volatility causes common-equity share prices to be unrepresentative of the value investors
13 place on a company.

14 **VI. DCF ANALYSIS FOR THE COMPARISON GROUP**

15 **A. Constant-Growth DCF Analysis**

16 **Q. HOW WAS THE REQUIRED RATE OF RETURN FOR THE COMPARISON**
17 **GROUP DETERMINED?**

18 A. To estimate the required rate of return for the group, I found the expected growth rate, g ,
19 and the expected dividend yield, D_1/P_0 for each Comparison Group company. I applied
20 the DCF model to the inputs to find an ROE for each natural gas utility. Finally, I averaged
21 the ROEs to find my DCF ROE for MDU.

1 **Q. WHAT PERIOD DID YOU USE TO ESTABLISH AVERAGE COMMON EQUITY**
2 **SHARE PRICES FOR THE COMPANIES IN THE COMPARISON GROUP?**

3 A. I used the average common equity share prices from June 17, 2024, through June 12,
4 2024.²⁶ This four-week period is long enough to dampen any short-term aberrations in the
5 capital market. It was also close to the July 31, 2024, date of this Testimony, thus making
6 the results timely. I used closing prices for the Comparison Group member companies
7 obtained at Yahoo! Finance.²⁷

8 **Q. HOW DID YOU DETERMINE THE DIVIDENDS FOR THE COMPARISON**
9 **GROUP COMPANIES?**

10 A. I used the dividends that each Comparison Group member company is currently paying as
11 reported by Value Line on May 24, 2024, and by Zacks on July 18, 2024. I used the greater
12 of these two options in my DCF analysis. The dividends were equal from the two sources.²⁸

13 **Q. WHAT ASSUMPTION IS MADE ABOUT THE EXPECTED GROWTH RATE IN**
14 **THE CONSTANT-GROWTH DCF MODEL?**

15 A. In the constant-growth DCF model, it is assumed that current EPS growth rates continue
16 to infinity. I used, as is commonly done, forecasts of EPS growth rates for five years, and
17 assumed those growth rates will continue.

²⁶ There are 18 days of price observations in the four weeks. Financial markets were closed June 19, 2024, and July 4, 2024.

²⁷ Exhibit MFG-12, pages 1-2.

²⁸ Exhibit MFG-13.

1 **Q. WHAT DID YOU USE TO DETERMINE THE EXPECTED GROWTH RATE FOR**
2 **THE COMPARISON GROUP?**

3 A. As noted above, it is appropriate in this proceeding to use only the forecasted growth rates
4 to estimate the expected growth rate to be used in the DCF analysis. Zacks and Yahoo!
5 Finance provide five-year growth-rate projections for EPS, and Value Line provides five-
6 year growth rate projections for EPS, DPS, and BPS. To maintain consistency across the
7 sources, I used only the EPS estimates from Value Line.

8 **Q. WHAT INFORMATION DID YOU USE FROM VALUE LINE?**

9 A. I used the Value Line EPS five-year growth projections for the individual firms in the
10 Comparison Group as reported by Value Line in its Investment Surveys of May 24, 2024.²⁹

11 **Q. WHAT INFORMATION DID YOU USE FROM ZACKS?**

12 A. I used the Zacks EPS five-year growth projections available July 18, 2024, for the
13 individual firms in the Comparison Group.³⁰

14 **Q. WHAT INFORMATION DID YOU USE FROM YAHOO! FINANCE?**

15 A. I used the Yahoo! Finance EPS five-year growth projections available July 18, 2024, for
16 the individual firms in the Comparison Group.³¹

17 **Q. HOW DID YOU COMBINE THE ZACKS, YAHOO! FINANCE, AND VALUE**
18 **LINE ESTIMATES?**

19 A. I weighted the Zacks, Yahoo! Finance, and Value Line EPS values equally to find my best
20 estimate of the expected growth rate for each company in the Comparison Group.

²⁹ Exhibit MFG-14, Schedule 1.

³⁰ *Id.*

³¹ *Id.*

1 **Q. HOW DID YOU CALCULATE THE EXPECTED DIVIDEND YIELD FOR THE**
2 **COMPARISON GROUP?**

3 A. The appropriate dividend to use in the constant-growth DCF model is the annual dividend
4 rate at the beginning of the next period (year). I began my estimation of the expected
5 dividend yield by finding the dividends that each Comparison Group member company
6 was currently paying, as noted above.

7 Next, I adjusted the annualized dividends for expected growth. The dividends of all
8 the companies in the Comparison Group are expected to increase over the next year. I
9 applied a full year's growth rate for a firm to the annualized dividend and added the product
10 to the annualized dividend yield to transform it into the expected dividend yield.³² The
11 equation for this operation is:

12
$$\frac{D_1}{P_0} = \frac{D_0}{P_0} (1 + g)$$

13 Applying this equation to the dividend yield for each company yielded the D_1 values that I
14 used in my estimates.³³

15 **Q. IS IT APPROPRIATE TO APPLY A MINIMUM STANDARD TO ROE RESULTS**
16 **PRODUCED BY THE ROE MODELS?**

17 A. Yes. Investors demand a higher return from common equity than from debt to compensate
18 for the greater risk of common equity. The Federal Energy Regulatory Commission
19 ("FERC") uses a minimum standard of the yield for Moody's 10-Year Baa Corporate
20 Bonds plus 20 percent of the CAPM risk premium as a minimum ROE threshold. Investors

³² I also followed this rule of applying a full year's growth to the current dividend in my CAPM analysis.

³³ Exhibit MFG-14, Schedule 1.

1 faced with an ROE for a company below that threshold would choose the less-risky debt
2 over common equity investment in the company. Thus, MDU would not be competing with
3 these companies for capital.

4 **Q. DID YOU REMOVE ANY COMPANIES FROM THE DCF ANALYSIS BECAUSE**
5 **THEY HAD ROE RESULTS THAT WERE UNREASONABLY LOW?**

6 A. No. The average yield for the Moody's 10-year Baa Corporate Bond Yield Index was 5.84
7 percent over June 17, 2024-July 12, 2024,³⁴ while the mean of 20 percent of the CAPM
8 risk premium for the two CAPM approaches was 1.19 percent.³⁵ The sum of the two
9 components of the minimum threshold was 7.03 percent. All the ROEs in the analysis
10 exceeded that value.

11 **Q. WHAT ROE DID YOU FIND FOR YOUR CONSTANT-GROWTH DCF**
12 **ANALYSIS?**

13 A. For the seven companies, the mean ROE was 10.23 percent. The median ROE also was
14 10.33 percent.³⁶

15 **B. Multistage DCF Analysis**

16 **Q. WHAT ASSUMPTION IS MADE ABOUT THE EXPECTED GROWTH RATE IN**
17 **THE MULTISTAGE DCF MODEL?**

18 A. In the multistage DCF model it is assumed that the current growth rates are replaced by
19 other growth rates covering intervals subsequent to the present period. There are several

³⁴ Exhibit MFG-15 Schedule 5.

³⁵ Exhibit MFG-15, Schedule 8.

³⁶ Exhibit MFG-14, Schedule 1.

1 possible approaches to a multistage analysis, but in many of the variations a long-run gross
2 domestic product (“GDP”) growth rate is adopted after the first stage.

3 **Q. WHAT LOGIC SUPPORTS ADOPTING GDP GROWTH RATES AFTER THE**
4 **FIRST STAGE OF A MULTISTAGE DCF ANALYSIS?**

5 A. The logic for adopting a long-run GDP growth rate after the first stage of a multistage
6 analysis is that a company cannot sustain growth faster than the growth rate of the economy
7 as a whole over the long run.

8 **Q. WHAT LONG-RUN GDP GROWTH RATES DID YOU USE?**

9 A. It was my opinion that the second-stage EPS growth rates will be similar to the long-run
10 GDP growth rate forecasts of the Social Security Administration (“SSA”) and the Energy
11 Information Administration (“EIA”). I calculated long-run GDP growth rates from 2030-
12 2050 from information published by these two agencies.³⁷ The SSA rate was 4.04
13 percent,³⁸ while the EIA rate was 4.33 percent.³⁹

14 **Q. WHAT TYPE OF MULTISTAGE DCF ANALYSIS DID YOU USE?**

15 A. I applied what is sometimes called a blended approach as my multistage DCF analysis. In
16 this approach, all inputs other than the EPS growth rates are the same as in the constant-
17 growth DCF analysis. I continued to use the five-year EPS forecasts in the first stage but
18 used the weighted long-run GDP growth rate as my second-stage EPS input. At that point
19 I blended the two growth rates by weighting the average of the five-year EPS forecasts

³⁷ The SSA and EIA GDP growth rates include inflation.

³⁸ Exhibit MFG-14, Schedule 2.

³⁹ Exhibit MFG-14, Schedule 3.

1 two-thirds and the long-run weighted GDP growth rate one-third. This approach is set
2 forth in a widely used regulatory handbook.⁴⁰

3 **Q. WHAT IS THE RESULT OF YOUR MULTISTAGE DCF ANALYSIS?**

4 A. For the seven companies, the mean ROE was 9.57 percent. The median ROE was 9.51
5 percent.⁴¹

6 **Q. PLEASE DISCUSS FLOTATION ADJUSTMENTS.**

7 A. When companies issue equity, the price paid by investors for the new shares is higher than
8 the revenues per share received by the company. The difference is issuance, or flotation,
9 costs. These costs are the fees and expenses the company must pay as part of the issuance.
10 The return on equity must be adjusted to recognize this difference, or a company will be
11 denied the reasonable opportunity to earn its required rate of return.

12 **Q. HAVE YOU MADE A FLOTATION ADJUSTMENT FOR THE COMPANY?**

13 A. No. I have not included a flotation adjustment in my ROE values. The Commission can
14 decide to add an adjustment relying on the following analysis.

15 **Q. FINDING AN APPROPRIATE FLOTATION ADJUSTMENT FOR MDU.**

16 A. Ms. Bulkley determines that the flotation cost for MDU is 3.681 percent, the average of
17 issuance expenses for MDU Resources in 2002 and 2004, the most recent issuances
18 undertaken by MDU's parent company. When applied, the flotation adjustment is 15.6
19 basis points.⁴² This adjustment can be added to any of the ROE recommendations in this
20 testimony if the Commission chooses.

⁴⁰ Exhibit MFG-14, Schedule 4; Morin, Roger, *New Regulatory Finance (2006)*, Public Utilities Reports, Inc., Vienna, Virginia, page 309.

⁴¹ Exhibit MFG-14, Schedule 5.

⁴² Exhibit MFG-14, Schedule 1.

1 **VII. CAPM ANALYSIS FOR THE COMPARISON GROUP**

2 **Q. WHAT ARE THE STRENGTHS AND WEAKNESSES OF THE CAPM?**

3 A. The CAPM is theoretically sound, but its application raises some issues. The analysis using
4 CAPM selects a riskless asset, beta, and market risk premium. The ROE analysis can vary
5 considerably depending on the analyst's choices for these variables. Thus, what at first may
6 seem like a model that is straightforward depends heavily on the particular input values
7 used by an analyst.

8 **Q. WHAT INSTRUMENT DID YOU USE AS YOUR RISKLESS ASSET?**

9 A. The analyst must select the riskless asset. Short-term assets such as 90-day Treasury Bills
10 are considered to be virtually riskless; the default risk is next to nothing, and the inflation
11 risk is negligible. Equity investors, however, typically have a longer planning horizon than
12 the 90-day maturity of these instruments, so the return on these bills is not suitable for this
13 CAPM process. Long-Term Treasury bonds, on the other hand, match the planning horizon
14 and have yields that are closer to common equity returns. But these instruments are subject
15 to substantial inflation risk and, therefore, are not riskless. Nevertheless, I adopted the 30-
16 year U.S. Treasury yield as my risk-free rate. Its favorable characteristics outweigh its
17 unfavorable characteristics.

18 **Q. WHAT PERIOD DID YOU USE FOR THE 30-YEAR TREASURY YIELD IN**
19 **YOUR CAPM ANALYSIS?**

20 A. I used the average yield on a 30-year Treasury bond for June 17, 2024, to July 12, 2024, as
21 my riskless asset rate. This average yield was 4.45 percent.⁴³ This approach to calculating

⁴³ Exhibit MFG-15, Schedule 1.

1 the risk-free rate is consistent with how I found common-equity share prices within the
2 DCF model.

3 **Q. WHY DID YOU USE THE RECENT 30-YEAR TREASURY YIELD IN YOUR**
4 **CAPM ANALYSIS?**

5 A. Current yields on the 30-year Treasury bond are the best risk-free rate for the CAPM
6 analysis. Much like current common equity share prices reflect all information about
7 factors affecting the value of the shares, so too do current bond yields capture the beliefs
8 of investors as to where yields on the instruments are headed.

9 **Q. WHAT VALUES DID YOU USE FOR BETA (β)?**

10 A. I used the betas for each company in the Comparison Group taken from *The Value Line*
11 *Investment Survey* reports of May 24, 2024.⁴⁴ These beta values are Value Line's latest
12 assessment for each company.

13 **Q. HOW IS BETA (β) INTERPRETED?**

14 A. A beta of 1 indicates that a company's share price will move with the market, while a beta
15 higher than 1 indicates that a stock will be more volatile than the market, and a beta lower
16 than 1 indicates that a stock will be less volatile than the market.

17 **Q. WHAT DID YOU USE AS THE MARKET RISK PREMIUM?**

18 A. I used two approaches to determine the market risk premium. In one case, I adopted Kroll's
19 estimate of the risk premium that companies currently require as they consider future
20 returns on investment. In the other case I used S&P 500 inputs to find the market return
21 for that broad market return.

⁴⁴ Exhibit MFG-15, Schedule 2.

1 **Q. WHAT SOURCE DID YOU USE FOR AN EXPERT ESTIMATE OF THE**
2 **CURRENT MARKET RISK PREMIUM?**

3 A. I used Kroll's 2024 equity risk premium (equivalent to the MRP) estimate of 5.0 percent.⁴⁵
4 Kroll is currently publisher of a financial statistical volume⁴⁶ previously published by Duff
5 & Phelps and before that by Ibbotson and Associates. The company also provides financial
6 advice. This value reflects the opinion of the company's corporate risk experts.

7 **Q. WHAT WAS THE NEXT STEP IN CALCULATING THE KROLL CAPM ROE?**

8 A. I multiplied the MRP by the beta for each Comparison Group company to find that
9 company's risk premium (RP).⁴⁷

10 **Q. WHAT WAS THE FINAL STEP IN CALCULATING THE KROLL CAPM ROE?**

11 A. I added the RP for each Comparison Group company to the risk-free rate to find a specific
12 company's CAPM ROE.⁴⁸

13 **Q. WHAT WAS THE RESULT OF THE KROLL CAPM ANALYSIS?**

14 A. The mean ROE for my Kroll CAPM analysis was 8.77 percent and the median ROE was
15 8.70 percent.⁴⁹

16 **Q. PLEASE DESCRIBE THE CONSTRAINTS THAT APPLY TO YOUR**
17 **CALCULATION OF THE S&P 500 MARKET RISK RETURN?**

18 A. Under FERC Opinion 569, FERC starts with the S&P 500 as its base for determining the
19 broad market return. FERC requires that companies included in the market return analysis

⁴⁵ Exhibit MFG-15, Schedule 4, Kroll, *Cost of Capital in the Current Environment*, June 6, 2024.

⁴⁶ *Stocks, Bonds, Bills, and Inflation*.

⁴⁷ Exhibit MFG-15, Schedule 5.

⁴⁸ *Id.*

⁴⁹ *Id.*

1 be paying dividends, an essential part of any DCF analysis. Companies with EPS estimates
2 less than zero percent and greater than 20 percent are excluded, thereby handling the
3 problem of outliers at either end of the spectrum.

4 **Q. WHAT DID YOU USE AS THE SOURCE OF DIVIDENDS AND SHORT-TERM**
5 **EPS FORECASTS?**

6 A. FERC has accepted Value Line short-term EPS forecasts in the CAPM.⁵⁰ Therefore, I
7 used Value Line's EPS forecasts for the companies in Value Line's S&P 500. Value
8 Line also provides dividend yields for S&P 500 companies.

9 **Q. WHAT ELSE WAS INVOLVED IN YOUR CALCULATION?**

10 A. The term within parentheses in the CAPM equation is called the "market risk premium."
11 It is the difference between the return on a broad market measure and the risk-free rate of
12 return. In other words, the premium that investors require in order to take on risk. As
13 noted above, I already had the risk-free rate. Therefore, I needed to calculate a market rate
14 of return.

15 **Q. WHAT PROCEDURE DID YOU USE TO FIND THE MARKET RETURN?**

16 A. As stated, I use the S&P 500 inputs in finding my market risk premium. I downloaded these
17 values on July 19, 2024.⁵¹ I applied Value Line growth rates⁵² to the dividend yields to
18 find the expected dividend yield, adding a full year's growth.

⁵⁰ See *Ass'n of Bus. Advocating Tariff Equity v. Midcontinent Indep. Sys. Operator, Inc.*, Opinion No. 569-A, 171 FERC ¶ 61,154, ¶¶ 58 (2020).

⁵¹ Exhibit MFG-15, Schedule 6.

⁵² Exhibit MFG-15, Schedule 7.

1 **Q. WHAT WERE THE NEXT STEPS IN FINDING THE S&P CAPM RETURN ON**
2 **EQUITY?**

3 A. I applied the dividend-paying rule, and the minimum and maximum threshold rules of less
4 than or equal to zero percent and greater than 20 percent to the set of S&P 500 companies.⁵³
5 I then weighted the remaining ROEs by the market capitalization for each company. The
6 sum of those individual ROEs is the market return. The value for the Value Line set was
7 11.33 percent.⁵⁴ The market risk premium was calculated by subtracting the 4.45 percent
8 return on the 30-year Treasury from the market return. The result was 6.88 percent. This
9 amount is multiplied by the beta for each Comparison Group company to find that
10 company's CAPM ROE.⁵⁵

11 **Q. DOES FERC HAVE SCREENS FOR OUTLIER CAPM ROES?**

12 A. Yes. FERC applies Low-End and High-End Test to the CAPM adjusted ROEs. My Low-
13 End Test is the same as the minimum threshold for the DCF ROEs, the four-week average
14 of the Moody's 10-year Baa Corporate Bond Yield Index value of 5.84 percent plus 20
15 percent of the CAPM risk premium. The High-End Test is 200 percent of the median value
16 of all companies included in the analysis. The values of the outlier tests are different in the
17 Kroll and Value Line analyses because of the different market risk premiums produced.
18 However, no CAPM ROEs were removed due to the Low-End or High-End Tests in either
19 of my analyses. I combined the two analyses to find a mean Low-End Test of 7.03
20 percent.⁵⁶

⁵³ Exhibit MFG-15, Schedule 6.

⁵⁴ *Id.*

⁵⁵ Exhibit MFG-15, Schedule 7.

⁵⁶ Exhibit MFG-15, Schedule 8.

1 **Q. DID YOU INCLUDE A SIZE ADJUSTMENT IN YOUR CAPM ANALYSES?**

2 A. No. I did not include a size adjustment. There are studies that indicate the size adjustment
3 is not appropriate for the CAPM. Damodaran emphasizes that the historical data
4 supporting the effect are ambiguous. The support was strongest up to 1980, but has waned
5 since then. The size premium has disappeared for decades, then reappeared, and
6 disappeared again and again.⁵⁷ Ang states that investors do not appear to demand
7 compensation for small size. He cites studies of the practices of mutual fund investors,
8 equity analysts, and financial officers of companies. In all three studies, the favored method
9 for estimating required rate of return is the unadjusted CAPM. Versions of the CAPM with
10 size adjustments do not improve on the basic model results enough to be adopted by the
11 users. If multifactor models did perform better, Ang asserts, it would be observed that
12 investors prefer to use them in place of the unadjusted CAPM. Further, the studies that
13 have shown a size effect may be examples of data mining: e.g., start and stop periods for
14 the data to be studied that show a size effect, but the finding cannot be replicated when the
15 span of the study has different beginnings and ends.⁵⁸

16 Both Damodaran and Ang declare that the small capitalization premium may be a proxy
17 for liquidity. They maintain that it is not a good substitute for illiquidity, which requires
18 looking closely at individual firms rather than making a size adjustment to all firms. They
19 also both note that almost all of the size premium that shows in the data is earned in
20 January. No explanation for why small companies are riskier in January has been put forth,

⁵⁷ Damodaran, Aswath, “The Small Cap Premium: Where is the Beef?” Business Valuation Review, Volume 34, Number 4 (2015).

⁵⁸ Ang, Clifford S., “The Absence of a Size Effect Relevant to the Cost of Equity.” Business Valuation Review, Volume 37, Number 3 (2018).

1 a requirement for the size premium to be a valid factor. The studies recommend not making
2 adjustments for an effect that may be transitory, at best, and not one that investors demand
3 in the prices they pay for common equity. For the foregoing reasons I do not include an
4 adjustment for size in my CAPM ROE analysis.

5 **Q. DID YOU INCLUDE A CREDIT-RISK ADJUSTMENT IN YOUR CAPM**
6 **ANALYSIS?**

7 A. No. By using credit rating as one of the proxy group selection criteria, I accounted for
8 different credit risks. The companies selected for the proxy group range from A+ to BBB,
9 a relatively tight grouping. As noted previously, companies that are close in credit rating
10 have similar risk, so no credit-rating adjustment is necessary.

11 **VIII. RECOMMENDED ROE**

12 **Q. PLEASE SUMMARIZE YOUR ROE RESULTS.**

13 A. I performed four ROE analyses: (1) constant-growth DCF, (2) multistage DCF, (3) Kroll
14 MRP estimate CAPM, and (4) S&P 500 CAPM for Value Line. The resulting ROE values
15 are:

1

DCF ROE Mean and Median Results

	Constant growth	Multistage
Mean	10.23%	9.57%
Median	10.33%	9.51%

2

CAPM ROE Mean and Median Results

	Kroll	Value Line
Mean	8.77%	10.40%
Median	8.70%	10.30%

3 **Q. PLEASE COMMENT ON THE DCF ROE RESULTS.**

4 A. The DCF constant-growth ROE result was higher than the multistage counterpart ROE.
5 The multistage approach incorporates the long-run growth rates. Both results are within the
6 8.80-10.50 percent range of authorized ROEs from January 1, 2021, to December 31, 2023,
7 for U.S. natural gas utilities as reported by Regulatory Research Associates (“RRA”), a
8 unit of S&P Global IQ Pro.⁵⁹

9 **Q. PLEASE COMMENT ON THE CAPM ROE RESULTS.**

10 A. The Value Line CAPM ROE was the highest of the results. On the other hand, the Kroll
11 CAPM ROE was the lowest of the four results. Both analyses are consistent with the range
12 of recent authorized ROEs.

⁵⁹ Exhibit MFG-16.

1 **Summary of ROE Awards for 2021-2023**

Year	No. of Cases	Mean ROE	Median ROE	ROE Range
2021	43	9.56	9.60	8.80-10.24
2022	33	9.53	9.60	9.20-10.20
2023	37	9.60	9.55	9.25-10.50

2
3 **Q. HOW DID YOU ARRIVE AT A RECOMMENDED ROE FOR MDU?**

4 A. The four ROE results, as noted, are consistent with the U.S. authorized ROEs range of 8.80
5 percent to 10.50 percent. Therefore, I weighted these four results equally, producing a mean
6 ROE of 9.742 percent and a median ROE of 9.710 percent. My recommended ROE for
7 MDU is 9.725 percent, roughly the midpoint of the mean and median ROEs.⁶⁰

8 **IX. REASONABLENESS CHECK OF THE RECOMMENDED ROE**

9 **Q. HOW DID YOU CHECK THE REASONABLENESS OF YOUR ROE RESULTS?**

10 A. I checked the reasonableness of my analyses' outcomes by comparing the ROEs with
11 recent ROEs authorized in natural gas rate cases across the United States.

12 **Q. HOW DO YOU USE THIS SET OF AUTHORIZED ROES?**

13 A. I use the recently authorized ROEs as a basis for evaluating the reasonableness of my ROE
14 results. I did not use it as a substitute for those analyses.

15 **Q. WHY ARE PAST AUTHORIZED ROES NOT A GOOD SUBSTITUTE FOR**
16 **CURRENT, FORWARD-LOOKING ROE ANALYSES?**

17 A. Recently authorized ROEs reflect the results of rate cases conducted in a variety of
18 environments and at different times. Test years, conditions in capital markets, general

⁶⁰ Exhibit MFG-17, Schedule 1.

1 economic indicators such as inflation rates, and so forth for previous rate cases can be
2 different and become outdated when compared with these factors for a current rate case.
3 Therefore, recently authorized ROEs should serve only to establish whether a current ROE
4 result is reasonably close to what has happened, not be a substitute for forward-looking
5 analysis based on current conditions.

6 **Q. WHAT DID YOU CONCLUDE REGARDING YOUR ROE ANALYSIS AND THE**
7 **RESULTS FOR THE 2021-2023 AUTHORIZED NATURAL GAS ROES?**

8 A. My recommended ROE of 9.725 percent marginally exceeds the annual mean ROEs (9.53
9 percent to 9.60 percent) and median ROEs (9.55 percent to 9.60 percent) for the 2021-2023
10 authorized natural gas ROEs.⁶¹ My analysis captures the most recent trends in common
11 equity prices, dividends, EPS growth rate estimates, beta values, and U.S. Treasury bond
12 yields. The 9.725 percent ROE reflects these trends.

13 **X. RECOMMENDED CAPITAL STRUCTURE AND**
14 **OVERALL RATE OF RETURN**

15 **Q. WHAT DEBT COSTS DID MDU PROPOSE IN THIS DOCKET?**

16 A. MDU proposed a cost of long-term debt of 4.569 percent. This cost of long-term debt is
17 based on the MDU's Test Year period ending December 31, 2024.⁶² MDU proposed a cost
18 of short-term debt of 4.954 percent. The MDU short-term debt cost also is based on the
19 2024 Test Year.⁶³

⁶¹ Exhibit MFG-17, Schedule 1.

⁶² MDU, Statement E, Schedule E-1, Page 1 of 4.

⁶³ MDU, Statement E, Schedule E-2, Page 1 of 1.

1 **Q. WHAT IS YOUR POSITION REGARDING MDU'S PROPOSED LONG-TERM**
2 **DEBT COST?**

3 A. I accepted the proposed 4.569 percent long-term debt cost for this docket. This debt cost is
4 reasonable.

5 **Q. WHAT IS YOUR POSITION REGARDING MDU'S PROPOSED SHORT-TERM**
6 **DEBT COST?**

7 A. I accepted the proposed 4.954 percent long-term debt cost for this docket. This debt cost is
8 reasonable.

9 **Q. WHAT CAPITAL STRUCTURE DID YOU RECOMMEND FOR MDU?**

10 A. I accepted the requested MDU capital structure of 45.296 percent long-term debt, 4.519
11 percent short-term debt, and 50.185 percent common equity.⁶⁴

12 **Q. HOW DID YOU DETERMINE YOUR RECOMMENDED MDU CAPITAL**
13 **STRUCTURE?**

14 A. To find a recommended capital structure for MDU, I turned to the Comparison Group
15 companies. Recall that they have risk profiles similar to that of the Company. Therefore,
16 MDU's capital structure ratios should be, not identical, but close to the average ratio values
17 for the group. To that end, I calculated the average long-term debt, short-term debt, and
18 common equity proportions for the seven natural gas utilities in the Comparison Group.
19 These average ratios reflected the dollar amount by company for each of the eight quarters
20 from the second quarter of 2022 to the first quarter of 2024. The source of the amounts
21 upon which the company ratios were based is S&P Global Market Intelligence.

⁶⁴ Exhibit MFG-17, Schedule 2.

1 **Q. WHY DID YOU SELECT THESE EIGHT QUARTERS FOR YOUR CAPITAL**
2 **STRUCTURE ANALYSIS?**

3 A. I used two years of data to smooth the effects of any quarter that was an outlier. Using two
4 years of data also mitigated any seasonal effects on the capital structures. The first quarter
5 of 2024 is the most recent quarter for which data were available. Therefore, I began my
6 analysis with data from the second quarter of 2022.

7 **Q. DID YOU MAKE ADJUSTMENTS FOR THE CAPITAL STRUCTURE**
8 **AMOUNTS INCLUDED ON YOUR ANALYSIS?**

9 A. Yes. Atmos Energy and One Gas, Inc. were affected by Winter Storm Uri in 2021. Uri
10 caused these companies to purchase gas in market conditions where their demand for the
11 fuel was inelastic and the price was high. Regulatory commissions in the states where the
12 companies operate enabled the utilities in securitizing their uncharacteristically high short-
13 term debt amounts. The securitized amounts are not intended to be included in ratemaking
14 for the utilities. Therefore, I excluded the second through fourth quarters of 2022 for these
15 companies.⁶⁵ Further, NiSource incurred extraordinary debt in the third and fourth quarters
16 of 2023 to facilitate the sale of 19.9 percent of its Northern Indiana Public Service Co.
17 subsidiary.⁶⁶ I also excluded those two quarters from my analysis.

18

⁶⁵ See for example, the Arkansas Electric Utility Storm Recovery Securitization Act of 2020, Ark. Code Ann. § 23-18-901, *et seq.*

⁶⁶ See NiSource, <https://www.nisource.com/news/aarticle/nisource-inc.-completes-nipsco-minority-equity-interest-transaction>.

1 **Q. WHAT WAS THE OUTCOME OF YOUR CAPITAL STRUCTURE ANALYSIS?**

2 A. With the noted omissions, for the Comparison Group set of seven natural gas utilities over
3 the eight quarters, the long-term debt proportion was 45.07 percent, the short-term debt
4 proportion was 9.86 percent, and the common-equity proportion was 44.07 percent.

5 **Q. DID YOU PERFORM AN ADDITIONAL CAPITAL STRUCTURE ANALYSIS?**

6 A. Yes. I removed ONE Gas and Spire Inc. entirely from the analysis. These public utilities
7 have, respectively, short-term debt averages of 17.21 percent and 15.41 percent. The
8 values are outliers. The capital structure that resulted from these deletions is 47.97 percent
9 long-term debt, 7.28 percent short-term debt, and 44.75 percent common equity.

10 **Q. PLEASE COMPARE YOUR CAPITAL STRUCTURE ANALYSES OUTCOMES**
11 **TO MDU'S REQUESTED CAPITAL STRUCTURE.**

12 A. MDU requested a capital structure of 45.296 percent long-term debt, 4.519 percent short-
13 term debt, and common equity of 50.185 percent.⁶⁷ While, the requested capital structure
14 includes about the same ratio of long-term debt as found in my analyses, it has less short-
15 term debt and more common equity. This combination of ratios increases the bills of MDU
16 customers.

17 **Q. PLEASE DISCUSS THE CAPITAL STRUCTURE RATIOS OF THE**
18 **COMPARISON GROUP MEMBERS.**

19 A. The capital-structure ratios of the Comparison Group members are notable for their
20 dispersion. The long-term debt ratios range from 35.75 percent for ONE Gas to 57.80
21 percent for NiSource. The short-term debt and common-equity ratios have similar broad

⁶⁷ MDU, Statement E, Schedule E, Page 1 of 1.

1 differences between the lowest and highest ratios. I conclude that the range and average of
2 the group provide little guidance at this time as to a reasonable capital structure for the
3 Company.

4 **Q. WHAT IS YOUR RESPONSE TO THE COMPANY'S CAPITAL STRUCTURE**
5 **REQUEST?**

6 A. The Company's capital structure request is reasonable. The common-equity ratio, for
7 example, is less than the mean and median ratios authorized for natural gas companies from
8 2021-2023.⁶⁸ MDU has provided evidence to support its assertion that the request reflects
9 its pro forma capital structure as December 31, 2024. Considering these factors, I accept
10 the Company's requested capital structure.

11 **Q. WHAT IS THE OVERALL ROR THAT YOU RECOMMENDED FOR THE**
12 **COMPANY?**

13 A. When my recommended ROE of 9.725 percent is included with the Company's
14 recommended capital structure and debt costs, the ROR is 7.174 percent.⁶⁹

15 **Q. DO YOU HAVE AN ADDITIONAL REMARK?**

16 A. Yes. I note that the filing date of the MDU testimony was November 2023. I request that
17 the Company update in Rebuttal Testimony its 2023 and 2024 data in its Statement E to
18 reflect actual capital structure ratios and costs through at least July 31, 2024.

⁶⁸ Exhibit MFG-16.

⁶⁹ Exhibit MFG-17, Schedule 3.

1 **XI. REVIEW OF THE COMPANY'S ROE ANALYSIS**

2 **A. Summary of MDU ROE Analysis**

3 **Q. WHAT METHODS DID MS. BULKLEY USE TO ARRIVE AT HER**
4 **RECOMMENDED ROE?**

5 A. Ms. Bulkley used a constant-growth DCF model, the CAPM, the Empirical CAPM
6 (“ECAPM”) and a risk premium approach.⁷⁰

7 **Q. WHAT WAS THE ROE RECOMMENDED BY MS. BULKLEY FOR MDU?**

8 A. Ms. Bulkley recommended an ROE of 10.50 percent. She identified a range of 10.00
9 percent to 11.00 percent for MDU by her application of the various ROE methods. From
10 this range she stated that 10.50 percent is appropriate for MDU.⁷¹

11 **B. DCF Analysis**

12 **Q. DID MS. BULKLEY APPLY THE DCF MODEL IN HER ROE ANALYSIS?**

13 A. Yes. Ms. Bulkley followed the same approach I did for the constant-growth DCF model.
14 However, she used 90-day average prices and 180-day average prices in addition to a 30-
15 day average price for each company. Further, she presented DCF ROE results for low and
16 high EPS values for the five proxy group members in addition to mean values, giving her
17 a set of nine DCF results for the proxy group.⁷²

18 **Q. PLEASE COMMENT ON MS. BULKLEY'S USE OF THREE PERIODS TO**
19 **DEVELOP AVERAGE PRICE INPUT VALUES FOR THE DCF MODEL.**

20 A. The 90-day and 180-day average price periods at first glance might seem to increase the
21 variety of inputs for the DCF model. Additional examination shows that they give older

⁷⁰ Bulkley Direct, pages 4-5.

⁷¹ *Id.*, page 6.

⁷² *Id.*, page 32.

1 price information equal weight to the more recent information provided by the 30-day
2 average prices, a weighting that is not desirable and is unnecessary. The 30-day average
3 price values reflect all the information available to investors in the 90-day and 180-day
4 values. However, it allows the investors to give that older information the weight the
5 investors believe it deserves rather than treating it equally. The equal weighting approach
6 means that stale price values are incorporated into the analysis.

7 **Q. DID MS. BULKLEY ADJUST HER DCF ROES FOR GROWTH?**

8 A. Yes. Ms. Bulkley adjusted the dividends in her DCF model analysis for growth. She applied
9 a half year's growth,⁷³ whereas I applied a full year's growth. Thus, my adjustment was
10 larger than her adjustment.

11 **Q. WHAT WAS THE RESULT OF MS. BULKLEY'S DCF ANALYSIS?**

12 A. Ms. Bulkley's constant-growth DCF ROE results ranged in value from 9.05 percent to
13 11.56 percent.⁷⁴

14 **C. CAPM Analysis**

15 **Q. DID MS. BULKLEY APPLY THE CAPM IN HER ROE ANALYSIS?**

16 A. Yes. Ms. Bulkley applied the CAPM in her ROE analysis.⁷⁵

17 **Q. DID MS. BULKLEY USE DIFFERENT INPUT VALUES FOR THE VARIABLES**
18 **IN HER CAPM ANALYSES?**

19 A. Yes. Ms. Bulkley used three risk-free rate values and three beta values, along with the S&P
20 500 market return in her CAPM analyses. Again, she obtains a set of nine results.⁷⁶

⁷³ Exhibit No. _____ (AEB-2), Schedule 4, Page 1 of 3.

⁷⁴ *Id.*, page 35.

⁷⁵ *Id.*, page 35.

⁷⁶ Bulkley Direct, page 40.

1 **Q. WHAT WERE THE RESULTS OF MS. BULKLEY’S CAPM ANALYSES?**

2 A. The results for Ms. Bulkley’s CAPM ROE analyses ranged from 10.37 percent to 11.45
3 percent.⁷⁷

4 **Q. PLEASE COMMENT ON MS. BULKLEY’S USE OF THREE RISK-FREE RATES**
5 **IN HER APPLICATION OF THE CAPM MODEL.**

6 A. Ms. Bulkley uses the 30-day average yield on the 30-Year Treasury Bond, the forecasted
7 rate over the next year, and a five-year forecasted rate. Current yields on the 30-year
8 Treasury bond are the appropriate risk-free rate for this situation. Much like current
9 common equity share prices reflect all information about factors affecting the value of the
10 shares, so too do current bond yields capture the beliefs of investors as to where yields on
11 the instruments are headed. Recent yields are a better indicator of what investors believe
12 long-term interest rates are going to be than forecasts because investors are speaking
13 through their participation in the bond market as to what future yields will be.

14 **D. ECAPM**

15 **Q. PLEASE BRIEFLY DISCUSS THE ECAPM METHOD.**

16 A. The ECAPM makes adjustments to the CAPM approach to compensate for the failure of
17 the CAPM to produce results consistent with the betas of companies. The analysis has not
18 been the subject of research in peer-reviewed journals.⁷⁸ It should not be relied upon in
19 ROE analysis.

⁷⁷ *Id.*, page 38

⁷⁸ Morin, Roger A, *New Regulatory Finance*, Public Utilities Reports, June 1, 2006, page 190, page 213. A reference to Morin 1989 is included in a list of empirical studies of the CAPM in which the outcome for low-beta stocks (such as public utilities) is higher than that predicted by the model. However, the Reference section of the chapter cites a 1989 US West Communications docket before the Arizona Corporation Commission in which Professor Morin filed Rebuttal Testimony.

1 Despite not having been peer reviewed, the ECAPM has been proposed for use in numerous
2 rate cases. However, few Commissions have accepted the ECAPM as electric and gas
3 utilities in general have low betas. Adjusting betas upward, as is done in the ECAPM,
4 guarantees a higher ROE. If betas make sense, then to claim that low-beta stocks tend to
5 have higher risk premia contradicts the efficient market theory.

6 **E. Risk-Premium Approach**

7 **Q. PLEASE BRIEFLY DISCUSS THE RISK-PREMIUM METHOD.**

8 A. The risk-premium method is a historical approach to ROE analysis. The inputs to the
9 method are authorized ROEs and U.S. Treasury yields from the past. Thus, the regression
10 model developed by Ms. Bulkley for her Bond Yield Risk Premium (“BYRP”) approach
11 finds only what has happened in certain circumstances, not what investors, signaling
12 through their willingness to pay certain prices for common-equity shares, tell the market
13 they expect will happen. The DCF model and the CAPM, as applied by both Ms. Bulkley
14 and me, are forward-looking models and are preferred to the risk-premium method for that
15 reason.

16 **Q. PLEASE DISCUSS THE RISK-PREMIUM METHOD’S CALCULATIONS.**

17 A. Prior authorized utility ROEs and the bond yields in effect at the time the authorized ROEs
18 are ordered are inputs into the risk-premium method. The values for the variables are used
19 in statistical analysis that develops a relationship between the risk-free bonds and the
20 authorized ROEs. The differences between the two variables’ values when aggregated in
21 the statistical analysis produce a risk premium. The outcome of the analysis is an equation
22 in which the current bond yield serves as an input to produce a current ROE for a public

1 utility in a base rate case. Although the bond yield is current, the equation into which it is
2 input is a product of an historical relationship, so the resulting ROE is not forward-looking.

3 **Q. PLEASE DISCUSS HOW THE RISK-PREMIUM METHOD INTRODUCES**
4 **CIRCULARITY INTO ROE ANALYSIS.**

5 A. The ROE for a current case becomes an input in any following risk-premium approach
6 ROE analyses, setting up a circularity loop of references from one rate case to the next.
7 Eventually, the current authorized ROE becomes part of the set of historical authorized
8 ROEs that serve as inputs into the risk-premium analysis that can be part of the ROE
9 analysis for the subject utility. The current views of investors regarding the subject
10 company are not part of the risk-premium approach.

11 **Q. DO INVESTORS TAKE PREVIOUS AUTHORIZED ROES INTO ACCOUNT AS**
12 **THEY MAKE DECISIONS ABOUT BUYING AND SELLING NATURAL GAS**
13 **UTILITY COMMON-EQUITY SHARES?**

14 A. Yes. Previous authorized ROEs for a subject utility and other companies are an element
15 that investors consider in making decisions.

16 **Q. HOW IS THIS CONSIDERATION OF PREVIOUS AUTHORIZED ROES BY**
17 **INVESTORS DIFFERENT THAN USING PREVIOUS AUTHORIZED ROES IN**
18 **THE RISK-PREMIUM METHOD?**

19 A. When investors include previous authorized ROEs, and other inputs into their decisions,
20 they make judgments as to how much weight to give to each variable. Further, they also
21 include their assessments of the future prospects of a subject utility and other companies
22 in the same industry in their process. These expectations of the future are not part of the

1 risk-premium method. As for the previous authorized ROEs, the relationship between them
2 and bond yield values is rigid in risk-premium analysis.

3 **Q. WHAT WAS THE RESULT OF MS. BULKLEY'S RISK-PREMIUM ANALYSIS?**

4 A. The range for Ms. Bulkley's risk-premium ROE analysis was 10.10 percent to 10.27
5 percent.⁷⁹

6 **F. Summary of Ms. Bulkley's ROE Analyses**

7 **Q. PLEASE CHARACTERIZE MS. BULKLEY'S ROE RESULTS.**

8 A. Ms. Bulkley takes DCF approaches, then multiplies the ROE results from each model by
9 using different input values for the variables. From the nine DCF model ROEs, the nine
10 CAPM ROE values, nine ECAPM ROE values, and the three risk-premium approach
11 ROEs, Ms. Bulkley concludes that 10.00 percent to 11.00 percent is a reasonable range for
12 MDU's ROE. There is no explanation as to why these values are reasonable. The same
13 holds true for Ms. Bulkley's choice of 10.50 percent as the correct ROE for the Company
14 other than it is the midpoint of her range.⁸⁰

15 **Q. WHY IS IT IMPORTANT THAT THE ROE RANGE BE TIED TO VERIFIABLE
16 RELATIONSHIPS?**

17 A. As noted, Ms. Bulkley identifies a range of 10.00 percent to 11.00 percent. However, a
18 visual inspection of her range chart indicates the range could as easily have been 9.75
19 percent to 10.50 percent if the various analyses outcomes are weighted by the length of the
20 lines in the chart. Would Ms. Bulkley's recommended ROE then be 10.125 percent?
21 Further, if the unsupported ECAPM is deleted from the visual analysis, the ROE range

⁷⁹ Bulkley Direct, page 43.

⁸⁰ Bulkley Direct, page 5-6.

1 shifts farther to the left and lower values for ROEs. Such a shift is as valid as Ms. Bulkley's
2 original choice of range. My choice of an ROE is the product of weighting four outcomes
3 equally, then selecting an ROE consistent with the mean and median that are the results of
4 the weighting. My process is transparent, while Ms. Bulkley's is not.

5 XII. CONCLUSION

6 **Q. WHAT ARE THE CRITERIA THE COMMISSION SHOULD CONSIDER IN**
7 **SETTING THE COMPANY'S ROE AND COST OF CAPITAL?**

8 A. The Commission should only consider whether the ROE and overall cost of capital meet
9 the *Bluefield* and *Hope* criteria for a fair return. Recounting, these criteria include returns
10 commensurate with returns being earned on other investments with equivalent risks, rate
11 of return sufficient to enable the utility to attract capital and returns sufficient to enable the
12 regulated company to maintain its credit rating and financial integrity. The interpretation
13 of the *Hope* and *Bluefield* criteria is that a company should be given the opportunity to earn
14 an ROE and overall cost of capital sufficient to meet these standards.

15 **Q. WHAT IS YOUR RECOMMENDED RETURN ON EQUITY AND OVERALL**
16 **COST OF CAPITAL FOR MDU?**

17 A. I recommend an ROE of 9.725 percent and an overall cost of capital of 7.174 percent for
18 MDU.

19 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

20 A. Yes. However, I reserve the right to update this testimony as may be necessary.

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	2015 – present
Senior Consultant – Snively King Majoros and Associates	2013 – 2014
Utilities Financial Analyst – Minnesota Department of Commerce	2003 – 2013
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 23 years' experience as an expert witness and consultant, primarily addressing the cost of capital and capital structure for electric, natural gas, and water utilities. He has also made appearances regarding rate design, the competitive effect of mergers, reliability and supply adequacy, and oil-pipeline companies in certificate of need cases. In addition, he managed testimony in two oil-pipeline certificate-of-need cases and arbitrated a telecommunications dispute for the Nebraska Public Service Commission. Dr. Griffing has appeared more than 60 times in cost of capital dockets and other matters before the regulatory agencies of Arkansas, California, Hawaii, Maine, Maryland, Minnesota, Nebraska, New Jersey, New Mexico, North Dakota, Oklahoma, Pennsylvania, South Dakota, Wyoming, and the Federal Energy Regulatory Commission.

PCMG and Associates LLC

Regulatory Projects and Appearances

1. In the Matter of the FirstEnergy Pennsylvania Base Rate Case (2024) (Appearance: cost of capital on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2024-3047068
2. Application of Northern States Power Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2024) – (Appearance: cost of capital on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission Docket No. PU-23-367
3. Application of Otter Tail Power Company for Authority to Increase Electric Rates in North Dakota (2024) – (Appearance: cost of capital on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission Docket No. PU-23-342
4. Application of Montana-Dakota Utilities Company for Authority to Increase Rates for Natural Gas Service in North Dakota (2024) – (Appearance: cost of capital on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission Docket No. PU-23-341
5. In the Matter of the Verified Petition of Jersey Central Power & Light Company for Approval of an Infrastructure Investment Program II (“EnergizeNJ”) (2023) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. EO23110793
6. In the Matter of the Petition of Veolia Water New Jersey Inc. for Approval of an Increase in Rates for Water/Sewer Service and Other Tariff Changes (2023) – (Appearance: rate of return and cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR23110790
7. In the Matter of the Petition of the Application of Black Hills Wyoming Gas, LLC d/b/a Black Hills Energy for Approval of a General Rate Increase of \$19,262,41 to the Retail Gas Rates Effective for Usage on and After February 1, 2023 and Extension of the Wyoming Integrity Rider (2023) – (Appearance: cost of capital on behalf of the Wyoming Office of Consumer Advocate)
Wyoming Public Service Commission Docket No. 30026-78-GR-23
8. In the Matter of the Petition of Middlesex Water Company for Approval of an Increase in Rates for Water Service and Other Tariff Services (2023) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR23050292

PCMG and Associates LLC

PCMG and Associates LLC

9. In the Matter of the Petition of Jersey Central Power and Light Company for Authority to Issue and Sell Up to \$700,000,000 Aggregate Principal Amount of Senior Notes in One or More Series and to Make, Execute and Deliver One or More Supplemental Indentures in Connection Therewith (2023) – (Appearance: debt issuance petition on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. EF23060339
c
10. In the Matter of the Pittsburgh Water and Sewer Authority Base Rate Case (2023) (Appearance: Cash Flow and Bond Ratings on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2023-3039920, R-2023-3039921, R-2023-303991
11. In the Matter of the Application of Hawaii Water Service Co. for Approval of a General Rate Increase for Its Pukalani Wastewater Division and Certain Tariff Changes (2022) (Appearance: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2022-0186
12. In the Matter of the Philadelphia Gas Works Base Rate Case (2023) (Appearance: Cash Flow and Bond Ratings on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2023-3037933
13. In the Matter of the Application of Lanai Water Company, Inc. for Review and Approval of Rate Increases; Revised Rate Schedules; and Changes to its Tariff (2022) (Appearance: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2022-0233
14. Application of Southern Maryland Electric Cooperative, Inc., for Authority to Revise Its Rates and Charges for Electric Service and Certain Rate Design Changes (2023) – (Appearance: cost of capital on behalf of the Maryland Office of the People’s Counsel)
Maryland Public Service Commission Case No. 9688
15. In the Matter of Petition of Atlantic City Electric Company for Approval of Powering the Future, an Infrastructure Investment Program and Related Cost Recovery Mechanism, Pursuant to *N.J.A.C. 14:3-2A.1 et. seq.* (2022) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. ER22100666
16. Application of San Diego Gas & Electric Company (U902M) for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2023 and to Reset the Annual Cost of Capital Mechanism (2022) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the United Consumer Action Network)

PCMG and Associates LLC

California Public Utilities Commission Proceeding A.22-04-008

17. In the Matter of the Petition of Rockland Electric Company for Approval of an Infrastructure Investment Program, and Related Cost Recovery Mechanism (2022) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. ER22030198
18. Application of the Empire District Electric Company, a Kansas Corporation, for an Adjustment in Its Rates and Charges for Electric Service in the State of Oklahoma (2021) – (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 202100163
19. In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma (2022) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 202100164
20. In the Matter of the Application of Northern States Power Co. for Authority to Increase Rates for Natural Gas Service in North Dakota (2022) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the North Dakota Public Service Commission Advocacy Staff)
ND Public Service Commission Case No. PU-21-381
21. In the Matter of the Petition of Public Service Electric and Gas Company for Approval of an Infrastructure Advancement Program Pursuant to N.J.A.C. 14:3-2A.1 et. seq. (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket Nos. EO21111211 and GO21111212
22. In Re: Hawaii-American Water Company – Approval of Rate Increases and Revised Rate Schedules for Wastewater Services (2021) (Appearances: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0063
23. In Re: Kalaeloa Water Company – Approval of a General Rate Increase / Adjustments for Water and Wastewater Services (2021) (Appearance: Cost of Capital on behalf of the Hawaii Division of Consumer Advocacy)
Hawaii Public Service Commission – Case No. 2021-0005
24. In the Matter of Application of San Diego Gas & Electric Company for Authority to Establish Its Authorized Cost of Capital for Utility Operations for 2022 and to Reset the

PCMG and Associates LLC

Annual Cost of Capital Mechanism (2021) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Utility Consumers’ Action Network)
CA Public Utilities Commission Application 21-08-014

25. In the Matter of the Petition of Gordon’s Corner Water Company for an Increase in Rates and Charges for Water Service (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR21070979
26. Maine Water Company, Application for Approval of Rate Increase and Rate Smoothing Mechanism for the Biddeford and Saco Division (2021) – (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. 2021-00289
27. In the Matter of the Petition of New Jersey Natural Gas Company for Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Changes to Depreciation Rates for Gas Property Pursuant to N.J.S.A. 48:2-18 (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. ER21030679
28. In the Matter of the Application of Oklahoma Natural Gas Company, a Division of ONE Gas, Inc., for a Review and Change or Modification in Its Rates, Charges, Tariffs and Terms and Conditions of Service (2021) – (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 202100063
29. 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 and to Approve a Performance-Based Rate Proposal (2021) – (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 202100055
30. Versant Power f/k/a Emera Maine, Proposed Increase in Distribution Rates (2021) – (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. 2020-00316
31. In the Matter of the Verified Petition of Atlantic City Electric Company for Approval of Amendments to its Tariff to Provide for an Increase in Rates and Charges for Electric

PCMG and Associates LLC

Service Pursuant to N.J.S.A. 48:2-21 and N.J.S.A. 48:2-21.1, and for Other Appropriate Relief (2021) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)

New Jersey Board of Public Utilities Docket No. ER201020746

PCMG and Associates LLC

32. In the Matter of the Petition of Elizabethtown Gas Company to Issue Long-Term Debt and Security Therefor and for Authority to Issue and Sell Short-Term Indebtedness, all through December 31, 2023 (2021) – (Appearance: debt issuance petition on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GF20120749
33. Northern States Power Minnesota 2021 Electric Rate Increase Application (2021) – (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the North Dakota Public Service Commission Staff)
ND Public Service Commission Case No. PU-20-441
34. Pike County Light & Power Company 2020 General Base Rate Increase (2020) – (Appearance: Cost of Capital on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket Nos. R-2020-3022134 (Gas) and R-2020-3022135 (Electric)
35. Water Rate Case Consultant for the Maine Public Advocate (2020) – (Appearance: cost of capital on behalf of the Maine Office of Public Advocate in selected cases)
Maine Public Utilities Commission Docket No. 2021-00053
36. In the Matter of the Petition of South Jersey Gas Company for Approval of Increased Base Tariff Rates and Charges for Gas Service, Changes to Depreciation Rates and Other Tariff Revisions (2020) – (Appearance: cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. GR20030243
37. In the Matter of the Verified Petition of Jersey Central Power & Light Company for Review and Approval of Increases in, and Other Adjustments to, its Rates and Charges for Electric Service, and for Approval of Other Proposed Tariff Revisions in Connection Therewith (2020) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. ER20020146
38. In the Matter of the Federal Power Act Rule 206 Complaint Against Public Service Electric and Gas Company (2020) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
Federal Energy Regulatory Commission Docket No. ER09-1257-000
39. In the Matter of the Petition of New Jersey-American Water Company for Approval of Increase Base Tariff Rates and Charges for Water and Wastewater Service and Other Tariff Changes (2019) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)

PCMG and Associates LLC

New Jersey Board of Public Utilities Docket No. WR19121516

PCMG and Associates LLC

40. In the Matter of the Petition of Jersey Central Power & Light Company for Approval of Its Transmission Rates and Transmission Enhancement Charge for Interconnection with PJM Interconnection, L.L.C. (2019) – (Appearance: cost of equity on behalf of the New Jersey Division of Rate Counsel)
Federal Energy Regulatory Commission Docket No. ER20-227-000
41. Request for Approval of Rate Change, Northern Utilities, Inc. (2019) - (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. 2019-00092
42. Application of San Diego Gas & Electric Company (U902M) for Authority to: (i) Adjust its Authorized Return on Common Equity, (ii) Adjust its Authorized Embedded Costs of Debt and Preferred Stock, (iii) Adjust its Authorized Capital Structure; (iv) Modify its Adopted Cost of Capital Mechanism Structure, and (v) Revise its Electric Distribution and Gas Rates Accordingly, and for Related Substantive and Procedural Relief (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Utility Consumers’ Action Network)
California Public Utilities Commission Proceeding A.19-04-017
43. In the Matter of the Application of the Empire District Electric Company, a Kansas Corporation, for an Adjustment in its Rates and Charges for Electric Service in the State of Oklahoma (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 201800133
44. In the Matter of the Petition of New Jersey Natural Gas Company for Approval of an Increase in Gas Base Rates and for Changes in its Tariff for Gas Service, Pursuant to **N.J.S.A. 48:2-21** and **48:2-21.1** and for Changes to Depreciation Rates for Gas Property Pursuant to **N.J.S.A. 48:2-18** (2019) - (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. GR19030420
45. In the Matter of the Petition of Pivotal Utility Holdings d/b/a Elizabethtown Gas Company to Implement an Infrastructure Investment Program (IIP) and Associated Recovery Mechanism (2019) - (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. GR18011197
46. Commission-Initiated Investigation into Rates and Revenue Requirements Pertaining to Emera Maine, Inc. (2019) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the Maine Office of the Public Advocate)

PCMG and Associates LLC

Maine Public Utilities Commission Docket No. 2019-00019

47. In the Matter of Petition of Aqua New Jersey, Inc. for Approval of an Increase in Rates for Water Service and Other Tariff Changes (2018) - (Appearance: return on equity, cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR18121351
48. Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in the State of Oklahoma (2018) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 201800140
49. Commission-Initiated Investigation into Rates and Revenue Requirements Pertaining to Central Maine Power Company (2018) - (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. 2018-00194
50. 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 and to Approve a Performance-Based Rate Proposal (2018) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 201800097
51. In Re: The Matter of the Application of Maryland American Water Co. for Authority to Increase Rates and Charges (2018) – (Appearance: Cost of capital on behalf of the Maryland Office of the People’s Counsel)
Maryland Public Service Commission – Case No. 9487
52. In the Matter of Petition of Atlantic City Electric Co. for Approval of Amendments to Its Tariff to Provide for an Increase in Rates and Charges for Electric Service and for Other Appropriate Relief (2018) - (Appearance: return on equity, cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. ER18060638
53. In the Matter of Petition of SUEZ Water New Jersey, Inc. for Approval of an Increase in Rates for Water/Sewer Service and Other Tariff Changes (2018) - (Appearance: return on equity, cost of capital on behalf of the New Jersey Division of Rate Counsel)
New Jersey Board of Public Utilities Docket No. WR18050593

PCMG and Associates LLC

54. In Re: The Matter of the Application of Columbia Gas of Maryland, Inc. for Authority to Increase Rates and Charges (2018) – (Appearance: Cost of capital on behalf of the Maryland Office of the People’s Counsel)
Maryland Public Service Commission – Case No. 9480
55. In Re: The Matter of the Columbia Gas of Pennsylvania for a General Rate Increase in Distribution Gas Service (2018) – (Appearance: Cost of Capital on behalf of the Pennsylvania Office of Consumer Advocate)
Pennsylvania Public Utility Commission – Docket No. R-2018-2647577
56. In the Matter of the Application of Black Hills Energy Arkansas, Inc. for Approval of a General Tariff Change in Rates and Tariffs (2018) – (Appearance: return on equity, cost of capital on behalf of the Office of the Arkansas Attorney General)
Arkansas Public Service Commission Docket 17-071-U
57. In the Matter of the Petition of Atlantic City Electric Company for Approval of an Infrastructure Investment Program and Related Cost Recovery Mechanism (2018) – (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. EO18020196
58. In the Matter of the Application of Oklahoma Gas and Electric Company for an Order of the Commission Authorizing Applicant to Modify Its Rates, Charges, and Tariffs for Retail Electric Service in Oklahoma (2018) - (Appearance: return on equity, cost of capital on behalf of the Office of the Oklahoma Attorney General)
Oklahoma Commerce Commission Cause No. PUD 201700496
59. Application of Fayson Lake Water Company for the Approval of an Increase in Rates and Other Appropriate Relief (2017) – (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. WR17101041
60. Petition of Middlesex Water Company for Approval of an Increase in its Rates for Water Service and Other Tariff Changes, and an Order Authorizing Special Accounting Treatment of Income Tax Refund Proceeds and Future Income Tax Deductions (2017) – (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. WR17101049
61. In the Matter of the Petition of New Jersey-American Water Company, Inc. for Approval of an Increased Tariff Rates and Charges for Water and Sewer Service, Change in Depreciation Rates, and Other Tariff Modifications (2017) – (Appearance: cost of equity,

PCMG and Associates LLC

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. WR17090985

62. Montana-Dakota Utilities Co., Application to Increase Natural Gas Rates (2017) - (Appearance: cost of equity, cost of debt, capital structure, overall rate of return on behalf of the North Dakota Public Service Commission Staff)
ND Public Service Commission Case No. PU-17-295
63. In the Matter of the Petition of Andover Utility Company, Inc. for Approval of an Increase in Rates for Wastewater Service (2017) – (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. WR17070726
64. 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
65. In the Matter of the Petition 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
66. 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
67. 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
68. 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

PCMG and Associates LLC

69. 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
70. 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
71. 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
72. 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
73. 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
74. 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
75. 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

PCMG and Associates LLC

76. 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
77. 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
78. 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
79. 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

PCMG and Associates LLC

Advance Prudence/Certificates of Need

80. In the Matter of the Application Northern States Power Company for an Advance Determination of Prudence for the Big Stone South – Alexandria – Big Oaks 345 kV Transmission Line Project (2023) – (Appearance: Need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission Docket No. PU-23-329
81. In the Matter of the Application Northern States Power Company for an Advance Determination of Prudence for the Proposed 345 kV Brookings County – Lyon County and Helena – Hampton Second-Circuit Project (2023) – (Appearance: Need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission Docket No. PU-23-295
82. In the Matter of the Application Northern States Power Company for an Advance Determination of Prudence for the Lyon County to Sherburne County 345 kV Transmission Line (2023) – (Appearance: Need, necessity and conformance with North Dakota Statutes and Regulation on behalf of the North Dakota Public Service Commission Advocacy Staff)
North Dakota Public Service Commission Docket No. PU-23-142
83. 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
84. 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
85. 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
86. 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

PCMG and Associates LLC

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

87. 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
88. 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)
NH Public Utilities Commission Docket No. DE 16-241
89. 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
90. 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
91. 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
92. 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

PCMG and Associates LLC

93. 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

PCMG and Associates LLC

Mergers

94. 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
95. 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
96. 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

Regulatory Projects and Appearances

97. Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid: Storm Cost Recovery for Fourteen 2020 Qualifying Events (2022) (Appearance: prudence/used and useful on behalf of the Massachusetts Attorney General Office of Ratepayer Advocacy)
Massachusetts Department of Public Utilities – Docket No. D.P.U. 22-43
98. In Re: Township of East Brunswick – Sewer Rate Study – (2017) - (Evaluation of the existing sewer rate structure and examining and quantify costs for future expansion).
99. 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
100. 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

PCMG and Associates LLC

PCMG and Associates LLC

101. 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

Rate Design

102. 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
103. 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
104. 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
105. 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

Capital Structure

106. 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
107. 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

PCMG and Associates LLC

108. 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
109. 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
110. 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
111. 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
112. 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
113. 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
114. 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
115. 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

PCMG and Associates LLC

116. 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

PCMG and Associates LLC

Affiliated Interest

117. 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
118. 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
119. 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
120. 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
121. 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

Depreciation

122. 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
123. 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

PCMG and Associates LLC

PCMG and Associates LLC

124. 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

Telecommunications

125. 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
126. 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



Montana-Dakota Utilities Co. | Credit Ratings

(MI KEY: 4293161; SPCIQ KEY: 7888637)

Agency S&P Global Ratings

BBB+

S&P Global Ratings

Issuer Credit Rating (Foreign Currency LT)
6/10/2021

CreditWatch/Outlook: Negative
11/8/2023

Current Ratings

S&P GLOBAL RATINGS (S&P Entity Name:Montana-Dakota Utilities Co.)

RATING TYPE	RATING	RATING DATE	LAST REVIEW DATE	PREVIOUS RATING	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Issuer Credit Rating							
Foreign Currency LT	BBB+	6/10/2021	11/8/2023	BBB+	CreditWatch/Outlook	Negative	11/8/2023
Local Currency LT	BBB+	6/10/2021	11/8/2023	BBB+	CreditWatch/Outlook	Negative	11/8/2023
Foreign Currency ST	A-2	1/8/2019	11/8/2023	New	New Rating		
Local Currency ST	A-2	1/8/2019	11/8/2023	New	New Rating		

Ratings History

S&P GLOBAL RATINGS (S&P Entity Name:Montana-Dakota Utilities Co.)

RATING TYPE	RATING	RATING DATE	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Foreign Currency LT					
Issuer Credit Rating	BBB+	6/10/2021	CreditWatch/Outlook	Negative	11/8/2023
Issuer Credit Rating	BBB+	6/10/2021	CreditWatch/Outlook	Developing	11/10/2022
Issuer Credit Rating	BBB+	6/10/2021	Downgrade CreditWatch/Outlook	Stable	6/10/2021
Issuer Credit Rating	A-	1/8/2019	CreditWatch/Outlook	Negative	3/30/2020
Issuer Credit Rating	A-	1/8/2019	New Rating CreditWatch/Outlook	Stable	1/8/2019
Issuer Credit Rating	NR	10/30/2013	Not Rated CreditWatch/Outlook	NR	10/30/2013
Issuer Credit Rating	BBB+	2/28/2006	Downgrade CreditWatch/Outlook	Stable	2/28/2006
Issuer Credit Rating	A-	1/8/2003	Downgrade CreditWatch/Outlook	Negative	1/8/2003

**ROE and ROR Analysis for MDU Gas
Comparison Group
Value Line Investment Survey Natural Gas Utility
Industry
Value Line Website July 18, 2024**

**Docket No. PU-23-341
Exhibit MFG-3**

Company	Ticker	Exchange where Publicly Traded
Adams Resources & Energy	AE	AMS
Atmos Energy	ATO	NYS
Chesapeake Utilities	CPK	NYS
New Jersey Resources	NJR	NYS
NiSource Inc.	NI	NYS
Northwest Natural	NWN	NYS
ONE Gas, Inc.	OGS	NYS
RGC Resources Inc	RGCO	NDQ
Southwest Gas Holdings	SWX	NYS
Spire Inc.	SR	NYS
Star Group L.P.	SGU	NYS
UGI Corp.	UGI	NYS



NEWS DETAILS

[View All News](#)

Centuri Announces Closing of Initial Public Offering

April 22, 2024

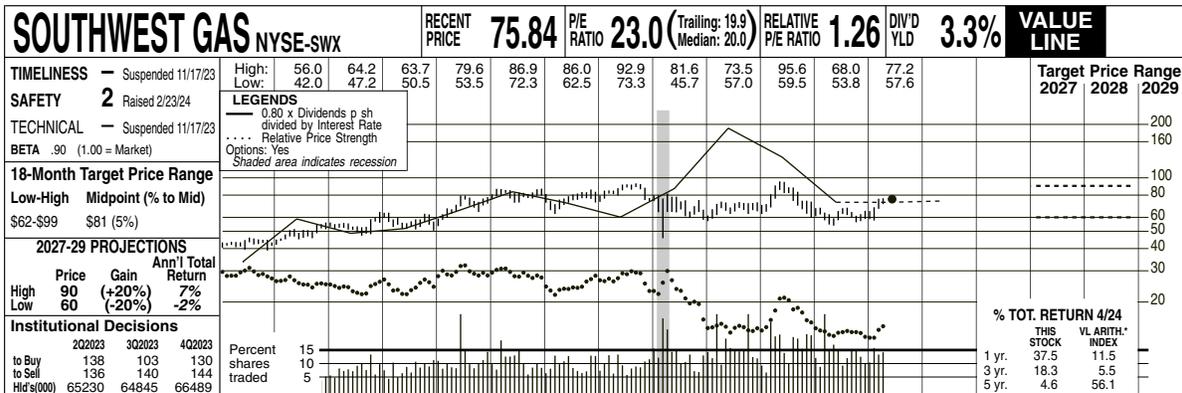
PHOENIX--(BUSINESS WIRE)-- Centuri Holdings, Inc. (NYSE: CTRI) ("Centuri"), a leading, pure-play North American utility infrastructure services company, today announced the closing of its initial public offering ("IPO") of 14,260,000 shares of its common stock at a price to the public of \$21.00 per share, including the underwriters' full exercise of their option to purchase 1,860,000 shares to cover over-allotments. Shares of Centuri's common stock began trading on the New York Stock Exchange under the symbol "CTRI" on April 18, 2024.

As previously announced, in addition to the shares of Centuri's common stock sold in the IPO, Icahn Partners LP and Icahn Partners Master Fund LP, investment entities affiliated with Carl C. Icahn, purchased 2,591,929 shares of Centuri's common stock in a concurrent private placement at a price per share equal to the IPO price. The sale of these shares was not registered under the Securities Act of 1933, as amended (the "Securities Act").

UBS Investment Bank, BofA Securities and J.P. Morgan acted as joint lead book-running managers for the IPO. Wells Fargo Securities acted as a book-running manager for the IPO. Baird, KeyBanc Capital Markets and Siebert Williams Shank acted as co-managers for the IPO.

The offering was made only by means of a prospectus. A registration statement on Form S-1 relating to the offering was filed with, and declared effective, by the U.S. Securities and Exchange Commission (the "SEC"). Copies of the prospectus related to the offering may be obtained from the SEC at www.sec.gov, and from: UBS Securities LLC, Attn: Prospectus Department, 1285 Avenue of the Americas, New York, NY 10019 or email: ol-prospectusrequest@ubs.com; BofA Securities, Attention: Prospectus Department, NC1-022-02-25, 201 North Tryon Street, Charlotte, North Carolina 28255-0001 or by email at dg.prospectus_requests@bofa.com; or J.P. Morgan Securities LLC, Attention: Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, by telephone at 866-803-9204 or by email at prospectus-eq_fi@jpmorganchase.com.

This press release does not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction. Any offers, solicitations or offers to buy, or any sales of securities will be made in accordance with the registration requirements of the Securities Act of 1933, as amended.



2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	© VALUE LINE PUB. LLC	27-29
48.53	42.00	40.18	41.07	41.77	42.08	45.61	52.00	51.82	53.00	54.31	56.72	57.68	60.91	73.90	76.22	69.45	71.90	Revenues per sh	73.35
5.76	6.16	6.46	6.81	7.73	8.24	8.47	8.62	9.29	8.83	8.14	9.40	9.87	9.46	3.91	8.29	9.55	10.15	"Cash Flow" per sh	11.00
1.39	1.94	2.27	2.43	2.86	3.11	3.01	2.92	3.18	3.62	3.68	3.94	4.14	3.39	d3.10	2.13	3.30	3.90	Earnings per sh A	4.20
.90	.95	1.00	1.06	1.18	1.32	1.46	1.62	1.80	1.98	2.08	2.18	2.28	2.38	2.48	2.48	2.52	2.48	Div ds Decl'd per sh B	2.60
6.79	4.81	4.73	8.29	8.57	7.86	8.53	10.30	11.15	12.97	14.44	17.06	14.43	11.84	12.80	12.19	12.50	12.50	Cap'l Spending per sh	14.50
23.49	24.44	25.62	26.66	28.35	30.47	31.95	33.61	35.03	37.74	42.47	45.56	46.77	48.89	47.95	47.72	53.95	54.35	Book Value per sh	57.35
44.19	45.09	45.56	45.96	46.15	46.36	46.52	47.38	47.48	48.09	53.03	55.01	57.19	60.42	67.12	71.56	72.00	73.00	Common Shs Outst'g C	75.00
20.3	12.2	14.0	15.7	15.0	15.8	17.9	19.4	21.6	22.2	20.6	21.3	16.8	19.9	--	29.1	29.1	1.68	Avg Ann'l P/E Ratio	18.0
1.22	.81	.89	.98	.95	.99	.94	.98	1.13	1.12	1.11	1.13	.86	1.08	--	1.68	1.68	1.08	Relative P/E Ratio	.90
3.2%	4.0%	3.2%	2.8%	2.8%	2.7%	2.7%	2.9%	2.6%	2.5%	2.7%	2.6%	3.3%	3.5%	3.2%	4.0%	4.0%	4.0%	Avg Ann'l Div'd Yield	3.4%

CAPITAL STRUCTURE as of 3/31/24

Total Debt \$4748.8 mill. Due in 5 Yrs \$1008 mill.	2121.7	2463.6	2460.5	2548.8	2880.0	3119.9	3298.9	3680.5	4960.0	5454.0	5000	5250	Revenues (\$mill)	5500
LT Debt \$4649.0 mill. LT Interest \$275 mill.	141.1	138.3	152.0	173.8	182.3	213.9	232.3	200.8	d203.3	150.9	240	285	Net Profit (\$mill)	315
(Total interest coverage: 1.45x) (54% of Cap'l)	35.7%	36.4%	33.9%	32.8%	25.3%	20.5%	21.6%	16.1%	NMF	21.2%	21.0%	21.0%	Income Tax Rate	21.0%
	6.7%	5.6%	6.2%	6.8%	6.3%	6.9%	7.0%	5.5%	NMF	2.8%	4.8%	5.4%	Net Profit Margin	5.7%
Leases, Uncapitalized Annual rentals \$24.9 mill.	52.4%	49.3%	48.2%	49.8%	48.3%	47.9%	50.5%	58.2%	57.8%	57.4%	58.0%	58.0%	Long-Term Debt Ratio	57.0%
Pension Assets-12/23 \$1202.0 mill.	47.6%	50.7%	51.8%	50.2%	51.7%	52.1%	49.5%	41.8%	42.2%	42.6%	42.0%	42.0%	Common Equity Ratio	43.0%
Obliq. \$1352.2 mill.	3123.9	3143.5	3213.5	3613.3	4359.3	4806.4	5407.2	7069.5	7621.4	8024.5	9250	9450	Total Capital (\$mill)	10000
Pfd Stock None	3658.4	3891.1	4132.0	4523.7	5093.2	5685.2	6176.1	7594.0	7024.5	7518.2	7550	7750	Net Plant (\$mill)	8000
Common Stock 71,669,140 shs. as of 4/26/24	5.7%	5.5%	5.8%	5.8%	5.2%	5.4%	5.3%	3.5%	NMF	1.9%	2.5%	3.0%	Return on Total Cap'l	3.0%
MARKET CAP: \$5.4 billion (Mid Cap)	9.5%	8.7%	9.1%	9.6%	8.1%	8.5%	8.7%	6.8%	NMF	4.4%	6.0%	6.0%	Return on Shr. Equity	7.5%
	9.5%	8.7%	9.1%	9.6%	8.1%	8.5%	8.7%	6.8%	NMF	4.4%	6.0%	7.0%	Return on Com Equity	7.5%
CURRENT POSITION 2022 2023 3/31/24	5.0%	4.0%	4.1%	4.5%	3.6%	3.9%	4.0%	2.1%	NMF	NMF	1.5%	2.5%	Retained to Com Eq	3.0%
(SMILL)	47%	54%	55%	53%	55%	54%	54%	69%	NMF	116%	75%	75%	All Div'ds to Net Prof	62%

BUSINESS: Southwest Gas Holdings, Inc. is the parent holding company of Southwest Gas. Centuri Group spun-off 4/22/24. Southwest Gas is a regulated gas distributor serving 2.2 million customers in Arizona, Nevada, and California. 2023 margin mix: residential 68%; small commercial, 20%; large commercial and industrial, 8%; transportation, 4%. Total throughput: 2.2 billion therms. Southwest has 2,371 employees; Centuri 12,572. Off. & dir. own .4% of common stock; Carl C. Icahn, 15.4%; BlackRock, 13.0%; The Vanguard Group, 10.1%; (3/24 Proxy). Chairman: Michael J. Melarkey. Pres. & CEO: Karen S. Haller. Inc.: DE. Addr.: 8360 S. Durango Drive, P.O. Box 98510 Las Vegas, Nevada 89193. Telephone: 702-876-7237. Internet: www.swgas.com.

ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '21-'23 of change (per sh) 10 Yrs. 5 Yrs. to 27-29

Revenues	3.5%	3.0%	6.0%
"Cash Flow"	4.0%	1.5%	8.5%
Earnings	5.5%	4.5%	10.0%
Dividends	8.5%	7.0%	5.5%
Book Value	6.5%	7.0%	7.5%

QUARTERLY REVENUES (\$ mill.)

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	885.9	821.4	888.7	1084.5	3680.5
2022	1267.4	1146.1	1125.6	1420.9	4960.0
2023	1603.3	1293.6	1169.5	1387.6	5454.0
2024	1581.0	1000	1220	1199	5000
2025	1225	1275	1350	1400	5250

EARNINGS PER SHARE A D

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2021	2.03	.43	d.19	1.15	3.39
2022	1.58	d.10	d.18	d4.18	d3.10
2023	.67	.40	.04	1.02	2.13
2024	1.22	.55	.20	1.33	3.30
2025	1.75	.65	.15	1.35	3.90

QUARTERLY DIVIDENDS PAID B

Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year
2020	.545	.570	.570	.570	2.26
2021	.570	.595	.595	.595	2.36
2022	.595	.62	.62	.62	2.46
2023	.62	.62	.62	.62	2.48
2024	.62				

Despite missing our earnings targets, Southwest stock is up nearly 25% in price since our last review. The stock jumped significantly after the 2023 year-end earnings call when management provided insight as to the planned spin-off of the Centuri Group. Otherwise the company continued to struggle throughout the year due to higher costs and customer pushback on energy bills, though these operating results via comparisons is obscured by the significant charges from recent corporate restructuring. **The company successfully completed its initial public offering of the Centuri Group.** The move, championed by activist investor Carl Icahn, aims to restore Southwest as a pure-play regulated natural gas utility. Centuri Group, the infrastructure services company, is now listed under the ticker CTRI. The stock debuted at \$21 per share, a roughly \$1.8 billion valuation, but quickly rose to around \$25 each, where it has traded since. The company reported a \$186 million loss on \$2.9 billion in revenue in fiscal 2023. Southwest plans to use proceeds to reduce debt and improve cash flows.

Despite the ongoing divestiture, some catalysts should provide a near-term lift. Though Southwest is still offloading shares of the newly issued CTRI stock, operating margins reached a record in the first-quarter under the new corporate structure. Strong customer growth trends and regulatory approvals suggest a bright outlook compared with recent profit performances. Management expects a 20% to 25% increase in the authorized rate base by 2026, providing ample potential to our earnings targets late decade. **Sustainable profit growth may prove difficult in the long run.** The company has been facing substantial backlash from customers for sharp increases in energy costs. While this in large part reflects commodity markets conditions, many customers are highly vocal about the company's perceived grifting which could lead to increased regulatory pressure down the line. **The stock has risen on recent developments and currently trades well within our three- to five-year target price range.** The timeliness rank remains suspended pending business realignment.

Earl B. Humes May 24, 2024

(A) Diluted earnings. Excl. nonrec. gains (losses): '22, 10c. Next egs. report due early August. (B) Dividends historically paid early March, June, September, and December.	Div'd reinvestment and stock purchase plan avail. (C) In millions. (D) Totals may not sum due to rounding.	Company's Financial Strength A Stock's Price Stability 80 Price Growth Persistence 35 Earnings Predictability 10
--	--	---

S&P Global Ratings

(/en_US/web/guest/home) General Criteria: Understanding S&P Global Ratings' Rating Definitions

03-Jun-2009 14:39 EDT

[View Analyst Contact Information](#)

[Table of Contents](#)

[Key Attributes Of S&P Global Ratings' Credit Ratings](#)

[Measuring Ratings Performance](#)

[Conclusion](#)

[Notes](#)

[Appendix I](#)

[Appendix II](#)

[Appendix III](#)

[Appendix IV](#)

[Appendix V](#)

[Revisions And Updates](#)

[Related Criteria And Research](#)

(Editor's Note: We're republishing this article following our periodic review completed on Feb. 23, 2018. See the "Revisions And Updates" section for details.)

Executive Summary

S&P Global Ratings' credit ratings are designed primarily to provide relative rankings among issuers and obligations of overall creditworthiness; the ratings are not measures of absolute default probability. Creditworthiness encompasses likelihood of default, and also includes (i) payment priority, (ii) recovery, and (iii) credit stability.

In addition, our rating symbols are intended to connote the same general level of creditworthiness for issuers and bonds in different sectors and at different times. In order to promote the comparability of ratings across sectors, geographies, and over time, we are introducing stress scenarios associated with each rating category. These stress scenarios will be an important tool for calibrating our criteria to help maintain comparability. The scenarios will not become part of the rating definitions. Nor will they be the sole or primary drivers of our criteria.

S&P Global Ratings is committed to taking action to help restore confidence in ratings. As one example, over the past year, we have launched a number of initiatives designed to foster greater transparency in our analytics and processes. These initiatives have included publishing "what-if" scenario analyses discussing factors that could cause ratings to change, more

explicit discussions of the assumptions we used in forming our opinions, and changes we have made to our rating criteria for several asset classes resulting from macroeconomic developments and ongoing performance data.

By providing more information and data about ratings, we can help market participants better understand how we develop our ratings and -- whether they agree or disagree with our assessment -- act accordingly.

This article is designed to help market participants better understand what our credit ratings mean. Although the official definitions appear outwardly to be very simple, they embody multiple factors that compose the overall assessment of creditworthiness.

S&P Global Ratings has striven to maintain comparability of ratings across sectors. This has been done by relating all ratings to common default behavior and measurement and by common approaches to risk analysis. In the spirit of promoting greater transparency, S&P Global Ratings is now articulating a set of economic stress scenarios enumerated in Appendix IV, which we intend to use as benchmarks for enhancing the consistency and comparability of ratings across sectors and over time. Each scenario describes particular conditions of economic stress, which we associate with a particular rating level, as described in the appendix. Credits rated in each category are intended to be able to withstand particular conditions of economic stress without defaulting (though they might be downgraded significantly as economic stresses increase).

This publication intends to promote greater understanding of ratings and help investors attribute clearer meanings to different rating categories.

Key Attributes Of S&P Global Ratings' Credit Ratings

Rank ordering of creditworthiness

Our credit ratings express forward-looking opinions about the creditworthiness of issuers and obligations (see Appendix I for a description of "issuer" and "issue" ratings). More specifically, our credit ratings express a relative ranking of creditworthiness. Issuers and obligations with higher ratings are judged by us to be more creditworthy than issuers and obligations with lower credit ratings. (See Appendix III for a relevant excerpt from the rating definitions.)

Creditworthiness is a multi-faceted phenomenon. Although there is no "formula" for combining the various facets, our credit ratings attempt to condense their combined effects into rating symbols along a simple, one-dimensional scale. Indeed, as discussed below, the relative importance of the various factors may change in different situations.

The term creditworthiness refers to the question of whether a bond or other financial instrument will be paid according to its contractual terms. At first blush, the idea of creditworthiness seems entirely straightforward. However, delving beneath the outward simplicity reveals the true multi-dimensional nature.

Primary factor -- likelihood of default

In our view, likelihood of default is the centerpiece of creditworthiness. That means likelihood of default--encompassing both capacity and willingness to pay--is the single most important factor in our assessment of the creditworthiness of an issuer or an obligation. Therefore, consistent with our goal of achieving a rank ordering of creditworthiness, higher ratings on issuers and obligations reflect our expectation that the rated issuer or obligation should default less frequently than issuers and obligations with lower ratings, all other things being equal.

Although we emphasize the rank ordering of default likelihood, we do not view the rating categories solely in relative terms. We associate each successively higher rating category with the ability to withstand successively more stressful economic environments, which we view as less likely to occur. We associate issuers and obligations rated in the highest categories with the ability to withstand extreme or severe stress in absolute terms without defaulting. Conversely, we associate issuers and obligations rated in lower categories with vulnerability to mild or modest stress. (See Appendix IV for stress scenarios by rating level that we intend to use in promoting ratings comparability. Appendix V contains a listing of historical examples of stress conditions, including the magnitude of stress that we associate with each.)

Looking to absolute stress levels is part of how we try to achieve comparability of ratings across different types of securities, different times, different currencies, and different regions. That is, we strive to make our rating symbols correspond to the same approximate level of creditworthiness wherever they appear. Thus, when we use a given rating

Credit Rating Providers - Generic Rating Symbol Mapping (*)											
(Pursuant to the guidance in this Manual, particularly, Part One, "The Use of Credit Ratings of NRSROs in NAIC Processes," "Filing Exemptions," "Policies Applicable to Specific Asset Classes," and Part Three, "Procedure Applicable to Filing Exempt (FE) Securities and Private Letter (PL) Rating Securities")											
NAIC Designation	NAIC Designation Modifier	NAIC Designation Category	Moody's Investor's Service	Standard and Poor's	Fitch Ratings	Dominion Bond Rating Service	A.M. Best Company	Morningstar LLC Credit Ratings	Kroll Bond Rating Agency	Egan Jones Rating Company	HR Ratings de Mexico, S.A. de C.V.
1	A	1.A	Aaa	AAA	AAApre, AAA	AAA, Pfd-1 (high)	aaa	AAA	AAA	AAA	HR AAA (G)
1	B	1.B	Aa1	AA+	AA+	AA (high), Pfd-1	aa+	AA+	AA+	AA+	HR AA+ (G)
1	C	1.C	Aa2	AA	AA	AA, Pfd-1 (low)	aa	AA	AA	AA	HR AA (G)
1	D	1.D	Aa3	AA-	AA-	AA (low), Pfd-1	aa-	AA-	AA-	AA-	HR AA- (G)
1	E	1.E	A1	A+	A+	A (high)	a+	A+	A+	A+	HR A+ (G)
1	F	1.F	A2	A	A	A	a	A	A	A	HR A (G)
1	G	1.G	A3	A-	A-	A (low)	a-	A-	A-	A-	HR A- (G)
2	A	2.A	Baa1	BBB+	BBB+	BBB (high), Pfd-2 (high)	bbb+	BBB+	BBB+	BBB+	HR BBB+ (G)
2	B	2.B	Baa2	BBB	BBB	BBB, Pfd-2	bbb+	BBB	BBB	BBB	HR BBB (G)
2	C	2.C	Baa3	BBB-	BBB-	BBB (low), Pfd-2 (low)	bbb-	BBB-	BBB-	BBB-	HR BBB- (G)
3	A	3.A	Ba1	BB+	BB+	BB (high), Pfd-3 (high)	bb+	BB+	BB+	BB+	HR BB+ (G)
3	B	3.B	Ba2	BB	BB	BB, Pfd-3	bb	BB	BB	BB	HR BB (G)
3	C	3.C	Ba3	BB-	BB-	BB (low), Pfd-3 (low)	bb-	BB-	BB-	BB-	HR BB- (G)
4	A	4.A	B1	B+	B+	B (high), Pfd-4 (high)	b+	B+	B+	B+	HR B+ (G)
4	B	4.B	B2	B	B	B, Pfd-4	b	B	B	B	HR B (G)
4	C	4.C	B3	B-	B-	B (low), Pfd-4 (low)	b-	B-	B-	B-	HR B- (G)
5	A	5.A	Caa1	CCC+	CCC+	CCC (high), Pfd-5 (high)	ccc+	CCC+	CCC+	CCC+	HR C+ (G)
5	B	5.B	Caa2	CCC	CCC	CCC, Pfd-5	ccc	CCC	CCC	CCC	HR C (G)
5	C	5.C	Caa3	CCC-	CCC-	CCC (low), Pfd-5 (low)	ccc-	CCC-	CCC-	CCC-	HR C- (G)
6	6	6	Ca	CC	CC	CC (high)	cc	CC	CC	CC	HR D (G)
6	6	6	C	C	C	CC	c	C	C	C	
6	6	6	D	D	DDD	CC (low)	d	D	D	D	
6	6	6	DD	DD	DD	C (high)					
6	6	6	D	D	D	C					
6	6	6				C (low)					
6	6	6				D					



New Jersey Natural Gas Company | Credit Ratings

(MI KEY: 4061755; SPCIQ KEY: 4233224)

Agency All

NR

S&P Global Ratings

Issuer Credit Rating (Foreign Currency LT)
5/27/2019

Not Rated | CreditWatch/Outlook: NR
5/27/2019

A1

Moody's

Long Term Rating (Senior Secured Domestic)
3/18/2020

Current Ratings

S&P GLOBAL RATINGS (S&P Entity Name:New Jersey Natural Gas Co.)

RATING TYPE	RATING	RATING DATE	LAST REVIEW DATE	PREVIOUS RATING	ACTION	CREDITWATCH/ OUTLOOK	CREDITWATCH/ OUTLOOK DATE
Issuer Credit Rating							
Foreign Currency LT	NR	5/27/2019	5/27/2019	BBB+	Not Rated CreditWatch/Outlook	NR	5/27/2019
Local Currency LT	NR	5/27/2019	5/27/2019	BBB+	Not Rated CreditWatch/Outlook	NR	5/27/2019
Foreign Currency ST	NR	5/27/2019	5/27/2019	A-2	Not Rated		
Local Currency ST	NR	5/27/2019	5/27/2019	A-2	Not Rated		

MOODY'S

RATING TYPE	RATING	DATE	ACTION	OUTLOOK
Ratings Summary				
Long Term Rating (Senior Secured Domestic)	A1	3/18/2020	Downgrade	
Short Term Rating (Commercial Paper Domestic)	P-2	3/18/2020	Downgrade	
Outlook		3/18/2020		Stable

Ratings Detail

**ROE and ROR Analysis for MDU Gas
Comparison Group
Natural Gas Distribution Company 10Ks
Operating Income unless noted otherwise**

**Docket No. PU-23-341
Exhibit MFG-9**

Name	Operating Income for Natural Gas Utilities (In thousands of dollars)						Regulated Natural Gas as % of Company				
	Regulated Natural Gas Unit			Company			2023*	2022	2021	3-Year Average	10K Sources
	2023*	2022	2021	2023*	2022	2021					
Atmos Energy Corp.--Distribution Regulated	692,626	604,545	618,514	1,067,147	920,982	904,998	64.9%	65.6%	68.3%	66.3%	Pages 4, 26, 38
Chesapeake Utilities**	126,199	115,317	106,174	150,803	142,933	131,112	83.7%	80.7%	81.0%	81.8%	Page 34
Chesapeake Utilities--Net Income Electric**	3,727			87,212	89,796	83,466	4.3%				Pages 4, 57
Chesapeake Utilities--Operating Income Adjusted**	119,754	109,209	100,571	150,803	142,933	131,112	79.4%	76.4%	76.7%	77.5%	
New Jersey Resources Corporation	207,528	218,873	148,993	407,000	406,475	288,350	51.0%	53.8%	51.7%	52.2%	Pages 43, 69
NiSource	901,900	915,800	617,500	1,295,500	1,265,800	1,006,900	69.6%	72.3%	61.3%	67.8%	Pages 38, 40
Northwest Natural Gas Company	170,591	152,839	147,902	184,941	167,477	163,117	92.2%	91.3%	90.7%	91.4%	Pages 9, 79, 100
ONE Gas, Inc.	377,590	349,957	310,258	377,590	349,957	310,258	100.0%	100.0%	100.0%	100.0%	Pages 7, 42
Southwest Gas Holdings, Inc.***	358,294	307,685	318,492	418,330	-24,398	369,547	85.6%	-1261.1%	86.2%	85.9%	
Southwest Gas Holdings, Inc.***	187,135	154,380	187,135	431,027	-230,290	200,779	43.4%	-67.0%	93.2%	68.3%	Pages 4, 52, 57, 97, 98
Spire Inc.	350,800	339,900	374,000	418,600	408,200	450,200	83.8%	83.3%	83.1%	83.5%	Pages 4, 31

* - Atmos Energy, New Jersey Resources, and Spire, Inc. have fiscal years running from October 1 to September 30. The data for these companies is taken from their 10Ks from fiscal years ending in 2020, 2021, 2022. The remaining four companies have fiscal years running from January 1 to December 31. Data from these companies is also taken from their 10Ks for fiscal years ending in 2020, 2021, 2022.

** - Operating income. Chesapeake includes electricity distribution operating income.

** - Net income. Chesapeake electric as a percentage of company total.

** - Operating income adjusted. Electric distribution is 4.3 percent of Chesapeake net income. That percentage of company operating income is subtracted from regulated operating income for 2021-2023.

*** - Operating income. Southwest Gas Holdings, Inc. average is for 2021, 2023. Sale of pipeline in 2022 affected earnings negatively.

*** - Net income. Southwest Gas Holdings, Inc. average is for 2021, 2023. Sale of pipeline in 2022 affected earnings negatively.

**ROE and ROR Analysis for MDU Gas
Comparison Group
From Operating Income Analysis in Exhibit MFG-9**

**Docket No. PU-23-341
Exhibit MFG-10**

Company	Ticker	≥ 65 percent of operating income from regulated gas distribution operations (Companies' 2023 10Ks)
Atmos Energy Corporation	ATO	Yes
Chesapeake Utilities Corporation	CPK	Yes
New Jersey Resources	NJR	No
NiSource	NI	Yes
Northwest Natural Holding Company	NWN	Yes
ONE Gas, Inc.	OGS	Yes
Southwest Gas Holdings, Inc.	SWX	Yes
Spire Inc.	SR	Yes

Indicates not passing a screen

**ROE and ROR Analysis for MDU Gas
Comparison Group**

**Docket No. PU-23-341
Exhibit MFG-11**

Company	Ticker
Atmos Energy Corporation	ATO
Chesapeake Utilities	CPK
NiSource	NI
Northwest Natural Holding Company	NWN
ONE Gas, Inc.	OGS
Southwest Gas Holdings	SWX
Spire, Inc.	SR

ROE and ROR Analysis for MDU Gas
 Comparison Group
 Common Equity Share Prices
 Yahoo! Finance June 17, 2024-July 12, 2024

Atmos Energy (ATO)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 116.29
6/18/2024	\$ 117.00
6/20/2024	\$ 117.18
6/21/2024	\$ 116.29
6/24/2024	\$ 118.02
6/25/2024	\$ 116.53
6/26/2024	\$ 116.11
6/27/2024	\$ 116.55
6/28/2024	\$ 116.65
7/1/2024	\$ 115.98
7/2/2024	\$ 116.52
7/3/2024	\$ 115.16
7/5/2024	\$ 114.62
7/8/2024	\$ 114.08
7/9/2024	\$ 114.77
7/10/2024	\$ 117.01
7/11/2024	\$ 119.87
7/12/2024	\$ 120.94

Mean \$ 116.64

Chesapeake Utilities (CPK)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 104.72
6/18/2024	\$ 103.54
6/20/2024	\$ 103.64
6/21/2024	\$ 105.04
6/24/2024	\$ 106.93
6/25/2024	\$ 105.21
6/26/2024	\$ 105.24
6/27/2024	\$ 107.28
6/28/2024	\$ 106.20
7/1/2024	\$ 106.02
7/2/2024	\$ 107.88
7/3/2024	\$ 107.01
7/5/2024	\$ 106.40
7/8/2024	\$ 106.79
7/9/2024	\$ 107.10
7/10/2024	\$ 107.60
7/11/2024	\$ 108.82
7/12/2024	\$ 111.62

Mean \$ 106.50

NiSource (NI)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 28.00
6/18/2024	\$ 28.07
6/20/2024	\$ 28.34
6/21/2024	\$ 28.32
6/24/2024	\$ 28.88
6/25/2024	\$ 28.83
6/26/2024	\$ 29.02
6/27/2024	\$ 29.00
6/28/2024	\$ 28.81
7/1/2024	\$ 28.70
7/2/2024	\$ 28.57
7/3/2024	\$ 28.64
7/5/2024	\$ 28.54
7/8/2024	\$ 28.57
7/9/2024	\$ 28.91
7/10/2024	\$ 29.21
7/11/2024	\$ 29.70
7/12/2024	\$ 30.07

Mean \$ 28.79

Northwest Natural Gas (NWN)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 35.45
6/18/2024	\$ 35.02
6/20/2024	\$ 35.21
6/21/2024	\$ 34.95
6/24/2024	\$ 35.39
6/25/2024	\$ 35.23
6/26/2024	\$ 35.34
6/27/2024	\$ 35.68
6/28/2024	\$ 36.11
7/1/2024	\$ 35.73
7/2/2024	\$ 35.91
7/3/2024	\$ 35.53
7/5/2024	\$ 35.31
7/8/2024	\$ 35.25
7/9/2024	\$ 35.48
7/10/2024	\$ 36.04
7/11/2024	\$ 37.33
7/12/2024	\$ 37.88

Mean \$ 35.71

ONE Gas, Inc. (OGS)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 60.71
6/18/2024	\$ 60.23
6/20/2024	\$ 60.68
6/21/2024	\$ 60.14
6/24/2024	\$ 61.33
6/25/2024	\$ 60.50
6/26/2024	\$ 61.22
6/27/2024	\$ 62.88
6/28/2024	\$ 63.85
7/1/2024	\$ 62.78
7/2/2024	\$ 64.00
7/3/2024	\$ 63.76
7/5/2024	\$ 62.60
7/8/2024	\$ 62.22
7/9/2024	\$ 62.86
7/10/2024	\$ 63.48
7/11/2024	\$ 64.72
7/12/2024	\$ 65.65

Mean \$ 62.42

Southwest Gas Holdings (SWX)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 73.54
6/18/2024	\$ 74.24
6/20/2024	\$ 74.23
6/21/2024	\$ 73.54
6/24/2024	\$ 74.77
6/25/2024	\$ 73.73
6/26/2024	\$ 73.83
6/27/2024	\$ 72.40
6/28/2024	\$ 70.38
7/1/2024	\$ 69.25
7/2/2024	\$ 70.81
7/3/2024	\$ 71.39
7/5/2024	\$ 70.41
7/8/2024	\$ 70.00
7/9/2024	\$ 70.16
7/10/2024	\$ 71.22
7/11/2024	\$ 72.17
7/12/2024	\$ 72.24

Mean \$ 72.13

Spire Inc. (SR)

<u>Date</u>	<u>Close</u>
6/17/2024	\$ 58.59
6/18/2024	\$ 58.41
6/20/2024	\$ 58.59
6/21/2024	\$ 58.60
6/24/2024	\$ 59.28
6/25/2024	\$ 58.91
6/26/2024	\$ 59.21
6/27/2024	\$ 60.10
6/28/2024	\$ 60.73
7/1/2024	\$ 60.32
7/2/2024	\$ 60.59
7/3/2024	\$ 60.04
7/5/2024	\$ 59.76
7/8/2024	\$ 59.15
7/9/2024	\$ 59.21
7/10/2024	\$ 59.72
7/11/2024	\$ 61.61
7/12/2024	\$ 62.16

Mean \$ 59.72

**ROE and ROR Analysis for MDU Gas
Comparison Group
Dividends**

**Docket No. PU-23-341
Exhibit MFG-13**

Name	Value Line	Zacks	Highest
Atmos Energy Corporation	\$ 3.22	\$ 3.22	\$ 3.22
Chesapeake Utilities	\$ 2.56	\$ 2.56	\$ 2.56
NiSource	\$ 1.06	\$ 1.06	\$ 1.06
Northwest Natural Holding Company	\$ 1.95	\$ 1.95	\$ 1.95
ONE Gas, Inc.	\$ 2.64	\$ 2.64	\$ 2.64
Southwest Gas Holdings	\$ 2.48	\$ 2.48	\$ 2.48
Spire, Inc.	\$ 3.02	\$ 3.02	\$ 3.02

Value Line Gas dividends taken from May 24, 2024 Reports

Zacks Gas dividends taken from website on July 18, 2024

ROE and ROR Analysis for MDU Gas

Comparison Group

Discounted Cash Flow Model Analysis

Common Equity Share Prices--June 17, 2024, July 12, 2024

Zacks, Yahoo! Finance, and Value Line Dividend Growth-Rate Estimates--May, July 2024

Docket No. PU-23-341

Exhibit MFG-14

Schedule 1

Company Name	A	B	C	D	E	F
	Zacks EPS Growth Rate (%)	Yahoo! Finance EPS Growth Rates (%)	Value Line EPS Growth Rates (%)	Zacks-Yahoo! Finance-Value Line Mean Growth Rate (%)	Average of Closing Prices	Annualized Dividend
Atmos Energy Corporation	7.00%	7.40%	7.00%	7.13%	\$ 116.64	\$ 3.22
Chesapeake Utilities	NA	7.60%	6.50%	7.05%	\$ 106.50	\$ 2.56
NiSource	6.00%	7.50%	9.50%	7.67%	\$ 28.79	\$ 1.06
Northwest Natural Holding Company	NA	2.80%	6.50%	4.65%	\$ 35.71	\$ 1.95
ONE Gas, Inc.	5.00%	5.00%	3.50%	4.50%	\$ 62.42	\$ 2.64
Southwest Gas Holdings	6.00%	4.00%	10.00%	6.67%	\$ 72.13	\$ 2.48
Spire, Inc.	5.00%	6.36%	4.50%	5.29%	\$ 59.72	\$ 3.02

Mean 5.80% 5.81% 6.79% 6.14%

Company Name	G	H	I	J	K
	Dividend Yield (Rate/Price)	Expected Dividend Yield	Required Rate of Return on Equity	Exceeds 7.03% Mean of Value Line and Krull Low-End Tests	Dividend Yield Adjusted for Flotation Percentage of 3.681
Atmos Energy Corporation	2.76%	2.96%	10.09%	Yes	3.07%
Chesapeake Utilities	2.40%	2.57%	9.62%	Yes	2.67%
NiSource	3.68%	3.96%	11.63%	Yes	4.12%
Northwest Natural Holding Company	5.47%	5.72%	10.37%	Yes	5.94%
ONE Gas, Inc.	4.23%	4.42%	8.92%	Yes	4.59%
Southwest Gas Holdings	3.44%	3.67%	10.33%	Yes	3.81%
Spire, Inc.	5.06%	5.32%	10.61%	Yes	5.53%

Mean 3.86% 4.089% 10.23% 10.33% 4.246%

Median Adjustment (K - H) means 0.156%

A: Zacks website, July 18, 2024

B: Yahoo! Finance website: July 18, 2024

C: Value Line Investment Survey reports: May 24, 2024

E: Yahoo! Finance website: June 17-July 12, 2024. See Exhibit MFG-12.

F: Higher of Value Line Investment report, May 24, 2024; or Zacks website, July 18, 2024. See Exhibit MFG-13.

K: See Exhibit MFG-15, Schedule 8.

D: $(A + B + C)/3$

G: F/E

H: $G*(1+D)$

I: $D + H$

K: $H/(1 - 0.03681)$

Table VI.G6.—Selected Economic Variables, Calendar Years 2022-2095
 [GDP and taxable payroll in billions]

Calendar year	Adjusted CPI ^a	Average wage index	Taxable payroll ^b	Gross domestic product	Compound new-issue interest factor ^c	Compound effective trust-fund interest factor ^d
Intermediate:						
2022	96.15	\$63,467.98	\$9,069	\$25,422	0.9711	0.9884
2023	100.00	66,147.17	9,552	26,592	1.0000	1.0117
2024	102.53	68,627.58	9,986	27,655	1.0357	1.0356
2025	104.99	71,411.99	10,465	28,902	1.0727	1.0602
2026	107.51	74,348.48	10,944	30,177	1.1112	1.0862
2027	110.09	77,393.67	11,443	31,478	1.1530	1.1140
2028	112.73	80,510.73	11,934	32,778	1.1985	1.1442
2029	115.44	83,757.03	12,438	34,125	1.2492	1.1768
2030	118.21	87,106.49	12,954	35,521	1.3051	1.2123
2031	121.04	90,574.48	13,492	36,976	1.3656	1.2512
2032	123.95	93,995.33	14,023	38,487	1.4295	1.2946
2035	133.09	104,726.27	15,730	43,392	1.6429	1.4693
2040	149.85	125,312.66	18,992	52,850	2.0725	1.8502
2045	168.71	149,423.47	22,925	64,333	2.6144	2.3337
2050	189.95	177,750.26	27,736	78,438	3.2980	2.9438
2055	213.87	211,432.09	33,623	95,785	4.1603	3.7136
2060	240.79	251,610.19	40,795	116,988	5.2481	4.6846
2065	271.11	299,758.28	49,472	142,731	6.6204	5.9095
2070	305.24	357,187.25	59,924	173,850	8.3514	7.4546
2075	343.67	425,523.96	72,602	211,710	10.5351	9.4038
2080	386.94	506,962.67	88,194	258,358	13.2897	11.8627
2085	435.65	603,863.51	107,502	316,227	16.7646	14.9644
2090	490.50	719,124.11	131,330	387,813	21.1481	18.8772
2095	552.26	856,091.73	160,374	475,384	26.6778	23.8131
2100	621.79	1,019,162.94	195,457	581,611	33.6533	30.0396
Growth Rate 2029-2050*				4.04%		

Source: Social Security 2023 Trustees' Report

* = (2050/2030)^(1/20) - 1

Source: U.S. Energy Information Administration, Annual Energy Outlook 2023

Table 20. Macroeconomic Indicators

(Billions 2012 chain-weighted dollars unless otherwise noted)

	2024	2025	2026	2027	2028	2029	2030				
Real Gross Domestic Product											
Reference case	20,095	20,409	20,841	21,273	21,681	22,052	22,392				
Price Indices											
GDP Chain-type Price Index (2012=1.000)											
Reference case	1.35	1.38	1.41	1.44	1.47	1.51	1.54				
	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	
Real Gross Domestic Product											
Reference case	22,742	23,153	23,604	24,055	24,511	24,996	25,507	26,032	26,566	27,149	
Price Indices											
GDP Chain-type Price Index (2012=1.000)											
Reference case	1.58	1.61	1.65	1.69	1.73	1.77	1.81	1.85	1.89	1.93	
	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2030-2050 Growth Rate*
Real Gross Domestic Product											
Reference case	27,734	28,324	28,927	29,527	30,130	30,748	31,389	32,040	32,699	33,405	2.02%
Price Indices											
GDP Chain-type Price Index (2012=1.000)											
Reference case	1.97	2.02	2.07	2.11	2.16	2.21	2.27	2.32	2.38	2.43	2.31%
Total 2030-2050 Growth Rate											4.33%

* = (2050/2030)^(1/20) - 1

Chapter 9: Discounted Cash Flow Application

growth than to insert a constant growth rate into the plain vanilla DCF equation. The practical challenge is to establish a reasonable growth path for future dividends. As previously discussed, an excellent starting point is security analysts' earnings growth forecasts (available from IBES, Zacks, Reuters, First Call) as a proxy for dividend forecasts. These forecasts are typically for the next five years. From the standpoint of the DCF model that extends into perpetuity, this forecasting horizon may be too short. For example, it is quite possible that a company's dividends can grow faster than the general economy for five years, but it is quite implausible for such growth to continue into perpetuity. The two-stage DCF model is based on the premise that investors expect the growth rate for the utilities to be equal to the company-specific growth rates for the next 5 years, let us say, (Stage 1 Growth), and to converge to an expected steady-state long-run rate of growth from year 6 onward (Stage 2 Growth). For example, it is quite plausible that near-term DCF growth estimates for a given company are unduly high and unsustainable over long periods, and that such growth rates are expected to decline toward a lower long-run level over time. Another example of this situation is that of companies that operate in a relatively undeveloped industry (e.g. wholesale power generation) or companies that are experiencing very high growth rates. Here again, the assumption of a constant perpetual growth rate may not be reasonable.

Blended Growth Approach

One way to account for the two stages of growth is to modify the single-stage DCF model by specifying the growth rate as a weighted average of short-term and long-term growth rates. The blended growth rate is calculated as a weighted average giving two-thirds weight to the analysts' five-year growth projections (Zacks, IBES, etc.) and one-third to historical long-term growth of the economy as a whole and/or the long-range projections of growth in Gross Domestic Product (GDP) projected for the very long term. FERC has adopted such a method in the past for determining the return on equity for gas and oil utilities.

To illustrate, two-stage DCF estimates for a group of widely traded dividend-paying diversified natural gas producers are shown on Table 9-5. Column 1 shows the spot dividend yield for each company, Column 2 shows the analyst consensus growth forecast for the next five years for each company, and column 3 shows the long-range GDP forecast of 6.5% for the U.S. economy at that time. Column 4 computes the weighed average growth, giving 2/3 weight to column 1 and 1/3 weight to column 2. Averages are shown at the bottom of the table. Adding the average blended growth rate of 9.02% to the average expected dividend yield of 2.83% shown at the bottom of Column 6 produces an estimate of equity costs of 11.85% for the group, unadjusted for flotation costs. Allowance for flotation costs to the results of Column 7 brings the return on equity estimate to 12.00%, shown in Column 7. Note

DCF Analysis

Common Equity Share Prices: June 17, 2024-July 12, 2024

Multistage DCF with Zacks, Yahoo! Finance, and Value Line EPS Growth-Rate

Estimates; 2023 SSA and 2023 EIA long-term growth rates

	A	B	C	D	E	F	G	H
				Zacks-Yahoo! Finance-Value				
Company Name	Zacks EPS Growth Rate (%)	Yahoo! Finance EPS Growth Rates (%)	Value Line EPS Growth Rates (%)	Line Mean Growth Rate (%)	Average of Closing Prices	Annualized Dividend	Dividend Yield (Rate/Price)	Expected Dividend Yield
Atmos Energy Corporation	7.00%	7.40%	7.00%	7.13%	\$ 116.64	\$ 3.22	2.76%	2.96%
Chesapeake Utilities	NA	7.60%	6.50%	7.05%	\$ 106.91	\$ 2.56	2.39%	2.56%
NiSource	6.00%	7.50%	9.50%	7.67%	\$ 28.79	\$ 1.06	3.68%	3.96%
Northwest Natural Holding Company	NA	2.80%	6.50%	4.65%	\$ 35.71	\$ 1.95	5.47%	5.72%
Southwest Gas Holdings	6.00%	4.00%	3.50%	4.50%	\$ 62.42	\$ 2.64	4.23%	4.42%
ONE Gas, Inc.	5.00%	5.00%	10.00%	6.67%	\$ 72.13	\$ 2.48	3.44%	3.67%
Spire, Inc.	5.00%	6.36%	4.50%	5.29%	\$ 59.72	\$ 3.02	5.06%	5.32%
Mean	5.80%	5.81%	6.79%	6.14%			3.86%	4.09%
	I	J	K	L	M	N	O	P
Company Name	SSA Long- Run Projected EPS Growth Rate 4.04%	SSA Long- Run Weighted EPS Growth Rate 4.04%	SSA Weighted Cost of Equity, Long-Run Rate	EIA Long-Run Projected Growth Rate, 4.33%	EIA Long- Run Weighted Projected Growth Rate 4.33%	EIA Weighted Cost of Equity, Long- Run Rate	Multistage Mean Cost of Equity	Exceeds 7.03% Mean of Value Line and Kroll Low-End Tests
Atmos Energy Corporation	4.04%	6.10%	9.06%	4.33%	6.20%	9.16%	9.11%	Yes
Chesapeake Utilities	4.04%	6.05%	8.61%	4.33%	6.14%	8.71%	8.66%	Yes
NiSource	4.04%	6.46%	10.42%	4.33%	6.55%	10.52%	10.47%	Yes
Northwest Natural Holding Company	4.04%	4.45%	10.17%	4.33%	4.54%	10.26%	10.21%	Yes
Southwest Gas Holdings	4.04%	4.35%	8.77%	4.33%	4.44%	8.86%	8.81%	Yes
ONE Gas, Inc.	4.04%	5.79%	9.46%	4.33%	5.89%	9.56%	9.51%	Yes
Spire, Inc.	4.04%	4.87%	10.20%	4.33%	4.97%	10.29%	10.24%	Yes
Mean		5.44%	9.53%		5.53%	9.62%	9.57%	Mean
Median			9.46%			9.56%	9.51%	Median

A: Zacks website, July 18, 2024

B: Yahoo! Finance website: July 18, 2024

C: Value Line Investment Survey reports: May 24, 2024

E: Yahoo! Finance website: June 17-July 12, 2024. See Exhibit MFG-12.

F: Higher of Value Line Investment report, May 24, 2024; or Zacks website, July 18, 2024. See Exhibit MFG-13.

I: U.S. Social Security Administration, The 2023 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Disability Insurance Trust Funds, March 31, 2023 (OASDI Trustees Report), Table VIG6. See Exhibit MFG-14, Schedule 2.

L: U.S. Energy Information Administration, *Annual Energy Outlook 2023, Macroeconomic Indicators* (Real GDP Growth + GDP Chain-Type Index Increase 2020-2050), <https://www.eia.gov/analysis/projection-data.php#annualproj>. See Exhibit MFG-14, Schedule 3.

P: See Exhibit (MFG-15), Schedule 8.

D: = (A + B + C)/3

G: = F/E

H: = G*(1+D)

J: = 2/3*D + 1/3*J

M: = 2/3*D + 1/3*L

O: = (K + N)/2

K: = H + J

N: = H + M

**ROE and ROR Analysis for MDU Gas
CAPM Analysis
Risk-Free Rate Analysis**

**Docket No. PU-23-341
Exhibit MFG-15, Schedule 1**

Daily Treasury Yield Curve Rates

June 17, 2024-July 12, 2024

Date	1 mo	2 mo	3 mo	4 mo	6 mo	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	20 yr	30 yr
6/17/2024	5.47	5.52	5.43	5.41	5.23	4.87	4.45	4.22	4.10	4.13	4.18	4.50	4.39
6/18/2024	5.48	5.53	5.44	5.41	5.25	4.91	4.50	4.26	4.13	4.15	4.20	4.51	4.41
6/20/2024	5.46	5.50	5.46	5.46	5.33	5.01	4.62	4.38	4.24	4.24	4.28	4.58	4.47
6/21/2024	5.45	5.51	5.46	5.46	5.34	5.02	4.62	4.37	4.24	4.25	4.30	4.59	4.49
6/24/2024	5.48	5.53	5.46	5.46	5.33	4.99	4.62	4.40	4.23	4.23	4.28	4.57	4.46
6/25/2024	5.48	5.53	5.46	5.46	5.34	4.98	4.60	4.39	4.22	4.23	4.28	4.57	4.47
6/26/2024	5.49	5.54	5.47	5.47	5.36	5.04	4.71	4.48	4.33	4.33	4.36	4.64	4.53
6/27/2024	5.48	5.47	5.47	5.44	5.36	5.07	4.74	4.54	4.39	4.40	4.43	4.71	4.60
6/28/2024	5.48	5.48	5.47	5.45	5.37	5.10	4.77	4.58	4.44	4.45	4.48	4.76	4.64
7/1/2024	5.47	5.47	5.48	5.45	5.33	5.09	4.71	4.52	4.33	4.33	4.36	4.61	4.51
7/2/2024	5.48	5.46	5.49	5.45	5.35	5.10	4.70	4.49	4.29	4.27	4.29	4.53	4.43
7/3/2024	5.44	5.46	5.50	5.46	5.36	5.13	4.71	4.53	4.32	4.32	4.32	4.55	4.45
7/5/2024	5.43	5.46	5.49	5.44	5.37	5.10	4.65	4.45	4.25	4.23	4.23	4.46	4.36
7/8/2024	5.42	5.46	5.50	5.45	5.37	5.10	4.71	4.46	4.27	4.25	4.25	4.48	4.38
7/9/2024	5.42	5.46	5.49	5.45	5.36	5.10	4.70	4.45	4.26	4.25	4.25	4.49	4.39
7/10/2024	5.42	5.46	5.50	5.46	5.37	5.10	4.70	4.45	4.26	4.25	4.25	4.49	4.39
7/11/2024	5.40	5.46	5.50	5.45	5.37	5.09	4.69	4.43	4.24	4.22	4.22	4.47	4.36
7/12/2024	5.45	5.47	5.52	5.46	5.39	5.11	4.75	4.50	4.30	4.28	4.28	4.52	4.40
												Mean	4.45

**ROE and ROR Analysis for MDU Gas
CAPM Analysis
Beta calculation for Comparison Group
Value Line Investment Survey Betas taken from
reports of May 24, 2024**

**Docket No. PU-23-341
Exhibit MFG-15, Schedule 2**

Company Name	Value Line Betas-- Comparison Group
Atmos Energy Corporation	0.85
Chesapeake Utilities	0.80
NiSource, Inc.	0.95
Northwest Natural Holding Co.	0.85
ONE Gas, Inc.	0.85
Southwest Gas Holdings	0.90
Spire Inc.	0.85

S&P Global
 Market Intelligence
 Chart Builder

Entities: Moodys Bond Yield Avg - BAA Rated Corporates
 Metrics: Index Value

SERIES NAME	CATEGORY	AVERAGE
Moodys Bond Yield Avg - BAA Rated Corporates- Index Value (Daily)	Market Data	5.84

Pricing Date	Moodys Bond Yield Avg BAA Rated Corporates-Index Value (Daily)
7/12/2024	5.76
7/11/2024	5.78
7/10/2024	5.84
7/9/2024	5.86
7/8/2024	5.82
7/5/2024	5.84
7/3/2024	5.89
7/2/2024	5.99
7/1/2024	6.03
6/28/2024	5.91
6/27/2024	5.84
6/26/2024	5.87
6/25/2024	5.78
6/24/2024	5.78
6/21/2024	5.80
6/20/2024	5.79
6/18/2024	5.74
6/17/2024	5.80

Mean 5.84



June 6, 2024

Kroll Lowers its Recommended U.S. Equity Risk Premium to 5.0%, Effective June 5, 2024

Executive Summary

Kroll regularly reviews fluctuations in global economic and financial market conditions that may warrant changes to our equity risk premium (ERP) and accompanying risk-free rate recommendations. The risk-free rate and ERP are key inputs used to calculate the cost of equity capital in the context of the Capital Asset Pricing Model (CAPM) and other models used to develop discount rates. We also update country risk data on a quarterly basis for 175+ countries using various models.

The Kroll Recommended U.S. ERP is decreasing from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice.

Notwithstanding the current recommendation, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause turmoil in U.S. and global financial markets. Of particular concern is any potential promise of a significant increase in government spending and a corresponding rise in the U.S. budget deficit, which could place upward pressure on long-term interest rates and disrupt financial markets. Other global geopolitical events that warrant close watch include, but are not limited to, the impact of general elections in other major economies (e.g., Mexico, India, UK), trade conflicts between the U.S. and China, rising tensions in the Middle East and the protracted Russia's war on Ukraine.

Background

The Kroll U.S. Recommended ERP was last changed on June 8, 2023, when it was lowered from 6.0% to 5.5%. This ERP guidance was applicable when developing USD-denominated discount rates and was to be used in conjunction with our U.S. risk-free guidance—the higher of the spot 20-year U.S. Treasury yield (prevailing as of the valuation date) and the Kroll normalized U.S. risk-free rate of 3.5%.

**ROE and ROR Analysis for MDU Gas
CAPM ROE Analysis--Kroll Risk Premium
Calculation for Proxy Group**

**Docket No. PU-23-341
Exhibit MFG-15
Schedule 5**

	A	B	C	D	E	F
	Rf	MRP	Beta	RP	CAPM ROE	Filtered Results
Atmos Energy Corporation	4.45%	5.00%	0.85	4.25%	8.70%	8.70%
Chesapeake Utilities	4.45%	5.00%	0.80	4.00%	8.45%	8.45%
NiSource	4.45%	5.00%	0.95	4.75%	9.20%	9.20%
Northwest Natural Holding Co.	4.45%	5.00%	0.90	4.50%	8.95%	8.95%
Southwest Gas Holdings	4.45%	5.00%	0.85	4.25%	8.70%	8.70%
ONE Gas, Inc.	4.45%	5.00%	0.85	4.25%	8.70%	8.70%
Spire, Inc.	4.45%	5.00%	0.85	4.25%	8.70%	8.70%
				Mean	8.77%	8.77%
				Median	8.70%	8.70%

A: MFG-15, Sch 1
B: MFG-15, Sch 4
C: MFG-15 Sch 2

D: B * C
E: B + E
F: Low-end test < Column E < High-end test

Low-End Test: Moody's 10-Year Baa Corporate Bond Index, MFG-15, Schedule 3	5.84%
CAPM Risk Premium, Column B	5.00%
20 percent of CAPM risk premium	1.00%
Moody's 10-Year Baa Corporate Bond Index + 20 percent of CAPM risk	6.84%
High-End Test: Proxy Group median, Column E	8.70%
200 percent of Proxy Group median	17.40%

Constant-Growth DCF Analysis for S&P 500--Value Line

All companies shown

A, B, and E: Value Line Analyzer, July 19, 2024

$C = B * (1 + A/100)$

$D = A + C$

$F = E / (\text{Sum of E})$

$G = D * F$

Companies Excluded

Companies not paying dividends

Companies with EPS ≤ 1

Companies with EPS > 20%

EPS	
Market	11.33
Return	
%	

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of		Market	Weighted
Company Name	Growth	Yield	Dividend	Return on	Market Cap \$	Cap	Rate of
	Rate (%)	(%)	Yield (%)	Equity (%)	(Mil)	Weight	Return on
						Factor	Equity (%)

Companies not paying dividends

Adobe Inc.	24.00	0.00	0.00	24.00	253,483		
Advanced Micro Dev.	78.50	0.00	0.00	78.50	297,647		
Airbnb Inc.	0.00	0.00	0.00	0.00	96,570		
Akamai Technologies	17.50	0.00	0.00	17.50	14,293		
Align Techn.	12.50	0.00	0.00	12.50	18,755		
Alphabet Inc. 'A'	39.00	0.00	0.00	39.00	2,367,000		
Amazon.com	32.50	0.00	0.00	32.50	2,078,416		
Amer. Airlines	0.00	0.00	0.00	0.00	7,315		
ANSYS Inc.	12.00	0.00	0.00	12.00	28,895		
Aptiv PLC	-10.50	0.00	0.00	-10.50	18,934		
Arch Capital Group	28.50	0.00	0.00	28.50	36,592		
Arista Networks	28.00	0.00	0.00	28.00	114,072		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Autodesk Inc.	0.00	0.00	0.00	0.00	53,116		
AutoZone Inc.	20.50	0.00	0.00	20.50	48,969		
Axon Enterprise	48.50	0.00	0.00	48.50	22,133		
Bio-Rad Labs. 'A'	30.00	0.00	0.00	30.00	7,997		
Biogen	-7.00	0.00	0.00	-7.00	33,888		
Boeing	0.00	0.00	0.00	0.00	112,697		
Boston Scientific	11.50	0.00	0.00	11.50	113,352		
Builders FirstSource	87.50	0.00	0.00	87.50	16,687		
Cadence Design Sys.	23.00	0.00	0.00	23.00	87,029		
Caesars Entertainment	0.00	0.00	0.00	0.00	7,908		
CarMax Inc.	2.00	0.00	0.00	2.00	12,028		
Carnival Corp.	0.00	0.00	0.00	0.00	22,477		
Catalent Inc.	9.50	0.00	0.00	9.50	10,337		
CBRE Group	13.00	0.00	0.00	13.00	27,610		
Centene Corp.	16.50	0.00	0.00	16.50	35,755		
Charles River	17.00	0.00	0.00	17.00	10,442		
Charter Communic.	29.50	0.00	0.00	29.50	42,338		
Chipotle Mex. Grill	43.50	0.00	0.00	43.50	80,066		
Cooper Cos.	14.00	0.00	0.00	14.00	17,033		
Copart Inc.	26.50	0.00	0.00	26.50	52,088		
Corpay	14.00	0.00	0.00	14.00	19,525		
CoStar Group	16.00	0.00	0.00	16.00	29,397		
CrowdStrike Hldgs.	0.00	0.00	0.00	0.00	91,060		
DaVita Inc.	17.50	0.00	0.00	17.50	12,223		
Dayforce Inc.	0.00	0.00	0.00	0.00	7,736		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Deckers Outdoor	28.50	0.00	0.00	28.50	22,864		
DexCom Inc.	0.00	0.00	0.00	0.00	43,884		
Dollar Tree Inc.	-9.50	0.00	0.00	-9.50	22,153		
Edwards Lifesciences	13.50	0.00	0.00	13.50	56,493		
Enphase Energy	0.00	0.00	0.00	0.00	14,517		
EPAM Systems	22.00	0.00	0.00	22.00	10,526		
Etsy Inc.	51.00	0.00	0.00	51.00	6,710		
Expedia Group	-4.00	0.00	0.00	-4.00	17,296		
F5 Inc.	-2.00	0.00	0.00	-2.00	10,140		
Fair Isaac	27.00	0.00	0.00	27.00	37,973		
First Solar Inc.	0.00	0.00	0.00	0.00	24,466		
Fiserv Inc.	20.00	0.00	0.00	20.00	87,250		
Fortinet Inc.	53.50	0.00	0.00	53.50	45,479		
Gartner Inc.	26.00	0.00	0.00	26.00	35,079		
GE Vernova Inc	0.00	0.00	0.00	0.00	49,261		
Generac Holdings	17.50	0.00	0.00	17.50	8,585		
GoDaddy Inc.	0.00	0.00	0.00	0.00	20,290		
Hologic Inc.	33.00	0.00	0.00	33.00	17,683		
IDEXX Labs.	21.50	0.00	0.00	21.50	40,060		
Incyte Corp.	0.00	0.00	0.00	0.00	13,636		
Insulet Corp.	0.00	0.00	0.00	0.00	13,841		
Intuitive Surgical	10.50	0.00	0.00	10.50	157,749		
IQVIA Holdings	16.00	0.00	0.00	16.00	38,623		
Keysight Technologies	31.00	0.00	0.00	31.00	24,011		
Live Nation Entertain.	0.00	0.00	0.00	0.00	21,699		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
lululemon athletica	29.00	0.00	0.00	29.00	36,179		
Match Group	8.50	0.00	0.00	8.50	8,192		
Mettler-Toledo Int'l	16.50	0.00	0.00	16.50	28,279		
MGM Resorts Int'l	0.00	0.00	0.00	0.00	13,828		
Moderna Inc.	0.00	0.00	0.00	0.00	44,980		
Mohawk Inds.	-1.00	0.00	0.00	-1.00	8,041		
Molina Healthcare	37.00	0.00	0.00	37.00	16,930		
Monster Beverage	13.00	0.00	0.00	13.00	51,929		
Netflix Inc.	49.00	0.00	0.00	49.00	292,043		
Norwegian Cruise Line	0.00	0.00	0.00	0.00	8,044		
NVR Inc.	24.50	0.00	0.00	24.50	24,152		
O'Reilly Automotive	21.00	0.00	0.00	21.00	60,645		
ON Semiconductor	25.50	0.00	0.00	25.50	32,929		
Palo Alto Networks	0.00	0.00	0.00	0.00	109,005		
PayPal Holdings	17.00	0.00	0.00	17.00	62,022		
PTC Inc.	0.00	0.00	0.00	0.00	21,153		
Qorvo Inc.	0.00	0.00	0.00	0.00	12,080		
Regeneron Pharmac.	30.50	0.00	0.00	30.50	118,037		
Royal Caribbean	0.00	0.00	0.00	0.00	41,865		
Schein (Henry)	3.00	0.00	0.00	3.00	8,247		
ServiceNow Inc.	0.00	0.00	0.00	0.00	152,630		
Solventum Corp	0.00	0.00	0.00	0.00	8,321		
Super Micro Computer	39.50	0.00	0.00	39.50	52,696		
Synopsys Inc.	21.00	0.00	0.00	21.00	94,919		
Take-Two Interactive	0.00	0.00	0.00	0.00	25,420		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Teledyne Technologies	21.50	0.00	0.00	21.50	18,433		
Tesla Inc.	0.00	0.00	0.00	0.00	839,536		
TransDigm Group	4.00	0.00	0.00	4.00	71,186		
Trimble Inc.	27.50	0.00	0.00	27.50	13,644		
Tyler Technologies	13.00	0.00	0.00	13.00	24,646		
Uber Technologies	0.00	0.00	0.00	0.00	144,514		
Ulta Beauty	21.50	0.00	0.00	21.50	18,948		
Under Armour 'C'	-16.00	0.00	0.00	-16.00	2,968		
United Airlines Hldgs.	0.00	0.00	0.00	0.00	15,503		
Veralto Corp.	0.00	0.00	0.00	0.00			
VeriSign Inc.	9.50	0.00	0.00	9.50	17,480		
Vertex Pharmac.	68.50	0.00	0.00	68.50	126,984		
Warner Bros. Discovery	0.00	0.00	0.00	0.00	17,927		
Waters Corp.	9.00	0.00	0.00	9.00	17,100		
Western Digital	-20.50	0.00	0.00	-20.50	26,158		
WestRock Co.	4.00	0.00	0.00	4.00	13,295		
Zebra Techn. 'A'	14.00	0.00	0.00	14.00	16,644		
<u>Companies with EPS ≤ 0%</u>							
Southwest Airlines	-44.50	2.61	1.45	-43.05	16,535		
3M Company	-22.50	2.75	2.13	-20.37	56,260		
AES Corp.	0.00	3.91	3.91	3.91	12,735		
Alexandria Real Estate	0.00	4.34	4.34	4.34	19,967		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Allstate Corp.	-7.50	2.30	2.13	-5.37	42,232		
Amcor plc	0.00	5.13	5.13	5.13	14,079		
AT&T Inc.	-3.00	5.92	5.74	2.74	134,367		
Baker Hughes	0.00	2.57	2.57	2.57	33,772		
Bath & Body Works	-2.00	2.19	2.15	0.15	8,148		
Campbell Soup	0.00	3.42	3.42	3.42	13,580		
Carrier Global	0.00	1.20	1.20	1.20	57,300		
CF Industries	0.00	3.01	3.01	3.01	12,858		
Clorox Co.	0.00	3.56	3.56	3.56	16,726		
Colgate-Palmolive	-1.50	2.05	2.02	0.52	79,903		
Constellation Energy	0.00	0.64	0.64	0.64	69,158		
Corteva Inc.	0.00	1.33	1.33	1.33	35,602		
Coterra Energy	0.00	3.15	3.15	3.15	19,999		
Delta Air Lines	-19.50	1.28	1.03	-18.47	30,239		
Disney (Walt)	-27.00	0.77	0.56	-26.44	181,625		
Dominion Energy	-2.00	5.37	5.26	3.26	41,691		
Dow Inc.	0.00	5.61	5.61	5.61	36,363		
DTE Energy	-0.50	3.74	3.72	3.22	22,573		
DuPont de Nemours	0.00	1.96	1.96	1.96	33,266		
Eastman Chemical	-0.50	3.37	3.35	2.85	11,301		
Ecolab Inc.	-2.00	0.94	0.92	-1.08	69,478		
Electronic Arts	0.00	0.56	0.56	0.56	38,328		
EQT Corp.	-25.00	1.72	1.29	-23.71	16,179		
Equity Residential	-12.50	3.98	3.48	-9.02	25,673		
Exelon Corp.	-2.50	4.38	4.27	1.77	34,690		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Federal Rlty. Inv. Trust	0.00	4.25	4.25	4.25	8,347		
FirstEnergy Corp.	-1.00	4.37	4.33	3.33	22,399		
Ford Motor	-14.00	4.56	3.92	-10.08	54,998		
Fortive Corp.	-5.00	0.43	0.41	-4.59	25,928		
Fox Corp. 'A'	0.00	1.47	1.47	1.47	16,535		
Franklin Resources	-3.50	5.52	5.33	1.83	11,813		
GE HealthCare	0.00	0.15	0.15	0.15	36,036		
Gen'l Electric	-21.50	0.68	0.53	-20.97	181,376		
Gilead Sciences	-9.50	4.48	4.05	-5.45	85,663		
Hasbro Inc.	-2.50	4.90	4.78	2.28	7,956		
Hess Corp.	0.00	1.18	1.18	1.18	45,502		
Hormel Foods	0.00	3.72	3.72	3.72	16,666		
Host Hotels & Resorts	0.00	4.70	4.70	4.70	12,756		
Howmet Aerospace	0.00	0.62	0.62	0.62	32,727		
Ingersoll Rand Inc.	0.00	0.09	0.09	0.09	38,071		
Int'l Business Mach.	-6.50	3.76	3.52	-2.98	163,364		
Int'l Flavors & Frag.	-3.50	1.66	1.60	-1.90	24,580		
Int'l Paper	-3.00	4.33	4.20	1.20	14,830		
Intel Corp.	-5.00	1.43	1.36	-3.64	148,442		
Invesco Ltd.	-11.50	5.39	4.77	-6.73	7,094		
Invitation Homes	0.00	3.12	3.12	3.12	21,913		
Kellanova	-1.00	4.03	3.99	2.99	19,400		
Kenvue Inc.	0.00	4.52	4.52	4.52	33,896		
Kimberly-Clark	-1.00	3.47	3.44	2.44	47,418		
Kraft Heinz Co.	-3.50	5.01	4.83	1.33	38,751		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
L3Harris Technologies	0.00	2.05	2.05	2.05	43,059		
Lamb Weston Holdings	0.00	1.95	1.95	1.95	11,258		
Las Vegas Sands	0.00	1.93	1.93	1.93	30,865		
Linde plc	0.00	1.28	1.28	1.28	209,070		
Marathon Oil Corp.	0.00	1.88	1.88	1.88	15,995		
Micron Technology	-9.00	0.34	0.31	-8.69	151,257		
Molson Coors Beverage	-2.00	3.53	3.46	1.46	10,701		
News Corp. 'A'	0.00	0.72	0.72	0.72	15,853		
News Corp. 'B'	0.00	0.70	0.70	0.70	16,916		
NRG Energy	0.00	2.06	2.06	2.06	16,478		
Otis Worldwide	0.00	1.40	1.40	1.40	39,165		
Paramount Global	-14.00	1.71	1.47	-12.53	7,664		
PG&E Corp.	0.00	0.23	0.23	0.23	37,699		
PPL Corp.	-14.00	3.72	3.20	-10.80	20,421		
RTX Corp.	-7.50	2.50	2.31	-5.19	133,855		
Stanley Black & Decker	-5.50	3.94	3.72	-1.78	12,782		
Targa Resources	0.00	2.26	2.26	2.26	29,522		
Trane Technologies plc	0.00	0.99	0.99	0.99	77,264		
UDR Inc.	-1.50	4.30	4.24	2.74	13,375		
Ventas Inc.	0.00	3.57	3.57	3.57	20,954		
Viatis Inc.	0.00	4.41	4.41	4.41	12,964		
Vistra Corp.	0.00	0.94	0.94	0.94	32,192		
Walgreens Boots	-2.50	8.88	8.66	6.16	9,721		
Wells Fargo	-5.00	2.38	2.26	-2.74	209,120		
Welltower Inc.	-22.00	2.56	2.00	-20.00	58,991		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Wynn Resorts	0.00	3.58	3.58	3.58	9,404		
Zimmer Biomet Hldgs.	-3.00	0.90	0.87	-2.13	21,989		

Companies with EPS > 20%

Archer Daniels Midl'd	20.50	3.11	3.75	24.25	32,244		
Alphabet Inc.	23.50	0.41	0.51	24.01	2,380,892		
Amer. Int'l Group	22.50	2.11	2.58	25.08	50,971		
APA Corp.	66.50	3.48	5.79	72.29	8,663		
Ball Corp.	23.00	1.35	1.66	24.66	18,559		
Berkley (W.R.)	24.00	0.60	0.74	24.74	20,429		
Broadcom Inc.	55.00	1.20	1.86	56.86	811,281		
Bunge Global SA	37.00	2.47	3.38	40.38	15,743		
Chevron Corp.	28.50	4.28	5.50	34.00	286,527		
ConocoPhillips	54.00	2.77	4.27	58.27	131,608		
Crown Castle Int'l	25.00	6.48	8.10	33.10	42,543		
Deere & Co.	32.50	1.67	2.21	34.71	96,871		
Devon Energy	45.00	1.92	2.78	47.78	29,061		
Diamondback Energy	38.00	1.78	2.46	40.46	36,094		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
EOG Resources	46.50	3.10	4.54	51.04	72,529		
Equinix Inc.	21.00	2.20	2.66	23.66	73,642		
Expeditors Int'l	21.00	1.21	1.46	22.46	17,015		
Exxon Mobil Corp.	22.50	3.39	4.15	26.65	441,301		
Fidelity Nat'l Info.	23.00	1.95	2.40	25.40	41,617		
Healthpeak Properties	26.00	6.05	7.62	33.62	10,834		
Horton D.R.	35.50	0.93	1.26	36.76	46,092		
Intuit Inc.	21.00	0.57	0.69	21.69	176,909		
Jabil Inc.	28.50	0.28	0.36	28.86	13,920		
Keurig Dr Pepper	20.50	2.82	3.40	23.90	43,311		
Kinder Morgan Inc.	26.50	5.72	7.24	33.74	44,609		
KLA Corp.	27.00	0.65	0.83	27.83	120,211		
Lam Research	23.00	0.73	0.90	23.90	147,379		
Lennar Corp.	27.50	1.37	1.75	29.25	40,015		
Lowe's Cos.	23.50	2.08	2.57	26.07	126,263		
Marathon Petroleum	33.50	2.04	2.72	36.22	57,574		
Microsoft Corp.	22.50	0.68	0.83	23.33	3,465,636		
Monolithic Power Sys.	42.50	0.58	0.83	43.33	41,893		
Mosaic Company	45.00	3.13	4.54	49.54	8,623		
MSCI Inc.	23.00	1.31	1.61	24.61	38,741		
Nucor Corp.	39.00	1.47	2.04	41.04	36,770		
NVIDIA Corp.	42.00	0.03	0.04	42.04	3,317,437		
Occidental Petroleum	26.00	1.51	1.90	27.90	54,454		
Old Dominion Freight	26.00	0.58	0.73	26.73	39,629		
Paycom Software	32.50	1.07	1.42	33.92	7,934		

ROE and ROR Analysis for MDU Gas
 CAPM Analysis—Value Line EPS
 Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Pool Corp.	29.50	1.61	2.08	31.58	11,495		
PulteGroup Inc.	32.50	0.75	0.99	33.49	22,572		
Quanta Services	24.00	0.14	0.17	24.17	37,748		
Revvity Inc.	27.00	0.26	0.33	27.33	13,175		
Salesforce Inc.	26.00	0.63	0.79	26.79	263,199		
SBA Communications	42.50	2.03	2.89	45.39	21,057		
Steel Dynamics	40.00	1.45	2.03	42.03	20,095		
Thermo Fisher Sci.	24.00	0.29	0.36	24.36	204,932		
Tractor Supply	21.00	1.77	2.14	23.14	27,971		
United Rentals	22.00	1.01	1.23	23.23	43,097		
Valero Energy	26.50	2.95	3.73	30.23	47,382		
VICI Properties	53.00	5.95	9.10	62.10	26,861		
West Pharmac. Svcs.	30.50	0.25	0.33	30.83	23,459		
Weyerhaeuser Co.	24.00	2.90	3.60	27.60	20,110		

Qualifying Companies

Alexandria Real Estate	1.00	4.03	4.07	5.07	19,939	0.00064	0.0032
Allegion plc	8.50	1.42	1.54	10.04	11,838	0.00038	0.0038
Alliant Energy	6.00	3.71	3.93	9.93	12,498	0.00040	0.0040
Allstate Corp.	11.00	2.28	2.53	13.53	42,227	0.00136	0.0184
Altria Group	5.00	8.75	9.19	14.19	79,273	0.00255	0.0361
Amcor plc	7.50	5.46	5.87	13.37	13,213	0.00042	0.0057

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of	Market Cap \$	Market	Weighted
Company Name	Growth	Yield	Dividend	Return on	(Mil)	Cap	Rate of
	Rate (%)	(%)	Yield (%)	Equity (%)		Weight	Return on
						Factor	Equity (%)
Amer. Elec. Power	6.50	4.31	4.59	11.09	43,549	0.00140	0.0155
Amer. Express	8.50	1.23	1.33	9.83	166,146	0.00534	0.0525
Amer. Int'l Group	9.00	1.88	2.05	11.05	54,069	0.00174	0.0192
Amer. Tower 'A'	5.50	3.33	3.51	9.01	90,729	0.00292	0.0263
Amer. Water Works	3.00	2.54	2.62	5.62	22,996	0.00074	0.0041
Ameren Corp.	6.00	3.72	3.94	9.94	18,942	0.00061	0.0061
Ameriprise Fin'l	12.50	1.34	1.51	14.01	43,708	0.00140	0.0197
AMETEK Inc.	13.00	0.61	0.69	13.69	42,513	0.00137	0.0187
Amgen	4.50	3.30	3.45	7.95	146,109	0.00469	0.0373
Amphenol Corp.	13.00	0.79	0.89	13.89	67,143	0.00216	0.0300
Analog Devices	7.50	1.89	2.03	9.53	96,365	0.00310	0.0295
Aon plc	10.00	0.86	0.95	10.95	65,475	0.00210	0.0230
APA Corp.	19.50	3.55	4.24	23.74	10,367	0.00033	0.0079
Apple Inc.	6.50	0.54	0.58	7.08	2,762,278	0.08876	0.6280
Applied Materials	10.00	0.69	0.76	10.76	170,384	0.00547	0.0589
Archer Daniels Midl'd	7.50	2.94	3.16	10.66	31,452	0.00101	0.0108
Assurant Inc.	10.50	1.60	1.77	12.27	9,525	0.00031	0.0038
AT&T Inc.	4.00	6.45	6.71	10.71	123,053	0.00395	0.0423
Atmos Energy	7.00	2.87	3.07	10.07	17,572	0.00056	0.0057
Automatic Data Proc.	11.00	2.34	2.60	13.60	101,739	0.00327	0.0445
AvalonBay Communities	5.50	3.76	3.97	9.47	26,087	0.00084	0.0079
Avery Dennison	5.00	1.59	1.67	6.67	17,438	0.00056	0.0037
Ball Corp.	10.00	1.23	1.35	11.35	20,599	0.00066	0.0075
Bank of America	4.50	2.67	2.79	7.29	291,183	0.00936	0.0682
Bank of NY Mellon	9.00	3.08	3.36	12.36	43,183	0.00139	0.0171
Bath & Body Works	6.00	1.66	1.76	7.76	10,919	0.00035	0.0027

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of		Market	Weighted
	Growth	Yield	Dividend	Return on	Market Cap \$	Cap	Rate of
Company Name	Rate (%)	(%)	Yield (%)	Equity (%)	(Mil)	Weight	Return on
						Factor	Equity (%)
Baxter Int'l Inc.	4.00	2.77	2.88	6.88	21,234	0.00068	0.0047
Becton Dickinson	5.50	1.62	1.71	7.21	68,721	0.00221	0.0159
Berkley (W.R.)	16.00	0.51	0.59	16.59	22,285	0.00072	0.0119
Bio-Techne Corp.	10.00	0.44	0.48	10.48	11,295	0.00036	0.0038
BlackRock Inc.	7.50	2.69	2.89	10.39	121,819	0.00391	0.0407
Blackstone Inc.	15.00	2.51	2.89	17.89	90,745	0.00292	0.0522
BorgWarner	5.50	1.35	1.42	6.92	7,519	0.00024	0.0017
Boston Properties	0.50	6.08	6.11	6.61	10,089	0.00032	0.0021
Broadcom Inc.	17.50	1.65	1.94	19.44	590,788	0.01898	0.3690
Broadridge Fin'l	9.50	1.57	1.72	11.22	24,050	0.00077	0.0087
Brown & Brown	6.50	0.60	0.64	7.14	24,666	0.00079	0.0057
Brown-Forman 'B'	16.50	1.66	1.93	18.43	25,044	0.00080	0.0148
Bunge Global SA	1.50	2.80	2.84	4.34	14,156	0.00045	0.0020
C.H. Robinson	3.50	3.35	3.47	6.97	8,613	0.00028	0.0019
Campbell Soup	5.00	3.60	3.78	8.78	12,918	0.00042	0.0036
Capital One Fin'l	4.00	1.69	1.76	5.76	53,928	0.00173	0.0100
Cardinal Health	10.00	1.80	1.98	11.98	27,301	0.00088	0.0105
Carrier Global	13.50	1.30	1.48	14.98	49,157	0.00158	0.0237
Caterpillar Inc.	13.00	1.46	1.65	14.65	181,463	0.00583	0.0854
Cboe Global Markets	13.00	1.20	1.36	14.36	19,338	0.00062	0.0089
CDW Corp.	7.00	0.99	1.06	8.06	33,632	0.00108	0.0087
Celanese Corp.	4.50	1.74	1.82	6.32	18,010	0.00058	0.0037
Cencora	8.00	0.86	0.93	8.93	48,244	0.00155	0.0138
CenterPoint Energy	6.00	2.85	3.02	9.02	17,737	0.00057	0.0051
CF Industries	2.00	2.32	2.37	4.37	16,211	0.00052	0.0023
Chevron Corp.	16.50	4.27	4.97	21.47	291,752	0.00937	0.2013

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of		Market	Weighted
	Growth	Yield	Dividend	Return on	Market Cap \$	Cap	Rate of
Company Name	Rate (%)	(%)	Yield (%)	Equity (%)	(Mil)	Weight	Return on
						Factor	Equity (%)
Chubb Ltd.	16.00	1.33	1.54	17.54	105,468	0.00339	0.0595
Church & Dwight	5.50	1.11	1.17	6.67	25,376	0.00082	0.0054
Cigna Group	12.00	1.58	1.77	13.77	103,537	0.00333	0.0458
Cincinnati Financial	10.50	2.73	3.02	13.52	18,608	0.00060	0.0081
Cintas Corp.	14.00	0.85	0.97	14.97	64,355	0.00207	0.0310
Cisco Systems	4.50	3.23	3.38	7.88	200,678	0.00645	0.0508
Citigroup Inc.	2.50	3.53	3.62	6.12	115,082	0.00370	0.0226
Citizens Fin'l Group	4.50	4.94	5.16	9.66	16,243	0.00052	0.0050
Clorox Co.	7.00	3.19	3.41	10.41	18,673	0.00060	0.0062
CME Group	7.50	2.15	2.31	9.81	76,731	0.00247	0.0242
CMS Energy Corp.	5.00	3.52	3.70	8.70	17,231	0.00055	0.0048
Coca-Cola	8.00	3.23	3.49	11.49	261,711	0.00841	0.0966
Cognizant Technology	6.50	1.60	1.70	8.20	37,650	0.00121	0.0099
Colgate-Palmolive	8.00	2.26	2.44	10.44	72,745	0.00234	0.0244
Comcast Corp.	8.00	2.88	3.11	11.11	171,078	0.00550	0.0611
Comerica Inc.	2.50	5.49	5.63	8.13	6,827	0.00022	0.0018
Conagra Brands	3.50	4.92	5.09	8.59	13,786	0.00044	0.0038
ConocoPhillips	9.00	1.97	2.15	11.15	143,622	0.00461	0.0514
Consol. Edison	6.00	3.75	3.98	9.98	30,630	0.00098	0.0098
Constellation Brands	6.50	1.33	1.42	7.92	49,086	0.00158	0.0125
Corning Inc.	12.50	3.43	3.86	16.36	26,789	0.00086	0.0141
Corteva Inc.	9.00	1.20	1.31	10.31	39,081	0.00126	0.0129
Costco Wholesale	9.50	0.59	0.65	10.15	328,546	0.01056	0.1071
Crown Castle Int'l	6.00	5.99	6.35	12.35	45,362	0.00146	0.0180
CSX Corp.	7.00	1.28	1.37	8.37	74,322	0.00239	0.0200
Cummins Inc.	7.50	2.34	2.52	10.02	40,699	0.00131	0.0131

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
CVS Health	5.50	3.37	3.56	9.06	101,726	0.00327	0.0296
Danaher Corp.	7.50	0.43	0.46	7.96	186,042	0.00598	0.0476
Darden Restaurants	13.00	3.00	3.39	16.39	20,862	0.00067	0.0110
Deere & Co.	5.00	1.49	1.56	6.56	109,687	0.00352	0.0231
Dentsply Sirona	8.50	1.92	2.08	10.58	7,053	0.00023	0.0024
Devon Energy	9.50	3.62	3.96	13.46	31,159	0.00100	0.0135
Dollar General	2.00	1.51	1.54	3.54	34,254	0.00110	0.0039
Dominion Energy	0.50	5.54	5.57	6.07	40,310	0.00130	0.0079
Domino's Pizza	11.50	1.34	1.49	12.99	15,686	0.00050	0.0065
Dover Corp.	6.50	1.16	1.24	7.74	24,558	0.00079	0.0061
Dow Inc.	1.50	4.90	4.97	6.47	40,852	0.00131	0.0085
DTE Energy	6.00	3.71	3.93	9.93	22,697	0.00073	0.0072
Duke Energy	5.50	4.34	4.58	10.08	73,561	0.00236	0.0238
DuPont de Nemours	9.00	2.07	2.26	11.26	32,048	0.00103	0.0116
Eastman Chemical	5.00	3.46	3.63	8.63	10,987	0.00035	0.0030
Eaton Corp. plc	12.50	1.21	1.36	13.86	123,707	0.00398	0.0551
eBay Inc.	7.00	2.15	2.30	9.30	27,024	0.00087	0.0081
Ecolab Inc.	7.00	1.00	1.07	8.07	65,257	0.00210	0.0169
Edison Int'l	4.50	4.52	4.72	9.22	26,658	0.00086	0.0079
Electronic Arts	17.50	0.62	0.73	18.23	35,462	0.00114	0.0208
Elevance Health	11.50	1.27	1.42	12.92	120,813	0.00388	0.0501
Emerson Electric	7.00	1.88	2.01	9.01	64,042	0.00206	0.0185
Entergy Corp.	0.50	4.39	4.41	4.91	21,928	0.00070	0.0035
EOG Resources	13.00	2.97	3.36	16.36	73,289	0.00235	0.0385
Equifax Inc.	4.50	0.59	0.62	5.12	32,636	0.00105	0.0054
Equinix Inc.	16.00	2.07	2.40	18.40	77,442	0.00249	0.0458

**ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted**

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of		Market	Weighted
	Growth	Yield	Dividend	Return on	Market Cap \$	Cap	Rate of
Company Name	Rate (%)	(%)	Yield (%)	Equity (%)	(Mil)	Weight	Return on
						Factor	Equity (%)
Essex Property Trust	1.00	4.01	4.05	5.05	14,983	0.00048	0.0024
Everest Group	10.00	1.84	2.02	12.02	16,957	0.00054	0.0066
Every Inc.	5.50	5.04	5.32	10.82	11,892	0.00038	0.0041
Eversource Energy	5.50	4.81	5.07	10.57	20,681	0.00066	0.0070
Exelon Corp.	2.00	4.18	4.26	6.26	36,377	0.00117	0.0073
Extra Space Storage	5.00	4.85	5.09	10.09	18,816	0.00060	0.0061
Exxon Mobil Corp.	7.00	3.36	3.60	10.60	447,779	0.01439	0.1524
FactSet Research	11.00	0.88	0.98	11.98	18,570	0.00060	0.0071
Fastenal Co.	9.00	2.01	2.19	11.19	44,420	0.00143	0.0160
FedEx Corp.	5.50	1.94	2.05	7.55	64,970	0.00209	0.0158
Fifth Third Bancorp	5.00	3.93	4.13	9.13	24,936	0.00080	0.0073
FirstEnergy Corp.	4.50	4.34	4.54	9.04	21,954	0.00071	0.0064
FMC Corp.	5.00	3.70	3.89	8.89	7,998	0.00026	0.0023
Fortive Corp.	15.00	0.37	0.43	15.43	30,178	0.00097	0.0150
Fox Corp. 'A'	8.00	1.72	1.86	9.86	14,397	0.00046	0.0046
Franklin Resources	3.00	4.53	4.67	7.67	13,531	0.00043	0.0033
Freep't-McMoRan Inc.	12.50	1.30	1.46	13.96	66,024	0.00212	0.0296
Gallagher (Arthur J.)	17.50	0.94	1.10	18.60	55,242	0.00178	0.0330
Garmin Ltd.	5.00	2.06	2.16	7.16	28,130	0.00090	0.0065
Gen Digital Inc.	10.50	2.32	2.56	13.06	13,753	0.00044	0.0058
Gen'l Dynamics	10.00	2.01	2.21	12.21	77,306	0.00248	0.0303
Gen'l Mills	6.00	3.49	3.70	9.70	39,499	0.00127	0.0123
Gen'l Motors	8.50	1.12	1.22	9.72	59,990	0.00193	0.0187
Genuine Parts	8.50	2.58	2.80	11.30	21,676	0.00070	0.0079
Gilead Sciences	3.00	4.16	4.28	7.28	92,179	0.00296	0.0216
Global Payments	13.50	0.84	0.95	14.45	34,651	0.00111	0.0161

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Globe Life Inc.	8.00	0.81	0.87	8.87	12,404	0.00040	0.0035
Goldman Sachs	1.50	2.77	2.81	4.31	129,489	0.00416	0.0179
Grainger (W.W.)	7.00	0.74	0.79	7.79	50,114	0.00161	0.0125
Hartford Fin'l Svcs.	8.50	1.86	2.02	10.52	30,582	0.00098	0.0103
Hasbro Inc.	4.50	5.16	5.39	9.89	7,531	0.00024	0.0024
HCA Healthcare	10.00	0.80	0.88	10.88	88,453	0.00284	0.0309
Healthpeak Properties	18.50	6.83	8.09	26.59	9,477	0.00030	0.0081
Henry (Jack) & Assoc.	6.50	1.28	1.36	7.86	12,495	0.00040	0.0032
Hershey Co.	9.50	2.77	3.03	12.53	40,476	0.00130	0.0163
Hess Corp.	20.00	1.17	1.40	21.40	45,867	0.00147	0.0315
Hewlett Packard Ent.	5.50	3.78	3.99	9.49	22,005	0.00071	0.0067
Home Depot	6.00	2.34	2.48	8.48	381,335	0.01225	0.1039
Honeywell Int'l	10.50	2.15	2.38	12.88	131,129	0.00421	0.0543
Hormel Foods	5.50	3.36	3.54	9.04	18,892	0.00061	0.0055
Horton D.R.	4.00	0.79	0.82	4.82	52,679	0.00169	0.0082
Howmet Aerospace	17.00	0.30	0.35	17.35	27,682	0.00089	0.0154
HP Inc.	7.00	3.74	4.00	11.00	29,086	0.00093	0.0103
Hubbell Inc.	9.00	1.20	1.31	10.31	21,850	0.00070	0.0072
Humana Inc.	8.00	1.02	1.10	9.10	42,866	0.00138	0.0125
Hunt (J.B.)	8.50	0.88	0.95	9.45	20,119	0.00065	0.0061
Huntington Bancshs.	8.00	4.66	5.03	13.03	19,292	0.00062	0.0081
Huntington Ingalls	11.50	1.78	1.98	13.48	11,577	0.00037	0.0050
IDEX Corp.	6.00	1.12	1.19	7.19	18,242	0.00059	0.0042
Illinois Tool Works	9.50	2.08	2.28	11.78	80,867	0.00260	0.0306
Ingersoll Rand Inc.	12.50	0.09	0.10	12.60	37,786	0.00121	0.0153
Int'l Business Mach.	4.00	3.42	3.56	7.56	177,109	0.00569	0.0430

**ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted**

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of	Market Cap \$	Market	Weighted
Company Name	Growth	Yield	Dividend	Return on	(Mil)	Cap	Rate of
	Rate (%)	(%)	Yield (%)	Equity (%)		Weight	Return on
						Factor	Equity (%)
Int'l Flavors & Frag.	0.50	1.91	1.92	2.42	21,422	0.00069	0.0017
Int'l Paper	5.50	4.72	4.98	10.48	13,574	0.00044	0.0046
Intel Corp.	6.00	1.18	1.25	7.25	178,422	0.00573	0.0416
Intercontinental Exch.	6.50	1.32	1.41	7.91	77,985	0.00251	0.0198
Interpublic Group	8.50	4.02	4.36	12.86	12,868	0.00041	0.0053
Intuit Inc.	13.50	0.57	0.65	14.15	179,118	0.00576	0.0814
Invesco Ltd.	3.00	5.43	5.59	8.59	7,116	0.00023	0.0020
Invitation Homes	8.50	3.27	3.55	12.05	21,302	0.00068	0.0082
Iron Mountain	7.00	3.24	3.47	10.47	23,404	0.00075	0.0079
Jabil Inc.	15.00	0.25	0.29	15.29	16,325	0.00052	0.0080
Jacobs Solutions	9.00	0.77	0.84	9.84	18,917	0.00061	0.0060
Johnson & Johnson	3.50	3.17	3.28	6.78	374,927	0.01205	0.0817
Johnson Ctrls. Int'l plc	11.00	2.31	2.56	13.56	43,703	0.00140	0.0190
JPMorgan Chase	8.50	2.14	2.32	10.82	567,592	0.01824	0.1974
Juniper Networks	8.50	2.39	2.59	11.09	11,793	0.00038	0.0042
Kellanova	1.50	4.06	4.12	5.62	18,780	0.00060	0.0034
Keurig Dr Pepper	12.50	3.03	3.41	15.91	41,310	0.00133	0.0211
Kimberly-Clark	7.50	3.92	4.21	11.71	41,930	0.00135	0.0158
Kimco Realty	18.00	5.04	5.95	23.95	12,050	0.00039	0.0093
Kinder Morgan Inc.	15.00	6.27	7.21	22.21	40,168	0.00129	0.0287
KLA Corp.	10.50	0.83	0.92	11.42	94,134	0.00302	0.0345
Kraft Heinz Co.	4.00	4.53	4.71	8.71	43,374	0.00139	0.0121
Kroger Co.	6.00	2.04	2.16	8.16	40,918	0.00131	0.0107
L3Harris Technologies	9.50	2.19	2.40	11.90	40,287	0.00129	0.0154
Lam Research	9.00	0.87	0.95	9.95	124,593	0.00400	0.0398
Lamb Weston Holdings	15.00	1.43	1.64	16.64	14,896	0.00048	0.0080

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Lauder (Estee)	2.50	1.80	1.85	4.35	52,603	0.00169	0.0073
Leidos Hldgs.	7.50	1.19	1.28	8.78	17,362	0.00056	0.0049
Lennar Corp.	4.00	1.22	1.27	5.27	45,974	0.00148	0.0078
Linde plc	7.50	1.09	1.17	8.67	226,342	0.00727	0.0631
LKQ Corp.	7.00	2.29	2.45	9.45	14,011	0.00045	0.0043
Lockheed Martin	9.00	2.89	3.15	12.15	106,422	0.00342	0.0415
Loews Corp.	19.50	0.32	0.38	19.88	17,438	0.00056	0.0111
Lowe's Cos.	6.50	1.75	1.86	8.36	144,877	0.00466	0.0389
M&T Bank Corp.	6.50	3.77	4.02	10.52	23,789	0.00076	0.0080
Marathon Petroleum	14.50	1.67	1.91	16.41	72,772	0.00234	0.0384
MarketAxess Holdings	8.50	1.37	1.49	9.99	8,213	0.00026	0.0026
Marsh & McLennan	12.00	1.39	1.56	13.56	101,775	0.00327	0.0443
Martin Marietta	10.50	0.50	0.55	11.05	37,318	0.00120	0.0133
Masco Corp.	6.50	1.52	1.62	8.12	17,106	0.00055	0.0045
MasterCard Inc.	16.00	0.54	0.63	16.63	458,270	0.01473	0.2448
McCormick & Co.	4.50	2.44	2.55	7.05	18,443	0.00059	0.0042
McDonald's Corp.	10.00	2.40	2.64	12.64	205,572	0.00661	0.0835
McKesson Corp.	8.50	0.48	0.52	9.02	69,528	0.00223	0.0202
Medtronic plc	6.50	3.28	3.49	9.99	111,744	0.00359	0.0359
Merck & Co.	15.50	2.49	2.88	18.38	313,543	0.01007	0.1851
Meta Platforms	17.00	0.40	0.47	17.47	1,294,637	0.04160	0.7267
MetLife Inc.	7.00	2.84	3.04	10.04	54,607	0.00175	0.0176
Microchip Technology	6.00	2.13	2.26	8.26	47,738	0.00153	0.0127
Micron Technology	19.50	0.49	0.59	20.09	106,260	0.00341	0.0686
Microsoft Corp.	10.50	0.72	0.80	11.30	3,160,309	0.10155	1.1471
Mondelez Int'l	11.00	2.37	2.63	13.63	97,805	0.00314	0.0428

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Monolithic Power Sys.	10.50	0.75	0.83	11.33	32,035	0.00103	0.0117
Moody's Corp.	5.50	0.79	0.83	6.33	71,202	0.00229	0.0145
Morgan Stanley	7.50	3.72	4.00	11.50	150,020	0.00482	0.0554
Motorola Solutions	10.50	1.13	1.25	11.75	57,510	0.00185	0.0217
MSCI Inc.	12.50	1.14	1.28	13.78	44,223	0.00142	0.0196
Nasdaq Inc.	7.00	1.45	1.55	8.55	29,911	0.00096	0.0082
NetApp Inc.	8.50	1.91	2.07	10.57	21,515	0.00069	0.0073
Newmont Corp.	5.00	2.91	3.06	8.06	27,234	0.00088	0.0070
News Corp. 'A'	16.00	0.77	0.89	16.89	14,805	0.00048	0.0080
NextEra Energy	8.50	3.31	3.59	12.09	127,616	0.00410	0.0496
NIKE Inc. 'B'	16.50	1.48	1.72	18.22	152,110	0.00489	0.0891
NiSource Inc.	6.00	3.84	4.07	10.07	11,102	0.00036	0.0036
Nordson Corp.	9.50	1.03	1.13	10.63	15,153	0.00049	0.0052
Norfolk Southern	9.50	2.07	2.27	11.77	58,955	0.00189	0.0223
Northern Trust Corp.	3.00	3.57	3.68	6.68	17,251	0.00055	0.0037
Northrop Grumman	8.00	1.70	1.84	9.84	70,664	0.00227	0.0223
NRG Energy	1.00	2.43	2.45	3.45	13,974	0.00045	0.0016
Nucor Corp.	2.00	1.08	1.10	3.10	47,570	0.00153	0.0047
NXP Semi. NV	10.00	1.68	1.85	11.85	62,601	0.00201	0.0238
Occidental Petroleum	15.50	1.38	1.59	17.09	55,989	0.00180	0.0308
Old Dominion Freight	8.50	0.48	0.52	9.02	47,412	0.00152	0.0137
Omnicom Group	7.00	3.18	3.40	10.40	18,657	0.00060	0.0062
ONEOK Inc.	13.50	5.07	5.75	19.25	45,980	0.00148	0.0284
Oracle Corp.	9.50	1.24	1.36	10.86	355,022	0.01141	0.1239
Otis Worldwide	11.50	1.37	1.53	13.03	40,388	0.00130	0.0169
PACCAR Inc.	14.50	3.57	4.09	18.59	63,526	0.00204	0.0379

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Packaging Corp.	7.00	2.71	2.90	9.90	16,511	0.00053	0.0053
Parker-Hannifin	12.50	1.11	1.25	13.75	70,172	0.00225	0.0310
Paychex Inc.	10.00	3.14	3.45	13.45	44,255	0.00142	0.0191
Paycom Software	18.50	0.78	0.92	19.42	11,040	0.00035	0.0069
Pentair plc	12.00	1.12	1.25	13.25	13,604	0.00044	0.0058
PepsiCo Inc.	7.50	3.03	3.26	10.76	236,136	0.00759	0.0816
Pfizer Inc.	2.50	6.07	6.22	8.72	156,394	0.00503	0.0438
Philip Morris Int'l	5.00	5.55	5.83	10.83	145,364	0.00467	0.0506
Phillips 66	17.50	2.77	3.25	20.75	69,847	0.00224	0.0466
Pinnacle West Capital	2.50	4.86	4.98	7.48	8,249	0.00027	0.0020
Pioneer Natural Res.	8.50	4.03	4.37	12.87	59,265	0.00190	0.0245
PNC Financial Serv.	6.50	4.18	4.45	10.95	61,269	0.00197	0.0216
Pool Corp.	5.50	1.08	1.14	6.64	15,837	0.00051	0.0034
PPG Inds.	6.50	1.74	1.85	8.35	33,545	0.00108	0.0090
PPL Corp.	7.50	3.81	4.10	11.60	19,939	0.00064	0.0074
Price (T. Rowe) Group	1.50	4.27	4.33	5.83	26,425	0.00085	0.0050
Principal Fin'l Group	5.50	3.29	3.47	8.97	20,134	0.00065	0.0058
Procter & Gamble	5.00	2.32	2.44	7.44	381,166	0.01225	0.0911
Progressive Corp.	14.50	0.19	0.22	14.72	120,346	0.00387	0.0569
Prologis	0.50	3.03	3.05	3.55	118,969	0.00382	0.0136
Prudential Fin'l	5.50	4.51	4.76	10.26	41,428	0.00133	0.0137
Public Serv. Enterprise	4.00	3.76	3.91	7.91	31,817	0.00102	0.0081
Public Storage	7.00	4.26	4.56	11.56	49,393	0.00159	0.0183
PulteGroup Inc.	6.50	0.72	0.77	7.27	24,229	0.00078	0.0057
Qualcomm Inc.	7.50	1.91	2.05	9.55	187,455	0.00602	0.0575
Quanta Services	15.50	0.15	0.17	15.67	36,306	0.00117	0.0183

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
Quest Diagnostics	1.50	2.35	2.39	3.89	14,305	0.00046	0.0018
Ralph Lauren	13.00	1.58	1.79	14.79	12,161	0.00039	0.0058
Raymond James Fin'l	12.50	1.47	1.65	14.15	25,603	0.00082	0.0116
Realty Income Corp.	5.50	5.89	6.21	11.71	31,006	0.00100	0.0117
Regency Centers Corp.	14.50	4.45	5.10	19.60	10,292	0.00033	0.0065
Regions Financial	7.50	4.96	5.33	12.83	18,235	0.00059	0.0075
Republic Services	11.00	1.14	1.27	12.27	59,176	0.00190	0.0233
ResMed Inc.	8.50	1.04	1.13	9.63	28,297	0.00091	0.0088
Robert Half Inc.	6.00	2.64	2.80	8.80	8,492	0.00027	0.0024
Rockwell Automation	10.00	1.77	1.95	11.95	32,292	0.00104	0.0124
Rollins Inc.	9.00	1.28	1.40	10.40	22,668	0.00073	0.0076
Roper Tech.	8.50	0.54	0.59	9.09	59,229	0.00190	0.0173
Ross Stores	15.00	1.00	1.15	16.15	49,525	0.00159	0.0257
RTX Corp.	12.00	2.49	2.79	14.79	125,857	0.00404	0.0598
S&P Global	8.00	0.85	0.92	8.92	134,966	0.00434	0.0387
Salesforce Inc.	18.00	0.52	0.61	18.61	297,204	0.00955	0.1778
SBA Communications	19.00	1.85	2.20	21.20	23,324	0.00075	0.0159
Schwab (Charles)	10.00	1.61	1.77	11.77	127,044	0.00408	0.0481
Seagate Technology plc	11.00	3.20	3.55	14.55	18,315	0.00059	0.0086
Sempra Energy	6.50	3.56	3.79	10.29	44,055	0.00142	0.0146
Sherwin-Williams	11.50	0.84	0.94	12.44	87,309	0.00281	0.0349
Simon Property Group	3.50	5.15	5.33	8.83	51,063	0.00164	0.0145
Skyworks Solutions	1.50	2.75	2.79	4.29	16,911	0.00054	0.0023
Smith (A.O.)	11.50	1.46	1.63	13.13	12,929	0.00042	0.0055
Smucker (J.M.)	7.50	3.50	3.76	11.26	13,105	0.00042	0.0047
Snap-on Inc.	7.50	2.55	2.74	10.24	15,412	0.00050	0.0051

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
	EPS	Dividend	Expected	Rate of		Market	Weighted
	Growth	Yield	Dividend	Return on	Market Cap \$	Cap	Rate of
Company Name	Rate (%)	(%)	Yield (%)	Equity (%)	(Mil)	Weight	Return on
						Factor	Equity (%)
Southern Co.	6.00	4.07	4.31	10.31	76,594	0.00246	0.0254
Stanley Black & Decker	3.50	3.52	3.64	7.14	14,189	0.00046	0.0033
Starbucks Corp.	9.00	2.46	2.68	11.68	104,842	0.00337	0.0394
State Street Corp.	7.00	3.82	4.09	11.09	22,780	0.00073	0.0081
Steel Dynamics	1.50	1.29	1.31	2.81	23,333	0.00075	0.0021
STERIS plc	7.50	0.94	1.01	8.51	23,049	0.00074	0.0063
Stryker Corp.	8.50	0.92	1.00	9.50	134,248	0.00431	0.0410
Synchrony Financial	4.50	2.31	2.41	6.91	17,954	0.00058	0.0040
Sysco Corp.	16.00	2.46	2.85	18.85	40,886	0.00131	0.0248
T-Mobile US	19.50	1.64	1.96	21.46	192,716	0.00619	0.1329
Tapestry Inc.	12.50	2.95	3.32	15.82	10,874	0.00035	0.0055
Target Corp.	10.50	2.58	2.85	13.35	78,693	0.00253	0.0338
TE Connectivity	8.00	1.67	1.80	9.80	43,730	0.00141	0.0138
Teleflex Inc.	9.00	0.62	0.68	9.68	10,361	0.00033	0.0032
Teradyne Inc.	16.50	0.46	0.54	17.04	16,356	0.00053	0.0090
Texas Instruments	3.00	3.06	3.15	6.15	154,342	0.00496	0.0305
Textron Inc.	16.00	0.08	0.09	16.09	18,323	0.00059	0.0095
Thermo Fisher Sci.	5.00	0.27	0.28	5.28	224,115	0.00720	0.0380
TJX Companies	16.50	1.40	1.63	18.13	112,796	0.00362	0.0657
Tractor Supply	11.00	1.71	1.90	12.90	27,880	0.00090	0.0116
Trane Technologies plc	14.50	1.12	1.28	15.78	67,838	0.00218	0.0344
Travelers Cos.	10.50	1.78	1.97	12.47	51,388	0.00165	0.0206
Truist Fin'l	6.00	5.87	6.22	12.22	49,106	0.00158	0.0193
U.S. Bancorp	4.50	4.51	4.71	9.21	67,710	0.00218	0.0200
UDR Inc.	2.50	4.67	4.79	7.29	12,193	0.00039	0.0029
Union Pacific	6.50	2.15	2.29	8.79	150,142	0.00482	0.0424

ROE and ROR Analysis for MDU Gas
CAPM Analysis—Value Line EPS
Standard and Poor's 500 Adjusted

	A	B	C	D	E	F	G
Company Name	EPS Growth Rate (%)	Dividend Yield (%)	Expected Dividend Yield (%)	Rate of Return on Equity (%)	Market Cap \$ (Mil)	Market Cap Weight Factor	Weighted Rate of Return on Equity (%)
United Parcel Serv.	3.50	4.26	4.41	7.91	131,825	0.00424	0.0335
United Rentals	17.00	0.92	1.08	18.08	47,717	0.00153	0.0277
UnitedHealth Group	12.00	1.52	1.70	13.70	457,163	0.01469	0.2013
Universal Health `B'	6.00	0.44	0.47	6.47	12,279	0.00039	0.0026
V.F. Corp.	2.00	2.50	2.55	4.55	5,607	0.00018	0.0008
Valero Energy	6.50	2.41	2.57	9.07	57,731	0.00186	0.0168
Verisk Analytics	9.00	0.66	0.72	9.72	34,270	0.00110	0.0107
Verizon Communic.	0.50	6.63	6.66	7.16	168,669	0.00542	0.0388
VICI Properties	9.50	5.76	6.31	15.81	18,126	0.00058	0.0092
Visa Inc.	13.50	0.74	0.84	14.34	531,118	0.01707	0.2447
Vulcan Materials	8.00	0.68	0.73	8.73	35,897	0.00115	0.0101
Wabtec Corp.	12.00	0.56	0.63	12.63	25,401	0.00082	0.0103
Walmart Inc.	6.50	1.26	1.34	7.84	494,839	0.01590	0.1247
Waste Management	6.00	1.42	1.51	7.51	85,343	0.00274	0.0206
WEC Energy Group	6.50	4.15	4.42	10.92	25,411	0.00082	0.0089
Wells Fargo	10.50	2.44	2.70	13.20	208,093	0.00669	0.0882
West Pharmac. Svcs.	7.50	0.20	0.22	7.72	29,163	0.00094	0.0072
WestRock Co.	8.50	2.45	2.66	11.16	12,706	0.00041	0.0046
Williams Cos.	10.00	5.02	5.52	15.52	46,088	0.00148	0.0230
Willis Towers Wat. plc	8.50	1.22	1.32	9.82	28,383	0.00091	0.0090
Xcel Energy Inc.	6.00	4.22	4.47	10.47	29,006	0.00093	0.0098
Xylem Inc.	15.50	1.13	1.31	16.81	27,928	0.00090	0.0151
Yum! Brands	10.50	1.90	2.10	12.60	38,223	0.00123	0.0155
Zimmer Biomet Hldgs.	4.50	0.77	0.80	5.30	26,445	0.00085	0.0045
Zoetis Inc.	8.00	1.01	1.09	9.09	78,376	0.00252	0.0229

ROE and ROR Analysis for MDU Gas
CAPM ROE Analysis--Value Line
Calculation for Proxy Group

Docket No. PU-23-341
Exhibit MFG-15
Schedule 7

	A	B	C	D	E	F	G
	Market Return	Rf	MRP	Beta	RP	CAPM ROE	Filtered Results
Atmos Energy Corporation	11.33%	4.45%	6.88%	0.85	5.85%	10.30%	10.30%
Chesapeake Utilities	11.33%	4.45%	6.88%	0.80	5.50%	9.95%	9.95%
NiSource	11.33%	4.45%	6.88%	0.95	6.54%	10.99%	10.99%
Northwest Natural Holding Co.	11.33%	4.45%	6.88%	0.85	5.85%	10.30%	10.30%
Southwest Gas Holdings	11.33%	4.45%	6.88%	0.85	5.85%	10.30%	10.30%
ONE Gas, Inc.	11.33%	4.45%	6.88%	0.90	6.19%	10.64%	10.64%
Spire, Inc.	11.33%	4.45%	6.88%	0.85	5.85%	10.30%	10.30%

Mean 10.40% 10.40%

Median 10.30% 10.30%

A: MFG-15, Sch 5

E: C * D

B: MFG-15 Sch 1

F: B + E

C: A - B

G: Low-end test < Column F < High-end test

D: MFG-15, Sch 2

Low-End Test:	Moody's 10-Year Baa Corporate Bond Index, S&P Global Market Intelligence)	5.84%
	CAPM Risk Premium, Column C	6.88%
	20 percent of CAPM risk premium	1.38%
	Moody's 10-Year Baa Corporate Bond Index + 20 percent of CAPM risk premium	7.22%
High-End Test:	Proxy Group median, Column F	10.30%
	150 percent of Proxy Group median	15.45%
	200 percent of Proxy Group median	20.60%

ROE and ROR Analysis for MDU Gas
CAPM ROE Analysis
Average of Low-End Tests for Value Line and Kroll

Docket No. PU-23-341
Exhibit MFG-15
Schedule 8

Value Line Low-End Test:	Moody's 10-Year Baa Corporate Bond Index, S&P Global Market Intelligence. MFG-15, Schedule 5	5.84%
	CAPM Risk Premium, Value Line, MFG-15, Schedule 7	6.88%
	20 percent of CAPM risk premium	1.38%
	Moody's 10-Year Baa Public Corporate Bond Index + 20 percent of CAPM risk premium	7.22%
Kroll Low-End Test:	Moody's 10-Year Baa Corporate Bond Index, S&P Global Market Intelligence. MFG-15, Schedule 3	5.84%
	CAPM Risk Premium, Kroll, MFG-15, Schedule 5	5.00%
	20 percent of CAPM risk premium	1.00%
	Moody's 10-Year Baa Public Corporate Bond Index + 20 percent of CAPM risk premium	6.84%
Mean of Value Line and Kroll Low-End Tests		7.03%



Source: S&P Capital IQ Pro Regulatory Research Associates Rate Case History
 Downloaded April 8, 2024

2021

State	Company	Docket	Case Type	Date of Decision	Decision Type	Return on Equity (%)	Equity Ratio (%)
Georgia	Atlanta Gas Light Co.	D-42315 (2020 review)	Distribution	1/1/2021	Fully Litigated	NA	56.00
Colorado	Black Hills Colorado Gas	D-20AL-0380G	Distribution	1/6/2021	Fully Litigated	NA	NA
Delaware	Delmarva Power & Light Co.	D-20-0150	Distribution	1/6/2021	Settled	9.60	50.37
Oregon	Cascade Natural Gas Corp.	D-UG 390	Distribution	1/6/2021	Settled	9.40	50.00
Illinois	Ameren Illinois	D-20-0308	Distribution	1/13/2021	Fully Litigated	9.67	52.00
Minnesota	CenterPoint Energy Resources	D-G-008/GR-19-524	Distribution	1/14/2021	Settled	NA	NA
Nebraska	Black Hills Nebraska Gas	D-NG-109	Distribution	1/26/2021	Settled	9.50	50.00
Montana	MDU Resources Group	D2020.06.076	Distribution	2/16/2021	Settled	NA	NA
Tennessee	Piedmont Natural Gas Co.	D-20-00086	Distribution	2/16/2021	Settled	9.80	50.50
Pennsylvania	Columbia Gas of Pennsylvania	D-R-2020-3018835	Distribution	2/19/2021	Fully Litigated	9.86	54.19
District of Columbia	Washington Gas Light Co.	FC-1162	Distribution	2/24/2021	Settled	9.25	52.10
California	Southwest Gas Corp.	A-19-08-015 (SoCal)	Distribution	3/25/2021	Settled	10.00	52.00
California	Southwest Gas Corp.	A-19-08-015 (NoCal)	Distribution	3/25/2021	Settled	10.00	52.00
California	Southwest Gas Corp.	A-19-08-015 (LkTah)	Distribution	3/25/2021	Settled	10.00	52.00
Maryland	Washington Gas Light Co.	C-9651	Distribution	4/9/2021	Fully Litigated	9.70	52.03
North Dakota	MDU Resources Group	C-PU-20-379	Distribution	5/5/2021	Settled	9.30	50.31

**ROE and ROR Analysis for MDU Gas
Authorized ROEs in Natural Gas Rate Cases
January 1, 2021-December 31, 2023**

Washington	Cascade Natural Gas Corp.	D-UG-200568	Distribution 5/18/2021	Fully Litigated	9.40	49.10
New York	Corning Natural Gas Corp.	C-20-G-0101	Distribution 5/19/2021	Fully Litigated	8.80	48.00
Pennsylvania	PECO Energy Co	D-R-2020-3018929	Distribution 6/17/2021	Fully Litigated	10.24	53.38
Kentucky	Louisville Gas & Electric Co.	C-2020-00350 (gas)	Distribution 6/30/2021	Settled	9.43	NA
Tennessee	Atmos Energy Corp.	D-21-00019	Distribution 7/19/2021	Settled	NA	59.88
West Virginia	Hope Gas Inc.	C-20-0746-G-42T	Distribution 7/27/2021	Fully Litigated	9.54	47.45
New Hampshire	Liberty Utilities EnergyNorth	D-DG-20-105	Distribution 7/30/2021	Settled	9.30	52.00
Wisconsin	Wisconsin Electric Power Co.	D-5-AF-107 (WEP-Gas)	Distribution 8/11/2021	NA	NA	NA
Wisconsin	Wisconsin Gas LLC	D-5-AF-107	Distribution 8/11/2021	NA	NA	NA
Wisconsin	Wisconsin Public Service Corp.	D-5-AF-107 (Gas)	Distribution 8/11/2021	NA	NA	NA
New York	KeySpan Gas East Corp.	C-19-G-0310	Distribution 8/12/2021	Settled	8.80	48.00
New York	The Brooklyn Union Gas Co.	C-19-G-0309	Distribution 8/12/2021	Settled	8.80	48.00
Oklahoma	CenterPoint Energy Resources	Ca-PUD202100054	Distribution 8/19/2021	Settled	NA	NA
Idaho	Avista Corp.	C-AVU-G-21-01	Distribution 9/1/2021	Settled	9.40	50.00
Illinois	North Shore Gas Co.	D-20-0810	Distribution 9/8/2021	Fully Litigated	9.67	51.58
Michigan	Michigan Gas Utilities Corp.	C-U-20718	Distribution 9/9/2021	Settled	9.85	NA
Virginia	Virginia Natural Gas Inc.	C-PUR-2020-00095	Distribution 9/14/2021	Settled	9.50	51.89
Arkansas*	CenterPoint Energy Resources	D-17-010-FR (2021 filing)	Distribution 9/23/2021	Fully Litigated	NA	32.27
Washington	Avista Corp.	D-UG-200901	Distribution 9/27/2021	Settled	9.40	48.50
South Carolina	Piedmont Natural Gas Co.	D-2021-7-G	Distribution 9/29/2021	Settled	9.80	52.20
Massachusetts	Boston Gas Co.	DPU 20-120	Distribution 9/30/2021	Fully Litigated	9.70	53.44
Indiana	Sthrn IN Gas & Electric Co.	Ca-45447	Distribution 10/6/2021	Settled	9.70	45.74
Washington	Northwest Natural Gas Co.	D-UG-200994	Distribution 10/21/2021	Settled	NA	NA
Missouri	Spire Missouri Inc.	C-GR-2021-0108	Distribution 10/27/2021	Fully Litigated	9.37	49.86
Massachusetts	NSTAR Gas Co.	DPU 21-107	Distribution 10/29/2021	Fully Litigated	NA	NA
Indiana	Indiana Gas Co.	Ca-45468	Distribution 11/17/2021	Settled	9.80	46.21
New Jersey	New Jersey Natural Gas Co.	D-GR21030679	Distribution 11/17/2021	Settled	9.60	54.00
Georgia	Atlanta Gas Light Co.	D-42315 (2021 review)	Distribution 11/18/2021	Settled	NA	56.00

**ROE and ROR Analysis for MDU Gas
Authorized ROEs in Natural Gas Rate Cases
January 1, 2021-December 31, 2023**

Illinois	Northern Illinois Gas Co.	D-21-0098	Distribution	11/18/2021	Fully Litigated	9.75	54.46
New York	Central Hudson Gas & Electric	C-20-G-0429	Distribution	11/18/2021	Settled	9.00	50.00
Wisconsin	Northern States Power Co.	D- 4220-UR-125 (Gas)	Distribution	11/18/2021	Settled	10.00	52.50
Wisconsin	Wisconsin Power and Light	D-6680-UR-123 (Gas)	Distribution	11/18/2021	Settled	10.00	52.50
Wisconsin	Madison Gas and Electric	D-3270-UR-124 (Gas)	Distribution	11/23/2021	Settled	9.80	55.00
Oklahoma	Oklahoma Natural Gas Co	Ca-PUD202100063	Distribution	11/30/2021	Settled	9.40	58.55
Maryland	Columbia Gas of Maryland	C-9664	Distribution	12/3/2021	Fully Litigated	9.65	52.95
Michigan	DTE Gas Co.	C-U-20940	Distribution	12/9/2021	Fully Litigated	9.90	39.23
Colorado	Black Hills Colorado Gas	D-21AL-0236G	Distribution	12/13/2021	Settled	9.20	50.26
Pennsylvania	Columbia Gas of Pennsylvania	D-R-2021-3024296	Distribution	12/16/2021	Settled	NA	NA
Missouri	Union Electric Co.	C-GR-2021-0241	Distribution	12/22/2021	Settled	NA	NA
Iowa	Black Hills Iowa Gas Utility	D-RPU-2021-0002	Distribution	12/28/2021	Settled	9.60	50.01
Kentucky	Columbia Gas of Kentucky	C-2021-00183	Distribution	12/28/2021	Settled	9.35	52.64
Kentucky	Duke Energy Kentucky Inc.	C-2021-00190	Distribution	12/28/2021	Settled	9.38	51.34
Kansas	Black Hills Kansas Gas	D-21-BHCG-418-RTS	Distribution	12/30/2021	Settled	NA	NA

*-CenterPoint Energy Arkansas case excluded from Equity Ratio. Capital Structure includes unusual items

Mean	9.56	51.32
Median	9.60	51.95
Range	8.80-10.24	39.23-59.88
	n = 43	n = 44

2022

State	Company	Docket	Case Type	Date of Decision	Decision Type	Return on Equity (%)	Equity Ratio (%)
Kentucky	Delta Natural Gas Co.	C-2021-00185	Distribution	1/3/2022	Settled	9.25	NA
North Carolina	Piedmont Natural Gas Co.	D-G-9, Sub 781	Distribution	1/6/2022	Settled	9.60	51.60
New York	Niagara Mohawk Power	C-20-G-0381	Distribution	1/20/2022	Settled	9.00	48.00
North Carolina	Public Service Co. of NC	D-G-5 Sub 632	Distribution	1/21/2022	Settled	9.60	51.60
Nevada	Southwest Gas Corp.	D-21-09001 (Southern)	Distribution	3/22/2022	Settled	9.40	50.00
Nevada	Southwest Gas Corp.	D-21-09001 (Northern)	Distribution	3/22/2022	Settled	9.40	50.00

**ROE and ROR Analysis for MDU Gas
Authorized ROEs in Natural Gas Rate Cases
January 1, 2021-December 31, 2023**

New York	Orange & Rockland Utlts	C-21-G-0073	Distribution 4/14/2022	Settled	9.20	48.00
Kentucky	Atmos Energy Corp.	C-2021-00214	Distribution 5/19/2022	Fully Litigated	9.23	54.50
New York	Corning Natural Gas Corp.	C-21-G-0394	Distribution 6/16/2022	Settled	9.25	48.00
Tennessee	Atmos Energy Corp.	D-22-00010	Distribution 6/20/2022	Fully Litigated	NA	60.59
Missouri	Empire District Gas Co.	C-GR-2021-0320	Distribution 6/23/2022	Settled	NA	NA
Michigan	Consumers Energy Co.	C-U-21148	Distribution 7/7/2022	Settled	9.90	NA
New Hampshire	Northern Utilities Inc.	D-DG-21-104	Distribution 7/20/2022	Settled	9.30	52.00
Indiana	Northern IN Public Svc Co. LLC	Ca-45621	Distribution 7/27/2022	Settled	9.85	49.47
Oregon	Avista Corp.	D-UG 433	Distribution 8/2/2022	Settled	9.40	50.00
New Jersey	Elizabethtown Gas Co.	D-GR21121254	Distribution 8/17/2022	Settled	9.60	52.00
Minnesota	CenterPoint Energy Resources	D-G-008/GR-21-435	Distribution 8/18/2022	Settled	9.39	51.00
Washington	Cascade Natural Gas Corp.	D-UG-210755	Distribution 8/23/2022	Settled	9.40	47.00
Pennsylvania	UGI Utilities Inc.	D-R-2021-3030218	Distribution 9/15/2022	Settled	NA	NA
South Carolina	Piedmont Natural Gas Co.	D-2022-89-G	Distribution 9/15/2022	Settled	9.30	52.20
Massachusetts	Boston Gas Co.	DPU 22-74	Distribution 9/26/2022	Fully Litigated	NA	NA
Delaware	Delmarva Power & Light Co.	D-22-0002	Distribution 10/12/2022	Settled	9.60	49.94
Arkansas	Black Hills Energy Arkansas	D-21-097-U	Distribution 10/10/2022	Fully Litigated	9.60	45.00
Oregon	Northwest Natural Gas Co.	D-UG-435	Distribution 10/24/2022	Settled	9.40	50.00
Colorado	Public Service Co. of CO	D-22AL-0046G	Distribution 10/25/2022	Fully Litigated	9.20	53.78
Massachusetts	The Berkshire Gas Co.	DPU 22-20	Distribution 10/27/2022	Settled	9.70	54.00
North Dakota	Northern States Power Co.	C-PU-21-381	Distribution 10/27/2022	Settled	9.80	52.54
Pennsylvania	PECO Energy Co	D-R-2022-3031113	Distribution 10/27/2022	Settled	NA	NA
California	San Diego Gas & Electric Co.	A-21-08-014 (Gas)	Distribution 11/3/2022	Fully Litigated	10.20	52.00
Oklahoma	Summit Utilities Inc.	Ca-PUD202200022	Distribution 11/10/2022	Settled	NA	NA
Maryland	Columbia Gas of Maryland Inc	C-9680	Distribution 11/17/2022	Settled	9.65	52.97
Oklahoma	Oklahoma Natural Gas Co	Ca-PUD202200023	Distribution 11/29/2022	Settled	NA	NA
Missouri	Spire Missouri Inc.	C-GR-2022-0179	Distribution 11/30/2022	Settled	NA	NA
New Mexico	New Mexico Gas Co.	C-21-00267-UT	Distribution 11/30/2022	Settled	9.38	52.00

**ROE and ROR Analysis for MDU Gas
Authorized ROEs in Natural Gas Rate Cases
January 1, 2021-December 31, 2023**

Pennsylvania	Columbia Gas of Pennsylvania	D-R-2022-3031211	Distribution	12/8/2022	Settled	NA	NA
Washington	Avista Corp.	D-UG-220054	Distribution	12/12/2022	Settled	NA	NA
California	Southern California Gas Co.	A-22-04-011	Distribution	12/15/2022	Fully Litigated	9.80	52.00
New Jersey	South Jersey Gas Co.	D-GR22040253	Distribution	12/21/2022	Settled	9.60	54.00
Washington	Puget Sound Energy Inc.	D-UG-220067	Distribution	12/22/2022	Settled	9.40	49.00
Wisconsin	Wisconsin Public Service Corp.	D-6690-UR-127 (Gas)	Distribution	12/22/2022	Fully Litigated	9.80	53.40
Utah	Dominion Energy Inc.	D-22-057-03	Distribution	12/23/2022	Fully Litigated	9.60	51.00
Wisconsin	Wisconsin Electric Power	D-5-UR-110 (WEP-Gas)	Distribution	12/29/2022	Fully Litigated	9.80	58.22
Wisconsin	Wisconsin Gas LLC	D-5-UR-110	Distribution	12/29/2022	Fully Litigated	9.80	52.70

*-Black Hills Energy Arkansas case excluded from Equity Ratio. Capital Structure includes unusual item

Mean	9.53	51.52
Median	9.60	51.80
Range	9.20-10.20	45.00-60.59
	n = 33	n = 32

2023

State	Company	Docket	Case Type	Date of Decision	Decision Type	Return on Equity (%)	Equity Ratio (%)
Texas	Texas Gas Service Co.	D-OSS-22-00009896	Distribution	1/19/2023	Fully Litigated	9.60	59.74
Arizona	Southwest Gas Corp.	D-G-01551A-21-0368	Distribution	1/23/2023	Settled	9.30	50.00
Florida	Florida Public Utilities Co.	D-20220067-GU	Distribution	1/24/2023	Fully Litigated	10.25	45.16
Ohio	Columbia Gas Ohio Inc.	C-21-0637-GA-AIR	Distribution	1/26/2023	Settled	9.60	50.60
Minnesota	Northern States Power Co.	D-G-002/GR-21-678	Distribution	3/23/2023	Settled	9.57	52.50
Florida	Pivotal Utility Holdings Inc.	20220069-GU	Distribution	3/28/2023	Fully Litigated	9.50	59.60
South Dakota	MidAmerican Energy Co.	D-NG22-005	Distribution	3/28/2023	Settled	NA	NA
Colorado	Atmos Energy Corp.	D-22AL-0348G	Distribution	5/4/2023	Settled	9.30	58.00
Kansas	Atmos Energy Corp.	D-23-ATMG-359-RTS	Distribution	5/9/2023	Settled	NA	NA
Virginia	Columbia Gas of Virginia Inc	C-PUR-2022-00036	Distribution	5/15/2023	Settled	NA	NA
Pennsylvania	Natl Fuel Gas Distribution	D-R-2022-3035730	Distribution	6/15/2023	Settled	NA	NA

**ROE and ROR Analysis for MDU Gas
Authorized ROEs in Natural Gas Rate Cases
January 1, 2021-December 31, 2023**

Idaho	Intermountain Gas Co.	C-INT-G-22-07	Distribution	6/30/2023	Settled	9.50	50.00
Oklahoma	Oklahoma Natural Gas Co	Ca-PUD2023-000012	Distribution	7/11/2023	Settled	NA	NA
New York	Consolidated Edison Company of	C-22-G-0065	Distribution	7/20/2023	Settled	9.25	48.00
Virginia	Virginia Natural Gas Inc.	C-PUR-2022-00052	Distribution	8/28/2023	Settled	NA	NA
Virginia	Washington Gas Light Co.	C-PUR-2022-00054	Distribution	8/29/2023	Settled	NA	NA
Michigan	Consumers Energy Co.	C-U-21308	Distribution	8/30/2023	Settled	9.90	NA
Michigan	Michigan Gas Utilities Corp.	C-U-21366	Distribution	8/30/2023	Settled	9.80	NA
Idaho	Avista Corp.	C-AVU-G-23-01	Distribution	8/31/2023	Settled	9.40	50.00
Maine	Northern Utilities Inc.	D-2023-00051	Distribution	9/20/2023	Settled	9.35	52.01
South Carolina	Dominion Energy South Carolina	D-2023-70-G	Distribution	9/20/2023	Settled	9.49	54.78
Massachusetts	Boston Gas Co.	DPU 23-56	Distribution	9/28/2023	Fully Litigated	NA	NA
South Carolina	Piedmont Natural Gas Co.	D-2023-7-G	Distribution	10/5/2023	Settled	9.30	53.13
Tennessee	Chattanooga Gas Co.	D-23-00029	Distribution	10/6/2023	Settled	9.80	49.23
New York	NY State Electric & Gas	C-22-G-0318	Distribution	10/12/2023	Settled	9.20	48.00
New York	Rochester Gas & Electric Corp.	C-22-G-0320	Distribution	10/12/2023	Settled	9.20	48.00
Montana	NorthWestern Energy	D-2022-7-78 (gas)	Distribution	10/25/2023	Settled	9.55	48.02
Maryland	Columbia Gas of Maryland	C-9701	Distribution	10/26/2023	Settled	NA	NA
Minnesota	Minnesota Energy	D-G-011/GR-22-504	Distribution	10/26/2023	Settled	9.65	53.00
Oregon	Avista Corp.	D-UG-461	Distribution	10/26/2023	Settled	9.50	50.00
Massachusetts	NSTAR Gas Co.	DPU 23-94	Distribution	10/30/2023	Fully Litigated	NA	NA
Ohio	Duke Energy Ohio Inc.	C-22-0507-GA-AIR	Distribution	11/1/2023	Settled	9.60	52.32
Wisconsin	Madison Gas and Electric Co.	D-3270-UR-125 (Gas)	Distribution	11/3/2023	Fully Litigated	9.70	56.06
Wyoming	Questar Gas Co.	D-30010-215-GR-23	Distribution	11/7/2023	Settled	9.65	51.56
Florida	Peoples Gas System	D-20230023-GU	Distribution	11/9/2023	Fully Litigated	10.15	NA
Wisconsin	Northern States Power Co.	D-4220-UR-126 (Gas)	Distribution	11/9/2023	Fully Litigated	9.80	52.50
Wisconsin	Wisconsin Power and Light Co	D-6680-UR-124 (Gas)	Distribution	11/9/2023	Fully Litigated	9.80	53.70
California	Pacific Gas and Electric Co.	A-21-06-021 (Gas)	Distribution	11/16/2023	Fully Litigated	NA	NA
Illinois	Ameren Illinois	D-23-0067	Distribution	11/16/2023	Fully Litigated	9.44	50.00
Illinois	North Shore Gas Co.	D-23-0068	Distribution	11/16/2023	Fully Litigated	9.38	52.58

**ROE and ROR Analysis for MDU Gas
Authorized ROEs in Natural Gas Rate Cases
January 1, 2021-December 31, 2023**

Illinois	Northern Illinois Gas Co.	D-23-0066	Distribution	11/16/2023	Fully Litigated	9.51	50.00
Illinois	The Peoples Gas Light & Coke C	D-23-0069	Distribution	11/16/2023	Fully Litigated	9.38	50.79
Tennessee	Piedmont Natural Gas Co.	D-23-00035	Distribution	12/4/2023	Settled	9.80	50.09
Maryland	Baltimore Gas and Electric Co.	C-9692 (GAS)	Distribution	12/14/2023	Fully Litigated	9.45	52.00
Maryland	Washington Gas Light Co.	C-9704	Distribution	12/14/2023	Fully Litigated	9.50	52.60
District of Columbia	Washington Gas Light Co.	FC-1169	Distribution	12/15/2023	Fully Litigated	9.65	52.00
Virginia	Roanoke Gas Co.	C-PUR-2022-00205 (Exp	Distribution	12/19/2023	Settled	NA	NA
West Virginia	Mountaineer Gas Co.	C-23-0280-G-42T	Distribution	12/21/2023	Settled	9.75	NA
California	Southern California Gas Co.	Advice Letter No. 6207-C	Distribution	12/22/2023	Fully Litigated	10.50	52.00

Mean	9.60	51.76
Median	9.55	50.60
Range	9.20-10.50	45.16-59.74
	n = 37	n = 33

Overall 2021-2023

Mean	9.56	51.34
Median	9.60	51.95
Range	8.80-10.50	45.16-59.74
	n = 113	n = 109

ROE and ROR Analysis for MDU Gas
Summary of ROE Analyses and Recommended ROE

Docket No. PU-23-341
Exhibit MFG-17
Schedule 1

Analysis	Weight	ROE	Exhibit	
Constant-Growth DCF		Mean	10.23%	Exhibit MFG-14, Schedule 1
		Median	10.33%	
Multistage DCF		Mean	9.57%	Exhibit MFG-14, Schedule 5
		Median	9.51%	
CAPM Kroll Market Risk Premium		Mean	8.77%	Exhibit MFG-15, Schedule 4
		Median	8.70%	
CAPM S&P 500 Value Line		Mean	10.40%	Exhibit MFG-15, Schedule 6
		Median	10.30%	
DCF and CAPM Value Line results		Mean	9.742%	
		Median	9.710%	

		2121	2022	2023	
Recently awarded ROEs	Mean	9.56	9.53	9.60	Exhibit MFG-16
	Median	9.60	9.60	9.55	
	Range	8.80-10.24	9.20-10.20	9.20-10.50	
	Cases	n = 43	n = 33	n = 37	
Overall					
	Mean	9.56			
	Median	9.60			
	Range	8.80-10.50			
	Cases	n = 113			

Recommended ROE for MDU Gas 9.725%

S&P Capital IQ PRO

S&P Market Intelligence website, downloaded June 23, 2024
 In thousands of dollars

Company Name	2024Q1	2023Q4	2023Q3	2023Q2	2023Q1	2022Q4	2022Q3	2022Q2	Average 2022Q2- 2024Q1
Average Long-Term Debt for each quarter									
Atmos Energy Corporation	7,527,695	7,181,468	6,738,154	6,597,871	6,552,446	6,248,372	5,852,056	5,758,380	6,919,527
Chesapeake Utilities	1,196,312	926,233	656,084	662,861	629,587	593,794	598,210	605,826	733,613
NiSource, Inc.	11,402,950	11,046,300	11,007,050	10,633,750	9,910,100	9,538,350	9,520,700	9,350,000	10,059,308
Northwest Natural Holding Company	1,577,194	1,502,325	1,437,288	1,372,711	1,349,012	1,345,304	1,244,916	1,124,093	1,369,105
ONE Gas, Inc.	2,160,532	2,018,651	1,869,407	1,875,893	2,277,358	2,554,098	2,356,459	2,283,743	2,040,368
Southwest Gas Holdings, Inc.	4,694,173	4,987,463	5,260,192	4,931,222	4,546,128	5,190,124	5,227,023	4,574,106	4,926,304
Spire Inc.	3,334,600	3,436,000	3,588,750	3,627,900	3,429,400	3,094,250	3,120,050	3,207,600	3,354,819

Company Name	2024Q1	2023Q4	2023Q3	2023Q2	2023Q1	2022Q4	2022Q3	2022Q2	Average 2022Q2- 2024Q1
Average Short-Term Debt for each quarter									
Atmos Energy Corporation	10,538	150,363	148,378	4,513	1,101,498	2,313,276	2,313,249	2,201,417	283,058
Chesapeake Utilities	196,079	170,871	129,552	118,152	172,161	208,764	176,167	162,066	166,726
NiSource, Inc.	2,163,500	2,663,700	1,933,000	1,465,600	1,554,300	1,549,750	947,550	585,100	1,377,633
Northwest Natural Holding Company	170,300	253,261	273,495	299,179	332,662	271,693	208,671	279,254	261,064
ONE Gas, Inc.	938,255	1,011,145	1,075,757	1,055,689	829,984	623,070	1,281,762	1,897,644	982,166
Southwest Gas Holdings, Inc.	694,278	400,810	78,728	283,514	1,061,331	1,017,870	963,254	1,634,546	766,791
Spire Inc.	1,298,750	1,311,700	1,041,550	890,900	1,150,600	1,404,400	1,032,800	689,350	1,102,506

Quarter omitted from analysis

Atmos Energy and ONE Gas quarters omitted because of the effect of temporary securitized debt created due to Winter Storm Uri.

NiSource quarters omitted due to sale of 19.9 percent of the utility which caused debt to rise temporarily.

Company Name	2024Q1	2023Q4	2023Q3	2023Q2	2023Q1	2022Q4	2022Q3	2022Q2	Average 2022Q2- 2024Q1
Average Common Equity for each quarter									
Atmos Energy Corporation	11,445,924	11,071,637	10,736,223	10,403,793	10,020,740	9,627,683	9,343,631	9,125,701	10,735,663
Chesapeake Utilities	1,263,504	1,056,391	865,453	861,408	845,695	823,620	815,070	810,607	917,718
NiSource, Inc.	7,201,250	6,283,200	6,068,800	6,102,750	5,970,050	5,621,650	5,446,250	5,450,250	5,965,367
Northwest Natural Holding Company	1,313,612	1,251,689	1,229,909	1,244,293	1,211,874	1,148,149	1,129,818	1,063,362	1,199,088
ONE Gas, Inc.	2,797,931	2,706,312	2,650,787	2,653,153	2,617,953	2,515,350	2,449,935	2,451,493	2,685,227
Southwest Gas Holdings, Inc.	3,333,139	3,274,391	3,250,786	3,279,491	3,177,458	3,235,837	3,435,884	3,473,967	3,307,619
Spire Inc.	2,978,550	2,742,050	2,682,900	2,717,500	2,683,300	2,599,300	2,590,200	2,601,550	2,699,419

Quarter omitted from analysis

Atmos Energy and ONE Gas quarters omitted because of the effect of temporary securitized debt created due to Winter Storm Uri.

NiSource quarters omitted due to sale of 19.9 percent of the utility which caused debt to rise temporarily.

Company Name	Average Total Capital 2022Q2- 2024Q1	Long-Term Debt %	Short-Term Debt %	Common Equity %	
Atmos Energy Corporation	17,938,248	38.57%	1.58%	59.85%	100.00%
Chesapeake Utilities	1,818,057	40.35%	9.17%	50.48%	100.00%
NiSource, Inc.	17,402,308	57.80%	7.92%	34.28%	100.00%
Northwest Natural Holding Company	2,829,257	48.39%	9.23%	42.38%	100.00%
ONE Gas, Inc.	5,707,761	35.75%	17.21%	47.05%	100.00%
Southwest Gas Holdings, Inc.	9,000,714	54.73%	8.52%	36.75%	100.00%
Spire Inc.	7,156,744	46.88%	15.41%	37.72%	100.00%
Proxy Group	Average %	46.07%	9.86%	44.07%	100.00%
Proxy Group w/o ONE Gas, Spire	Average %	47.97%	7.28%	44.75%	100.00%

Capital structure requested by MDU Gas	45.30%	4.52%	50.19%	100.00%
---	--------	-------	--------	---------

ROE and ROR Analysis for MDU Gas
Recommended ROE and ROR
Weighted Average Cost of Capital
Based on Inputs from MFG-20, Schedules 1-2

Docket No. PU-23-341
Exhibit MFG-17
Schedule 3

Rate of Return NDPSC

	Ratio	Cost	WACC
Long-Term Debt	45.296%	4.569%	2.070%
Short-Term Debt	4.519%	4.954%	0.224%
Common Equity	50.185%	9.725%	4.880%
Overall Rate of Return	100.00%		7.174%

The recommended common equity cost of 9.725 percent is taken from Exhibit MFG-17, Schedule 1. The capital structure is for December 31, 2024 and is taken from the MDU Statement E, Page 1 of 1. The cost of long-term debt and short-term debt are taken from the Direct Testimony of Tammy Nygard, page 5.

Requested Rate of Return
MDU Gas

	Ratio	Cost	WACC
Long-Term Debt	45.296%	4.569%	2.070%
Short-Term Debt	4.519%	4.954%	0.224%
Common Equity	50.185%	10.500%	5.269%
Overall Rate of Return	100.00%		7.563%

The recommended common equity cost of 10.50 percent is taken from the Direct Testimony of Ann E. Bulkley, Exhibit (AEB-1), Page 6. The capital structure is for December 31, 2024 and is taken from the MDU Statement E, Page 1 of 1. The cost of long-term debt and short-term debt are taken from the Direct Testimony of Tammy Nygard, page 5.

