

Public Service Commission

State of North Dakota

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August 11, 2015

Darrell Nitschke, Executive Secretary
North Dakota Public Service Commission
600 E. Boulevard Avenue Dept. 408
Bismarck, ND 58505-0480



Re: Case No. Pu-15-90
Montana-Dakota Utilities, Co., a Division of
MDU Resources Group, Inc.
Natural Gas Service Rate Increase
Application

Dear Mr. Nitschke:

Enclosed for filing are original copies of the Montana-Dakota Utilities Schedules which should be included in the Advocacy Staff Direct Testimony of Aaron L. Rothschild in the above captioned proceedings. Please file these documents in accordance with the Commission's filing requirements.

Thank you.

Best regards,


by 
John Schuh
Legal Counsel

Enclosures

64 PU-15-90 Filed: 8/11/2015 Pages: 21
Supplement to Direct Testimony of Aaron L.
Rothschild – Schedules

Public Service Commission Advocacy Staff

John Schuh, Advocacy Staff Counsel

| Montana-Dakota Utilities CO. Overall Cost of Capital Company Requested Capital Structure | | | |
|---|--------------------|------------------|---------------------------------------|
| | Ratios | Cost Rate | Weighted Cost Rate [C] |
| Long-Term Debt | 41.135% [A] | 5.95% [A] | 2.45% |
| Short-Term Debt | 8.108% [A] | 1.63% [A] | 0.13% |
| Preferred Stock | 1.242% [A] | 4.579% [A] | 0.06% |
| Common Equity* | <u>49.515% [A]</u> | 8.62% [B] | <u>4.27%</u> |
| | 100.0% | | 6.90% |

Source:

- [A] Dr. Gaske's Direct Testimony, Table 1, page 4
- [B] SCHEDULE ALR 2
- [C] Ratios times Cost Rate

SCHEDULE ALR 2

Montana-Dakota Utilities CO.

COST OF EQUITY SUMMARY

Average for Year ending 6/30/15 **As of 6/30/2015**

| | | | |
|---|-------|-----|-----------|
| SIMPLIFIED, OR CONSTANT GROWTH DCF (D/P +g) RESULTS: | | | |
| PROXY GROUP | 8.32% | [A] | 8.92% [A] |
| NON-CONSTANT GROWTH DCF METHOD | | | |
| PROXY GROUP | | | 8.23% [B] |

| | | | |
|---------------------------------|--------------------------|----|--------------|
| Indicated Cost of Equity | 8.32% | to | 8.92% |
| | Midpoint of Range | | 8.62% |

Cost of Equity Reduction for Lower Risk of Requested Capital Structure: [C]

- [A] SCHEDULE ALR 4, page 1
- [B] SCHEDULE ALR 4, Page 2
- [C] $(52.21\% - 46.25\%) * .01$.
Based on Rothschild Financial Consulting Study regarding
The relationship between cost of equity and capital common
equity ratios

| VL Issue | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] |
|---------------------------------------|----------------------|----------------------|----------------------|----------------------|-------------|----------------------|--------------|----------------------------|---------------|-----------|-----------------------------|---------------|
| | Book Per Sh. Dec. 11 | Book Per Sh. Dec. 12 | Book Per Sh. Dec. 13 | Book Per Sh. Dec. 14 | Al 06/30/15 | Market High for Year | Low for Year | Market to Book Al 06/30/15 | Avg. for Year | Div. Rate | Dividend Yield At 6/30/2015 | Avg. for Year |
| | [A] | [A] | [A] | [A] | [B] | [B] | [B] | [C] | [C] | [A] | [D] | [D] |
| FINANCIAL DATA FOR PROXY GROUP | | | | | | | | | | | | |
| GAS | \$28.33 | \$28.96 | \$30.54 | \$31.63 | \$46.96 | \$57.75 | \$46.50 | 1.48 | 1.68 | \$2.04 | 4.34% | 3.91% |
| ATO | \$24.98 | \$26.14 | \$28.47 | \$30.74 | \$51.43 | \$59.35 | \$46.64 | 1.67 | 1.79 | \$1.56 | 3.03% | 2.94% |
| LG | \$25.56 | \$26.67 | \$32.00 | \$34.93 | \$51.95 | \$55.75 | \$45.36 | 1.49 | 1.51 | \$1.84 | 3.54% | 3.64% |
| NJ Resources Corp. | \$9.36 | \$9.80 | \$10.65 | \$11.47 | \$27.70 | \$67.46 | \$26.77 | 2.41 | 4.26 | \$0.92 | 3.32% | 1.95% |
| N.W. Nat'l Gas | \$26.70 | \$27.23 | \$27.77 | \$28.12 | \$42.71 | \$52.57 | \$41.81 | 1.52 | 1.69 | \$1.86 | 4.35% | 3.94% |
| Piedmont Nat'l Gas | \$13.79 | \$14.21 | \$15.87 | \$16.80 | \$35.59 | \$41.09 | \$33.38 | 2.12 | 2.28 | \$1.32 | 3.71% | 3.55% |
| South Jersey Inds.* | \$10.33 | \$11.63 | \$12.64 | \$13.65 | \$25.01 | \$61.23 | \$24.51 | 1.83 | 3.26 | \$0.96 | 3.84% | 2.24% |
| Southwest Gas | \$26.66 | \$28.35 | \$30.47 | \$31.95 | \$53.32 | \$64.20 | \$47.21 | 1.67 | 1.78 | \$1.62 | 3.04% | 2.91% |
| WGL | \$23.49 | \$24.64 | \$24.65 | \$24.08 | \$54.52 | \$59.08 | \$37.77 | 2.26 | 1.99 | \$1.85 | 3.40% | 3.82% |
| AVERAGE | \$21.02 | \$21.96 | \$23.67 | \$24.82 | \$43.24 | \$57.61 | \$38.88 | 1.83 | 2.25 | \$1.55 | 3.62% | 3.21% |
| MEDIAN | | | | | | | | 1.67 | 1.79 | | 3.54% | 3.55% |

*Dividend rate based on Value 2015 Forecast

Sources: [A] Most current Value Line at time of prep. of schedule. Most current quarterly dividend rate X 4
 [B] For South Jersey Industries, used 2015 annual figure because quarterly dividend data was not available
 [C] Yahoo Finance -- Historical Prices
 [D] Market price divided by book value
 Dividend rate divided by market price

| | [1] EPS 2011 | [2] EPS 2012 | [3] EPS 2013 | [4] EPS 2014 | [5] Return on Eq. 2013 | [6] Return on Eq. 2014 | [7] Value Line Future Exp. Return on Eq. | [8] Return on Equity 2012 |
|--|--------------------|--------------------|--------------------|--------------------|---------------------------------|---------------------------------|---|------------------------------------|
| | [A] | [A] | [A] | [A] | [B] | [A] | [A] | |
| PROXY GROUP | | | | | | | | |
| EARNINGS PER SHARE AND RETURN ON EQUITY | | | | | | | | |
| GAS | \$2.12 | \$2.31 | \$2.64 | \$4.71 | 8.87% | 15.15% | 12.50% | 8.06% |
| AGL Resources | \$2.26 | \$2.10 | \$2.50 | \$2.96 | 9.16% | 10.00% | 10.50% | 8.22% |
| Atmos Energy Corp | \$2.86 | \$2.79 | \$2.02 | \$2.35 | 6.89% | 7.02% | 8.50% | 10.68% |
| Laclede Group | \$1.29 | \$1.36 | \$1.37 | \$2.10 | 13.40% | 18.99% | 12.00% | 14.20% |
| NJ Resources Corp. | \$2.39 | \$2.22 | \$2.24 | \$2.16 | 8.15% | 7.73% | 9.00% | 8.23% |
| N.W. Nat'l Gas | \$1.57 | \$1.66 | \$1.78 | \$1.84 | 11.84% | 11.26% | 10.50% | 11.86% |
| Piedmont Nat'l Gas | \$1.45 | \$1.52 | \$1.52 | \$1.57 | 12.53% | 11.94% | 14.00% | 13.84% |
| South Jersey Inds.* | \$2.43 | \$2.86 | \$3.11 | \$3.01 | 10.57% | 9.64% | 11.00% | 10.40% |
| Southwest Gas | \$2.25 | \$2.68 | \$2.31 | \$2.68 | 9.37% | 0.00% | 11.50% | 11.14% |
| WGL Holdings | | | | | | | | |
| AVERAGE | \$2.07 | \$2.17 | \$2.17 | \$2.60 | 10.09% | 10.19% | 11.06% | 10.74% |
| MEDIAN | | | | | 9.37% | 10.00% | 11.00% | 10.68% |

Source:

[A] Most current Value Line at time of prep. of schedule.
 [B] Earnings Per Share divided by average book value. Book value shown on

RETURN ON EQUITY IMPLIED IN ZACKS GROWTH RATES

| PROXY GROUP EARNINGS PER SHARE AND RETURN ON EQUITY | Dec. 14 Y/E Book [3] | Earnings 2014 | Dividends [A] | Analyst 5 Year Growth Rate [B] | Y/E Book in 2018 at Zack's Growth Before SV [C] | Y/E Book in 2019 at Zack's Growth Before SV [C] | Growth In Book Value From SV | Y/E Book in 2014 at Zack's Growth Including SV | Earnings 2019 at Zack's Growth | Return on Equity to achieve Analyst's Growth [C] | VALUE LINE BETA [A] |
|--|----------------------------|------------------|------------------|---|---|---|---------------------------------------|---|--|---|------------------------------|
| | | | | | | | | | | | |
| GAS | \$31.63 | \$4.71 | \$2.04 | 6.00% | \$44.01 | \$47.58 | 106.01% | \$48.55 | \$6.30 | 12.98% | 0.80 |
| ATO | \$30.74 | \$2.96 | \$1.56 | 7.00% | \$37.39 | \$39.35 | 130.41% | \$50.04 | \$4.15 | 8.30% | 0.70 |
| LG | \$34.93 | \$2.35 | \$1.84 | 4.90% | \$37.23 | \$37.88 | 105.67% | \$39.69 | \$2.99 | 7.52% | 0.70 |
| NJ Resources Corp. | \$11.47 | \$2.10 | \$0.92 | | \$16.19 | \$17.37 | 102.07% | \$17.13 | \$2.10 | 12.26% | 0.80 |
| N.W. Nat'l Gas | \$28.12 | \$2.16 | \$1.86 | 4.00% | \$29.44 | \$29.81 | 116.34% | \$34.47 | \$2.63 | 7.62% | 0.70 |
| Piedmont Nat'l Gas | \$16.80 | \$1.84 | \$1.32 | 5.00% | \$19.15 | \$19.82 | 93.59% | \$18.24 | \$2.35 | 12.88% | 0.80 |
| South Jersey Inds. " | \$13.65 | \$1.57 | \$0.96 | | \$16.09 | \$16.70 | 100.00% | \$16.40 | \$1.57 | 9.58% | 0.85 |
| Southwest Gas | \$31.95 | \$3.01 | \$1.62 | 5.50% | \$38.32 | \$40.13 | 109.08% | \$42.79 | \$3.93 | 9.19% | 0.85 |
| WGL Holdings | \$24.08 | \$2.68 | \$1.85 | 6.00% | \$27.92 | \$29.03 | 108.73% | \$30.96 | \$3.59 | 11.58% | 0.80 |
| AVERAGE | \$24.82 | \$2.60 | \$1.55 | 5.49% | \$29.53 | \$30.85 | 114.03% | \$32.29 | \$3.29 | 10.21% | 0.78 |
| MEDIAN | | | | 5.50% | | | | | | 9.58% | 0.80 |

[A] Most Current Value Line

[B] Most Current - Zacks.com

[C] Projected return on equity is obtained by escalating both dividends and earnings per share by the stated growth rate, and adding earnings and subtracting

**CONSTANT GROWTH DISCOUNTED CASH FLOW (DCF) INDICATED COST OF EQUITY
PROXY GROUP**

| | | BASED ON AVERAGE MARKET PRICE FOR Year Ending 6/30/15 | BASED UPON MARKET PRICE AS OF 6/30/2015 |
|--|------------|--|--|
| 1 Dividend Yield On Market Price | [B] | 3.21% | 3.62% |
| 2 Retention Ratio: | | | |
| a) Market-to-book | [B] | 2.25 | 1.83 |
| b) Div. Yld on Book | [C] | 7.22% | 6.62% |
| c) Return on Equity | [A] | 11.00% | 11.00% |
| d) Retention Rate | [D] | 34.33% | 39.81% |
| 3 Reinvestment Growth | [E] | 3.78% | 4.38% |
| 4 New Financing Growth | [F] | 1.25% | 0.83% |
| 5 Total Estimate of Investor Anticipated Growth | [G] | 5.03% | 5.21% |
| 6 Increment to Dividend Yield for Growth to Next Year | [H] | 0.08% | 0.09% |
| 7 Indicated Cost of Equity | [I] | 8.32% | 8.92% |

Some of the Considerations for determining Future Expected Return on Equity:

| | | Median | Mean | Source: |
|-----|--|-----------------------|--------|------------------------|
| [A] | Value Line Expectation Return on Equity to Achieve <u>Zack's</u> Growth | 11.00% | 11.06% | SCHEDULE ALR 3, Page 2 |
| | Earned Return on Equity in 2014 | 9.58% | 10.21% | SCHEDULE ALR 3, Page 3 |
| | Earned Return on Equity in 2013 | 10.00% | 10.19% | SCHEDULE ALR 3, Page 2 |
| | Earned Return on Equity in 2012 | 9.37% | 10.09% | SCHEDULE ALR 3, Page 2 |
| [B] | SCHEDULE ALR 3, Page 1 | 10.68% | 10.74% | SCHEDULE ALR 3, Page 2 |
| [C] | Line 1 x Line 2a | | | |
| [D] | 1- Line 2b/Line 2c | | | |
| [E] | Line 2c x Line 2d | | | |
| [F] | S X V (S = the rate of continuous new stock financing, V = rate of return on common equity investment) | | | |
| | $[M/B \times (\text{Ext. Fin Rate} + 1)] / (M/B + \text{Ext. Fin. Rate} - 1)$ | Ext. Fin. rate used = | 1.00% | [J] |
| [G] | Line 3 + Line 4 | | | |
| [H] | Line 1 x one-half of line 5 | | | |
| [I] | Line 1 + Line 5 + Line 6 | | | |
| [J] | SCHEDULE ALR 5, page 1 | | | |

SCHEDULE ALR 4, Page 2

NON-CONSTANT GROWTH DISCOUNTED CASH FLOW (DCF) INDICATED COST OF EQUITY
BASED ON VALUE LINE'S FORECAST
PROXY GROUP

| Value Line Date | AGL Resources GAS 6/5/2015 | Atmos Energy Corp ATO 6/5/2015 | Laclede Group LG 6/5/2015 | New Jersey Res. NJR 6/5/2015 | N.W. Nat'l Gas NWN 6/5/2015 | Piedmont Nat'l Gas PNY 6/5/2015 | South Jersey Inds. SJI 6/5/2015 | Southwest Gas SWX 6/5/2015 | WGL Holdings WGL 6/5/2015 | Source | |
|---|--------------------------------------|--|---|--|--|---|---|--|---|--|---|
| Dividend | 2015 2016 2017 2018 2019 | \$2.04 \$2.10 \$2.20 \$2.30 \$2.40 | \$1.56 \$1.64 \$1.72 \$1.81 \$1.90 | \$3.15 \$3.30 \$3.58 \$3.97 \$4.20 | \$0.92 \$0.94 \$0.95 \$0.97 \$0.98 | \$1.87 \$1.91 \$1.97 \$2.03 \$2.10 | \$1.31 \$1.35 \$1.39 \$1.43 \$1.47 | \$1.02 \$1.10 \$1.16 \$1.26 \$1.35 | \$1.62 \$1.74 \$1.85 \$1.97 \$2.10 | Value Line Based on Value Line, assuming constant dividend growth Based on Value Line, assuming constant dividend growth Value Line | |
| Book Value | 2015 2019 | \$34.20 \$36.65 | \$32.70 \$36.65 | \$39.80 \$48.10 | \$13.20 \$15.65 | \$29.95 \$33.85 | \$18.35 \$20.40 | \$15.95 \$18.40 | \$35.70 \$39.40 | Compound annual rate of growth in dividends from 2014 to 2017 Value Line Value Line | |
| Total return on equity to investor who purchased stock on 6/30/2015 and sold stock on 6/30/2019 assuming Value Line projections of dividends and book value are correct and assuming stock price grows at same rate as book value | 6/30/2015 6/30/2019 | \$46.86 \$50.32 | \$51.43 \$57.64 | \$62.78 \$65.00 | \$27.70 \$32.84 | \$42.71 \$46.27 | \$35.59 \$39.57 | \$25.01 \$28.85 | \$53.32 \$58.85 | SCHEDULE ALR 3, Page 1 Increase in stock price at same rate as forecasted increase in book value | |
| VL Midpoint stock price forecast | | \$70.00 | \$62.50 | \$65.00 | \$27.50 | \$55.00 | \$37.50 | \$35.00 | \$62.50 | \$50.00 | |
| Cash Flow from purchasing stock in 2015, receiving dividends through 2019, and selling the stock in 2019 Negative number in 2015 reflects cash outflow required to purchase stock Cash flow sources are 1) dividends, and 2) proceeds of stock sale | 1Q Dividend | 2015 2016 2017 2018 2019 | 0.51 (\$45.43) \$2.10 \$2.20 \$2.30 \$2.72 | 0.39 (\$50.26) 1.66 1.64 1.72 \$59.54 | 0.46 (\$49.26) 3.15 3.30 3.58 \$66.96 | 0.145 (\$25.93) 0.92 0.94 0.95 \$33.62 | 0.465 (\$41.30) 1.87 1.91 1.97 \$50.37 | 0.32 (\$34.60) 1.31 1.35 1.39 \$41.04 | 0 (\$23.99) 1.02 1.10 1.16 \$30.20 | 0.385 (\$52.07) 1.62 1.74 1.85 \$60.85 | 0.463 (\$53.13) 1.85 1.87 1.88 \$64.67 |
| DCF | | 7.34% | 6.70% | 12.80% | 8.36% | 8.45% | 7.20% | 9.21% | 6.45% | 7.59% | |
| Average DCF Result | | | 8.23% | | | | | | | | |
| Median DCF Result | | | 7.59% | | | | | | | | |

This DCF result is an Internal Rate of Return computation made by the "IRR" function built into the Microsoft Excel spreadsheet. It is based on the actual cash flows shown from 2015 to 2019.

EXTERNAL FINANCING RATE

(Millions of Shares)

| | Common Stock Outstanding | | Compound Annual |
|--------------------|--------------------------|----------|-----------------|
| | 2014 | 2018-20 | |
| PROXY GROUP | | | |
| AGL Resources | 119.65 | 125.00 | 0.88% |
| Atmos Energy Corp | 100.39 | 120.00 | 3.63% |
| Laclede Group | 43.18 | 45.00 | 0.83% |
| NJ Resource Corp. | 84.20 | 85.00 | 0.19% |
| N.W. Nat'l Gas | 27.00 | 28.00 | 0.73% |
| Piedmont Nat'l Gas | 77.88 | 80.00 | 0.54% |
| South Jersey Inds. | 68.33 | 76.00 | 2.15% |
| Southwest Gas | 46.52 | 52.00 | 2.25% |
| WGL Holdings | 51.76 | 50.00 | -0.69% |
| | | Average | 1.17% |
| | | Median | 0.83% |
| | | Round to | 1.00% |

Source: Most Current Value Line

Actual Capital Structure
PROXY GROUP

| | % Common Equity | | | | | Quantity | | | | | Percentage | | | | | |
|--------------------|-----------------|-------|-------|-------|-------|---------------|------------|------------|---------------|------------|---------------|---------|---------|-----------|---------------------------|--------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | Total Debt | LT Debt | ST Debt | Pfd Stock | Equity | Total Capital | LT Debt | ST Debt | Pfd Stock | Equity Ratio With ST Debt | |
| | | | | | | (\$ millions) | | | (\$ millions) | | | | | | | |
| AGL Resources | 52.0% | 48.2% | 50.6% | 48.8% | 51.2% | \$ 4,711.0 | \$ 3,524.0 | \$ 1,187.0 | \$ - | \$ 3,697.3 | \$ 8,408.3 | 41.9% | 14.1% | 0.0% | 44.0% | |
| Atmos Energy Corp | 54.6% | 50.6% | 54.7% | 51.2% | 55.7% | \$ 2,680.2 | \$ 2,455.2 | \$ 225.0 | \$ - | \$ 3,087.0 | \$ 5,767.2 | 42.6% | 3.9% | 0.0% | 53.5% | |
| Laclede Group | 59.5% | 61.1% | 63.9% | 63.4% | 44.9% | \$ 2,063.9 | \$ 1,736.3 | \$ 327.6 | \$ - | \$ 1,414.9 | \$ 3,478.8 | 49.9% | 9.4% | 0.0% | 40.7% | |
| NJ Resource Corp. | 62.8% | 64.5% | 60.8% | 63.4% | 61.8% | \$ 881.5 | \$ 699.2 | \$ 182.3 | \$ - | \$ 1,131.2 | \$ 2,012.7 | 34.7% | 9.1% | 0.0% | 56.2% | |
| N.W. Nat'l Gas | 53.9% | 52.7% | 51.5% | 52.4% | 55.5% | \$ 827.9 | \$ 621.7 | \$ 206.2 | \$ - | \$ 775.4 | \$ 1,603.3 | 38.8% | 12.9% | 0.0% | 48.4% | |
| Piedmont Nat'l Gas | 59.0% | 59.6% | 51.3% | 50.3% | 47.9% | \$ 1,904.4 | \$ 1,424.4 | \$ 480.0 | \$ - | \$ 1,309.6 | \$ 3,214.0 | 44.3% | 14.9% | 0.0% | 40.7% | |
| South Jersey Inds. | 62.6% | 59.5% | 56.0% | 54.9% | 52.0% | \$ 1,281.8 | \$ 859.5 | \$ 422.3 | \$ - | \$ 931.1 | \$ 2,212.9 | 38.8% | 19.1% | 0.0% | 42.1% | |
| Southwest Gas | 50.9% | 56.8% | 50.8% | 50.6% | 47.6% | \$ 1,524.8 | \$ 1,506.5 | \$ 18.3 | \$ - | \$ 1,368.5 | \$ 2,893.3 | 52.1% | 0.6% | 0.0% | 47.3% | |
| WGL Holdings | 65.0% | 66.2% | 67.3% | 68.8% | 63.8% | \$ 1,170.5 | \$ 950.5 | \$ 220.0 | \$ 28.2 | \$ 1,724.9 | \$ 2,923.6 | 32.5% | 7.5% | 1.0% | 58.0% | |
| | 57.8% | 57.7% | 56.2% | 55.0% | 53.4% | \$ 17,048 | \$ 13,777 | \$ 3,289 | \$ 28 | \$ 15,440 | \$ 32,514 | | | | | |
| | | | | | | | | | | | | Average | 41.74% | 10.17% | 0.11% | 47.88% |
| | | | | | | | | | | | | Median | 41.91% | 9.42% | 0.00% | 47.30% |

Source: Most Current Value Line

*Value Line does not have a common equity ratio figure for NRG Energy

Estimated Common equity ratio by dividing the "Shr. Equity" from 2014 by "Total Debt" as of 12/31/14

Note: NRG has 4.450 (\$mil) in working capital in 2015 according to Value Line

| | % Common Equity | | | | | (\$ millions) Total Debt | LT Debt | ST Debt | Pfd Stock (\$ millions) | Equity | Total Capital | LT Debt | ST Debt | Pfd Stock | Equity Ratio With ST Debt | |
|---------------|-----------------|-------|-------|-------|-------|-----------------------------|------------|----------|----------------------------|------------|------------------|---------|---------|-----------|------------------------------|--------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | | | | | | | | | | | |
| MDU Resources | 64.2% | 68.3% | 62.2% | 60.8% | 64.0% | \$ 2,206.0 | \$ 1,780.7 | \$ 425.3 | \$ 15.0 | \$ 3,197.1 | \$ 5,418.1 | 32.9% | 7.8% | 0.3% | 59.0% | |
| | 64.2% | 68.3% | 62.2% | 60.8% | 64.0% | \$ 2,206.0 | \$ 1,781 | \$ 425 | \$ 15 | \$ 3,197 | \$ 5,418 | | | | | |
| | | | | | | | | | | | | Average | 32.87% | 7.85% | 0.28% | 59.01% |
| | | | | | | | | | | | | Median | 32.87% | 7.85% | 0.28% | 59.01% |

Source: Most Current Value Line

*Calculated the common equity ratio by dividing the share equity by the sum of long term debt and share equity

Actual Capital Structure - Without Short-Term Debt
MDU Resources

4058.3

| | % Common Equity | | | | | (\$ millions) Total Debt | LT Debt | ST Debt | Pfd Stock (\$ millions) | Equity | Total Capital | LT Debt | ST Debt | Pfd Stock | Equity Ratio With ST Debt |
|---------------|-----------------|-------|-------|-------|-------|-----------------------------|------------|---------|----------------------------|------------|------------------|---------|---------|-----------|------------------------------|
| | 2010 | 2011 | 2012 | 2013 | 2014 | | | | | | | | | | |
| MDU Resources | 64.2% | 68.3% | 62.2% | 60.8% | 64.0% | \$ 2,206.0 | \$ 1,780.7 | | \$ 15.0 | \$ 3,197.1 | \$ 4,992.8 | 35.7% | | 0.3% | 64.0% |
| | 64.2% | 68.3% | 62.2% | 60.8% | 64.0% | \$ 2,206.0 | \$ 1,781 | \$ - | \$ 15 | \$ 3,197 | \$ 4,993 | | | | |
| | | | | | | | | | | | | Average | 35.67% | 0.30% | 64.03% |
| | | | | | | | | | | | | Median | 35.67% | 0.30% | 64.03% |

Source: Most Current Value Line

SCHEDULE ALR 7

**VALUE LINE COMPOUND ANNUAL GROWTH RATES
FROM 2012-2014 TO 2018-2020**

| | Earnings | Dividend | Book Value | Value Line Source Report Date |
|--------------------|--------------|--------------|---------------|-------------------------------------|
| PROXY GROUP | | | | |
| AGL Resources | 6.5% | 4.5% | 3.0% | 6/5/2015 |
| Atmos Energy Corp | 7.0% | 5.0% | 4.5% | 6/5/2015 |
| Laclede Group | 10.0% | 4.5% | 7.5% | 6/5/2015 |
| NJ Resources Corp | 2.5% | 3.0% | 6.5% | 6/5/2015 |
| N.W. Nat'l Gas | 7.0% | 2.5% | 3.5% | 6/5/2015 |
| Piedmont Nat'l Gas | 3.0% | 3.0% | 4.5% | 6/5/2015 |
| South Jersey Inds. | 8.5% | 7.0% | 6.5% | 6/5/2015 |
| Southwest Gas | 6.0% | 8.0% | 4.5% | 6/5/2015 |
| WGL Holdings | 9.5% | 4.0% | 5.5% | 6/5/2015 |
| AVERAGE | 6.67% | 4.61% | 5.11% | |

**VALUE LINE COMPOUND ANNUAL EPS GROWTH RATES
FROM 2014 TO 2016-2018**

| | EPS 2016 | EPS 2018-2020 | Compound Annual Growth from 2014 to 2016-2018 | Value Line Source Report Date |
|--------------------|-------------|------------------|---|-------------------------------------|
| PROXY GROUP | | | | |
| AGL Resources | \$3.35 | \$4.65 | 11.55% | 6/5/2015 |
| Atmos Energy Corp | \$3.20 | \$3.80 | 5.89% | 6/5/2015 |
| Laclede Group | \$3.30 | \$4.20 | 8.37% | 6/5/2015 |
| NJ Resource Corp | \$1.80 | \$1.85 | 0.92% | 6/5/2015 |
| N.W. Nat'l Gas | \$2.30 | \$3.30 | 12.79% | 6/5/2015 |
| Piedmont Nat'l Gas | \$2.00 | \$2.10 | 1.64% | 6/5/2015 |
| South Jersey Inds. | \$1.80 | \$2.50 | 11.57% | 6/5/2015 |
| Southwest Gas | \$3.40 | \$4.25 | 7.72% | 6/5/2015 |
| WGL Holdings | \$3.00 | \$3.35 | 3.75% | 6/5/2015 |
| AVERAGE | | | 7.13% | |

SCHEDULE ALR 8

Proxy Group 2014 Revenues - Regulated and Non Regulated

| | | <u>Regulated Non Regul Total</u> | | | <u>Intercompany</u> |
|--------------------|-----|----------------------------------|-----------------|------------------|---------------------|
| AGL Resources | GAS | \$ 3,802 | \$ 1,667 | \$ 5,469 | \$ (84) |
| Atmos Energy Corp | ATO | 3,380 | 2,067 | 5,447 | (506) |
| Laclede Group | LG | 1,462 | 164 | 1,626 | - |
| NJ Resource Corp. | NJR | 819 | 2,919 | 3,738 | |
| N.W. Nat'l Gas | NWN | 732 | 22 | 754 | |
| Piedmont Nat'l Gas | PNY | 1,196 | 275 | 1,471 | - |
| South Jersey Inds. | SJI | 502 | 425 | 927 | (40) |
| Southwest Gas | SWX | 1,382 | 740 | 2,122 | |
| WGL Holdings | WGL | 1,417 | 1,364 | 2,781 | - |
| Total | | \$ 14,692 | \$ 9,643 | \$ 24,335 | |

Proxy Group 2014 Revenues - Percentage From Regulated and Non Regulated Operations

| | | <u>Regulated Non Regulated</u> | |
|------------------------|-----|--------------------------------|------------|
| AGL Resources | GAS | 70% | 30% |
| Atmos Energy Corp | ATO | 62% | 38% |
| Laclede Group | LG | 90% | 10% |
| NJ Resource Corp. | NJR | 22% | 78% |
| N.W. Nat'l Gas | NWN | 97% | 3% |
| Piedmont Nat'l Gas | PNY | 81% | 19% |
| South Jersey Inds. | SJI | 54% | 46% |
| Southwest Gas | SWX | 65% | 35% |
| WGL Holdings | WGL | 51% | 49% |
| Total Gas Group | | 60% | 40% |

Source: Company Annual Reports

Schedule ALR 9

Liquidity Analysis

| | | Shares Traded Ave 3 month Volume | Number of Shares Outstanding | Turnover Rate |
|--|------------|--|---------------------------------|---------------|
| PROXY GROUP | | | | |
| AGL Resources | GAS | 734,722 | 119,940,000 | 0.61% |
| Atmos Energy Corp | ATO | 461,644 | 101,020,000 | 0.46% |
| Laclede Group | LG | 256,917 | 43,320,000 | 0.59% |
| NJ Resource Corp. | NJR | 390,581 | 85,580,000 | 0.46% |
| N.W. Nat'l Gas | NWN | 128,819 | 27,330,000 | 0.47% |
| Piedmont Nat'l Gas | PNY | 313,617 | 79,000,000 | 0.40% |
| South Jersey Inds. | SJI | 286,956 | 68,200,000 | 0.42% |
| Southwest Gas | SWX | 167,427 | 46,840,000 | 0.36% |
| WGL Holdings | WGL | 225,603 | 49,730,000 | 0.45% |
| Proxy Group Average Turnover Rate | | | | 0.47% |
| MDU Resources | MDU | 1,004,420 | 194,770,000 | 0.52% |

Source: Yahoo Finance

Schedule ALR 10

Blue Chip Financial Forecasts - December 2010

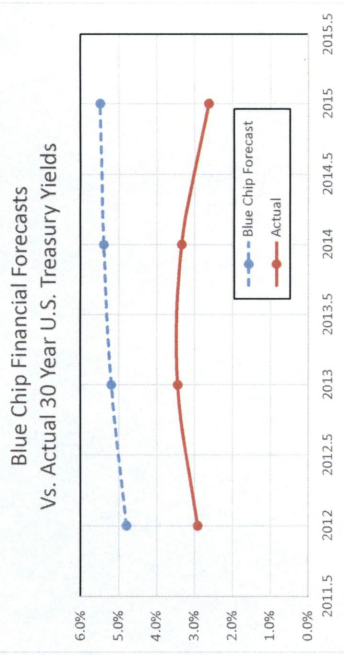
| | 2012 | 2013 | 2014 | 2015 |
|------------------------------|------|------|------|------|
| Federal Funds Rate | 1.4% | 2.9% | 3.5% | 3.8% |
| Treasury Bill, 3 Month | 1.5% | 2.9% | 3.6% | 3.7% |
| Treasury Note Yield, 10 Year | 3.8% | 4.5% | 4.9% | 5.0% |
| Treasury Note Yield, 30 Year | 4.8% | 5.2% | 5.4% | 5.5% |
| Corporate Baa Bond Yield | 6.4% | 6.8% | 7.1% | 7.2% |

Source: MDU-4-3(e), Attachment 5

Actual

| | 2012 | 2013 | 2014 | 2015* |
|------------------------------|-------|-------|-------|-------|
| Federal Funds Rate | 0.14% | 0.11% | 0.09% | 0.11% |
| Treasury Bill, 3 Month | 0.09% | 0.06% | 0.03% | 0.02% |
| Treasury Note Yield, 10 Year | 1.88% | 2.47% | 2.65% | 2.11% |
| Treasury Note Yield, 30 Year | 2.92% | 3.45% | 3.34% | 2.62% |
| Corporate Baa Bond Yield | 4.94% | 5.10% | 4.85% | 4.57% |

*January-May 2015 Average
Source: Federal Reserve



Blue Chip Financial Forecasts - December 2011

| | 2013 | 2014 | 2015 |
|------------------------------|------|------|------|
| Federal Funds Rate | 0.5% | 1.8% | 2.8% |
| Treasury Bill, 3 Month | 0.5% | 1.7% | 2.8% |
| Treasury Note Yield, 10 Year | 3.2% | 4.0% | 4.6% |
| Treasury Note Yield, 30 Year | 4.2% | 4.8% | 4.6% |
| Corporate Baa Bond Yield | 5.7% | 6.4% | 6.8% |

Source: MDU-4-3(e), Attachment 4

Blue Chip Financial Forecasts - December 2012

| | 2014 | 2015 |
|------------------------------|------|------|
| Federal Funds Rate | 0.3% | 1.1% |
| Treasury Bill, 3 Month | 0.3% | 1.1% |
| Treasury Note Yield, 10 Year | 2.6% | 3.4% |
| Treasury Note Yield, 30 Year | 3.6% | 4.3% |
| Corporate Baa Bond Yield | 5.3% | 5.9% |

Source: MDU-4-3(e), Attachment 3

Schedule ALR 11

Cost of Equity Comparison

| | Nominal | Real* | Relative Market Risk** |
|----------------|------------|-------|------------------------|
| Gaske | 10.00% [A] | 8.20% | 0.78 [E] |
| Ibbotson | 9.47% [B] | 7.67% | 1.00 [F] |
| Rothschild | 8.62% [C] | 6.82% | 0.78 [E] |
| Charles Schwab | 8.10% [D] | 6.30% | 1.00 [F] |

Sources:

- [A] Dr. Gaske's Direct testimony, page 4, line 4
- [B] Long-Term Market Predictions, Ibbotson S&P 2015 Classic Yearbook, page 158
- [C] Mr. Rothschild's Direct testimony, page 1
- [D] Charles Schwab - Q and A: Estimating Long-Term Market Returns, April 24, 2015
- [E] Schedule ALR 3, page 3
- [F] Overall Market

*1.8% Inflation Expectations

**Relative systematic, or market, risk as measured by Value Line calculated Beta

"An equity has a beta of 1.00, it will probably move in lock step with the broader market. Conservative investors will likely favor stocks with low betas in order to limit volatility."

http://www.valueline.com/Tools/Educational_Articles/Stocks/Understanding_Beta.aspx#.VZ5pJvIviko

| Large Company Stock Returns 1926-2014 | Long-Term Government Bonds* | Risk Premium | Current Yield 30-Jun-15 | |
|---|-----------------------------------|--------------|----------------------------|------|
| 10.10 | 5.70 | 4.40 | 2.83 | 7.23 |

*A one-bond portfolio with a maturity of near 20 years.
Ibbotson SBBI 2015 Classic Yearbook, page 304

| Large Company Stock Returns 1926-2014 | Long-Term Government Bonds* | Risk Premium | Current Yield June 2014 - Nov 2014 | |
|---|-----------------------------------|--------------|---------------------------------------|------|
| 10.10 | 6.10 | 4.00 | 4.33 | 8.33 |

| Large Company Stock Returns 1926-2014 | Long-Term Government Bonds* | Risk Premium | Current Yield June 2014 - Nov 2014 | |
|---|-----------------------------------|--------------|---------------------------------------|------|
| 10.10 | 6.10 | 4.00 | 4.33 | 8.33 |

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Montana-Dakota Utilities Co., a Division of MDU
Resources Group, Inc.
Natural Gas Service Rate Increase
Application

Case No. PU-15-90

AFFIDAVIT OF SERVICE ELECTRONIC MAIL

STATE OF NORTH DAKOTA
COUNTY OF BURLEIGH

Geralyn R. Schmaltz deposes and says that:

she is over the age of 18 years and not a party to this action and, on the **11th day of August, 2015**, she sent **8** addressees an electronic copy of:

**Montana-Dakota Utilities Schedules to be included with the Advocacy Staff
Direct Testimony of Aaron L. Rothschild**

The electronic mails respectively were addressed as follows:

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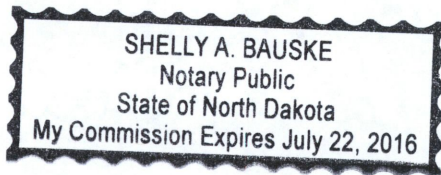
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Each email address is the respective addressee's last reasonably ascertainable electronic mailing address.

Subscribed and sworn to before me
this **11th day of August, 2015.**

SEAL



[Handwritten signature]

Shelly a Bauske

Notary Public