Direct Testimony and Schedule
Lisa J. Gast

Before the Minnesota Public Utilities Commission
State of Minnesota

In the Matter of the Application of Minnesota Energy Resources Corporation for Authority to Increase Rates for Natural Gas Service in Minnesota

Docket No. G011/GR17-563

Exhibit ___

Capital Structure and Cost of Capital

October 13, 2017

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lisa J. Gast. My business address is WEC Business Services, LLC ("WBS"), 700 North Adams Street, P.O. Box 19001, Green Bay, WI 54307.

Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

A. I work at WBS as Manager, Financial Planning and Analysis in the Treasury Department. WBS is the successor to Integrys Business Support, LLC following the acquisition of Integrys Holdings Inc., formerly Integrys Energy Group, Inc. ("Integrys"), by Wisconsin Energy Corporation, which became WEC Energy Group, Inc. ("WEC"). Both Minnesota Energy Resources Corporation ("MERC" or the "Company") and WBS are wholly-owned subsidiaries of WEC.

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I earned a bachelor's degree in accounting from the University of Wisconsin – Green Bay, and a master's degree in business administration from the University of Wisconsin - Oshkosh. I am a Certified Public Accountant. I joined the Treasury Department at Wisconsin Public Service Corporation, a subsidiary of WEC, in April of 2001. My responsibilities include regulatory support, financial forecasts, and project and business analysis.

Q. FOR WHOM ARE YOU PROVIDING TESTIMONY?

A. I am providing testimony on behalf of MERC.

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

A. The purpose of my Direct Testimony is to:

1. Present MERC's capital structure and cost of capital for the 2016 historical year, the 2017 projected year, and the 2018 proposed test year;
2. Explain the differences in adjusted common equity between the 2016 historical year and the 2018 proposed test year;
3. Address other compliance issues related to MERC's borrowing and cost of debt;
4. Describe the required Common Equity Ratio for the 2018 proposed test year, MERC's proposed cost of debt capital, and MERC's weighted average cost of capital; and
5. Describe the required Return on Common Equity ("ROE") for the 2018 proposed test year.

Q. DOES MERC PRESENT ANY OTHER EVIDENCE ON COST OF CAPITAL?

A. Yes. The Direct Testimony of Ann Bulkley of Concentric Energy Advisors provides evidence regarding MERC's cost of capital. She presents analytical studies employing various industry models to derive her recommendation for the return on common equity that MERC is requesting in this case.

Q. IS MERC PUBLICLY OWNED?

A. Yes, via its parent. MERC is a wholly-owned indirect subsidiary of WEC. WEC is traded on the New York Stock Exchange under the symbol "WEC."

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND RECOMMENDATIONS TO THE MINNESOTA PUBLIC UTILITIES COMMISSION ("COMMISSION").

A. For the 2018 proposed test year, MERC requests that the Commission approve an overall cost of capital of 7.02 percent. This cost of capital is based on a common equity ratio of 50.90 percent for the test year, and a 10.30 percent cost of common equity as supported in my testimony and in the testimony of Ann Bulkley. The recommended capital structure and ROE will ensure that MERC has access to capital at reasonable rates when MERC needs it, thereby benefiting its customers.

Q. ARE YOU SPONSORING ANY EXHIBITS IN CONNECTION WITH YOUR TESTIMONY IN THIS PROCEEDING?

A. Yes, I am sponsoring:

- Exhibit ___ (LJG-1): 2016-2018 Capital Structure.

I also sponsor Informational Requirement 16 in Volume III of the filing, which presents the 2016 actual, 2017 projected, and 2018 proposed test year capital structure and cost of capital for WEC Energy Group on a consolidated basis.

Q. WERE THE EXHIBITS PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes, they were.

II. PRESENTATION OF RATE OF RETURN

Q. HOW DO YOU PRESENT THE COMPANY'S PROPOSED CAPITAL STRUCTURE, COST OF CAPITAL, AND RATE OF RETURN FOR THE 2018 TEST YEAR?

A. In general, Pages 1 through 4 of Exhibit ___ (LJG-1) support and calculate MERC's capital structure, cost of capital, and required rate of return for the 2016 historical year, 2017 projected year, and 2018 proposed test year. Thirteen-month average balances are used to derive the cost rates in these exhibits.

Page 1 develops MERC's overall rates of return of 6.68 percent and 6.50 percent for 2016 and 2017, respectively, using the calculated cost rates for debt from pages 2 and 3, and a 9.11 percent ROE. This schedule also develops MERC's overall rate of return of 7.02 percent for the 2018 proposed test year using the recommended 10.30 percent ROE.

Page 2 develops MERC's embedded cost of long-term debt of 4.96 percent and 4.02 percent for 2016 and 2017, respectively. This schedule also calculates MERC's 2018 proposed test year embedded cost of long-term debt of 3.60 percent.

Page 3 calculates MERC's average cost of short-term debt of 1.58 percent and 2.72 percent for 2016 and 2017, respectively. This schedule also develops MERC's 2018 proposed test year weighted cost of short-term debt of 3.70 percent.

Page 4 develops MERC's 13-month average balance of Adjusted Common Equity for the 2016 historical year, 2017 projected year, and 2018 proposed test year.

III. COST OF DEBT

Q. HOW DOES MERC'S OVERALL COST OF DEBT FOR THE 2018 TEST YEAR COMPARE TO ITS COST OF DEBT IN RECENT YEARS?

A. As illustrated on page 1 of Exhibit ___(LJG-1), MERC's weighted cost of debt decreases from 4.11 percent in 2016 to 3.62 percent in the 2018 test year. The overall decrease exists because the decrease in MERC's cost of long-term debt more than offsets the forecasted increase in short-term debt rates.

Q. PLEASE EXPLAIN THE DECREASE IN FORECASTED LONG-TERM DEBT RATES.

A. MERC's average long-term debt rate has dropped with each maturity or refinancing of its initial intercompany long-term debt. In April 2016, the $29 million 6.16 percent 10-year issue matured. While the Company initially intended to issue new external long-term debt in 2016, the new issuance was deferred until 2017 when legal and accounting documentation was in place. The debt that matured in April 2016 was therefore replaced with short-term debt until June 2017. In June, this issue and all of the remaining intercompany long-term debt issuances were replaced with external private placement long-term debt issuances. The market was favorable and MERC was able to increase its long-term debt outstanding by $13 million compared to March 2016 with a decrease to long-term interest expense compared to 2016.

These new issues are summarized in Table 1 below, with details presented on Exhibit ___ (LJG-1), page 2 of 4.

Table 1
Cost of Long-Term Debt

Amount of Long-Term Debt	Term	Rate
$40 million	10 years	3.11%
$40 million	15 years	3.41%
$40 million	30 years	4.01%

Q. HOW ARE THE RATES FOR THE INTERCOMPANY SHORT-TERM DEBT FROM INTEGRYS FORECASTED?

A. Under the affiliated interest borrowing agreement approved by the Commission in Docket No. G007,011/AI-09-1108, Integrys provides short-term debt to MERC at its cost of external commercial paper.[1] Integrys no longer issues commercial paper; rather, it is now funded by WEC Energy Group commercial paper. For the 2018 test year, the short-term debt rate is calculated with an assumption of LIBOR rate increases between March 2017 and the end of the test year. The forecasted short-term debt rate applicable to WEC Energy Group commercial paper is 2.71 percent for the test year. This is one portion of the short-term interest cost for MERC.[2]

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[1] The Commission approved MERC's affiliated interest agreement for short-term borrowing from Integrys in its April 20, 2010, Order Approving Affiliated Interest Borrowing Agreement. *In the Matter of the Annual Capital Structure Filing of Minn. Energy Res. Corp. and Request for Approval of Affiliated Interest Agreement,* Docket No. G-007,011/AI-09-1108, ORDER APPROVING AFFILIATED INTEREST BORROWING AGREEMENT (Apr. 20, 2010).

[2] *See* Exhibit ___ (LJG-1), page 3 of 4.

Q. HAVE CHANGES IN INTEREST RATES SINCE MARCH OF THIS YEAR HELPED CONFIRM THE REASONABLENESS OF MERC'S SHORT-TERM DEBT RATE?

A. Yes. Since March, as the Federal Reserve has been raising the Federal Funds rate, LIBOR rates have increased slightly more than anticipated, so an updated forecast for 2018 would be slightly higher than the rates incorporated here. MERC's short-term debt rate is based on the lower rates as of earlier in the year. Further, interest rates available for short-term debt have been increasing in recent years; the increase in short-term debt costs for MERC are consistent with this overall trend.

Q. WHAT MODIFICATIONS WERE APPROVED FOR THE INTERCOMPANY SHORT-TERM LENDING AGREEMENT WITH INTEGRYS IN DOCKET G011/AI-17-303?

A. In September of this year, the Commission approved the Company's requested changes to increase the short-term borrowing limit from $50 million to $100 million; to update the named counter-party from Integrys Energy Group to Integrys Holding Inc.; and to update the commercial paper reference rate to that issued by WEC Energy Group, Inc. The second and third of these changes were largely administrative in nature, to reflect the proper involved parties following the WEC/Integrys merger.

Q. WHAT IS THE BENEFIT OF HAVING THIS ADDITIONAL SHORT-TERM BORROWING CAPACITY?

A. The Company requested the increase in the borrowing limit to give it more flexibility to utilize short-term debt as needed to fund MERC's growing capital expenditure plan. A

$100 million short-term debt limit will provide the Company flexibility to gradually increase the short-term debt allocated to MERC from $50 million to $100 million, if working capital needs allow. For example, Exhibit ___ (LJG-1), page 3 of 4 indicates MERC anticipates nearing its prior $50 million ceiling in November of 2018; the additional borrowing capacity provides liquidity in the event the Company needs access to additional short-term capital.

Further, the short-term debt limit of $100 million brings MERC's short-term debt limit as a percentage of total capitalization generally in line with the other gas utilities within WEC Energy Group.

MERC is also expanding its natural gas distribution system in and around the City of Rochester, Minnesota. The increased short-term debt limit will help fund this and other capital projects in between long-term debt issuances.

Q. WHAT IS THE IMPACT OF THE MODIFICATIONS APPROVED IN DOCKET NO. G011/AI-17-303 ON MERC'S SHORT-TERM DEBT FOR THE 2018 TEST YEAR?

A. The increase in MERC's short-term debt borrowing limit does not affect the applicable rates, but does somewhat increase the fees associated with short-term debt borrowing capacity. WEC Energy Group uses a specific allocation method for credit facility costs to reflect that some of the operating companies require different levels of support than their overall asset level may imply because some companies have unique lines of business or their own external credit facilities available. For example, Wisconsin Public

Service, Wisconsin Electric, Wisconsin Gas, and Peoples Gas have their own external credit facilities. None of these companies are allocated credit facility costs except for Peoples Gas, which needs additional credit support from the parent.

The percentage of fees assigned to MERC reflect the ratio of total short-term debt limits for MERC to the total WEC Energy Group facility amount. The increase in credit rating and credit facility fees therefore reflects the increase in borrowing capacity to MERC, which in turn provides the liquidity benefits described above. Guarantee fees are a function of gas transported through pipelines.

Q. HAVE THE CHANGES TO MERC'S SHORT-TERM BORROWING CAPACITY MATERIALLY AFFECTED ITS OVERALL DEBT TO EQUITY RATIO?

A. No. Due to the greater capital expenditures planned for MERC, MERC's total capital needs (debt and equity) have grown as a whole. Because the request to increase short-term borrowing is due to a larger balance sheet, the proportions of equity, long-term debt, and short-term debt are remaining relatively stable, with the percentage of capital attributable to short-term debt declining a small amount to reflect the increased rates of short-term debt at a time when long-term debt rates have declined.

Overall, the Company's mix of short-term and long-term debt provides funding at very low costs and enables MERC to finance its increasing investments on behalf of customers.

IV. WEC/INTEGRYS MERGER DOCKET COMPLIANCE: BORROWING AND COST OF DEBT

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR DIRECT TESTIMONY?

A. In this section of my testimony, I address order points from the Commission's Order in Docket No. G011/PA-14-664 ("Merger Docket") related to the Company's borrowing and cost of debt. Specifically, I address Order Points 3-14, 4, and 14 from the Merger Docket.

Q. WHAT DOES THE COMMISSION'S ORDER IN THE MERGER DOCKET REQUIRE REGARDING INTERCOMPANY LENDING AND BORROWING?

A. Order Point 3-14 of the Commission's Order Approving Merger Subject to Conditions, prohibits MERC from establishing new intercompany lending or borrowing agreements unless the arrangement costs less than other alternatives. As noted above, MERC issued long-term debt via the private placement market in June 2017, at rates below its then-outstanding intercompany debt. Short-term debt is provided by Integrys under an existing agreement that was approved by the Commission in 2010 and modified in Docket No. G011/AI-17-303.

Q. WHAT DOES ORDER POINT 4 OF THE MERGER DOCKET REQUIRE?

A. Order Point 4 requires that if MERC's cost of debt increases during the next three calendar years (2016-2018), Minnesota ratepayers will be held harmless from any rate impact unless MERC can demonstrate that its increased cost of debt was not caused by the proposed transaction.

Q. DOES MERC'S COST OF DEBT INCREASE FROM THE 2016 HISTORICAL YEAR TO THE 2018 PROPOSED TEST YEAR?

A. No. As noted above, MERC's weighted cost of debt is decreasing. In particular, MERC's cost of debt decreased from 4.11 percent in 2016 to 3.62 percent in the test year. The forecasted 2018 test year cost of debt is also a decrease from a cost of debt of 4.92 percent prior to the WEC/Integrys merger.

Q. IS THE MERGER WITH WEC THE CAUSE OF THE INCREASE IN THE COST OF SHORT-TERM DEBT OR DECREASE IN THE COST OF LONG-TERM DEBT?

A. No. As previously noted, the changes in the cost of debt were due to independent market conditions (such as LIBOR rates) and to MERC's increase in short-term debt borrowing capacity to fund MERC's own capital expenditure program.

Q. WHAT DOES ORDER POINT 14 OF THE MERGER DOCKET REQUIRE?

A. MERC must request and obtain Commission approval pursuant to Minn. Stat. § 216B.48 (affiliated interest approval) and/or Minn. Stat. § 216B.49 (approval of issuances that encumber Minnesota property) before it includes any debt provided by its parent companies in its capital structure.

Q. DID MERC'S PRIVATE ISSUANCE OF LONG-TERM DEBT IN 2017 ENCUMBER PROPERTY IN MINNESOTA?

A. No. As explained in MERC's November 2, 2016, letter submitted in Docket No. G011/PA-14-664, MERC's private issuance was for unsecured long-term debt and therefore did not result in the encumbrance of any of MERC's property in Minnesota. Therefore, no filing under Order Point 14 of the Merger Docket was required.

Q. ARE THERE ANY FORECASTED LONG-TERM DEBT ISSUANCES IN THE TEST YEAR?

A. No, there are no forecasted long-term debt issuances in the test year.

Q. DID MERC REQUEST AND OBTAIN APPROVAL FOR ITS INCREASE IN SHORT-TERM DEBT FROM INTEGRYS PURSUANT TO MINN. STAT. § 216B.48?

A. Yes. As noted above, the Commission approved MERC's requested modification to the Affiliated Interest Borrowing Agreement with Integrys by Order dated September 27, 2017, in Docket No. G011/AI-17-303. As such, these Order Points from the Merger Docket are satisfied.

V. THE COMMON EQUITY RATIO

Q. WHAT COMMON EQUITY RATIO AND OVERALL RATE OF RETURN IS APPROPRIATE FOR MERC?

A. A common equity ratio of 50.90 percent for the 2018 proposed test year is appropriate for MERC. MERC is also requesting a 10.30 percent ROE for the 2018 proposed test year as described in the Direct Testimony of Ms. Ann Bulkley. Together, these proposals (along with the cost of debt) result in an overall reasonable rate of return of 7.02 percent.

Q. DID MERC'S YEAR END ADJUSTED COMMON EQUITY INCREASE BETWEEN THE 2016 HISTORICAL YEAR AND THE 2108 TEST YEAR?

A. Yes. MERC's year end adjusted common equity increased from approximately $152.3M for the 2016 historical year to approximately $162.3M for the 2018 proposed test year. The change in MERC's year end adjusted common equity is due to retained earnings net of equity returns to Integrys, and a net reduction in utility equity adjustments.

A summary of the changes to MERC's adjusted common equity is shown in Table 2, below, with amounts in thousands:

Table 2
Change in MERC Adjusted Common Equity

Actual 12/31/16	**$152,259**
Retained Earnings	30,175
Net Equity Returns	(28,267)
Net Reduction in Utility Equity Adjustments	
Deferred Comp Equity Adjustment	(37)
Goodwill Related Deferred Taxes	8,188
Forecast 12/31/18	**$162,318**

Q. WHY DOES MERC RECOMMEND THIS COMMON EQUITY RATIO?

A. There are several reasons. First, it is MERC's goal to establish a common equity ratio that is commensurate with the risk of the Company and that provides a fair return to its parent (which in turn provides a fair return to investors). MERC believes this equity ratio achieves these goals. Second, during the 2016 historical test year, MERC maintained an actual 51.45 percent average common equity ratio; that equity ratio is actually somewhat higher than the ratio MERC is requesting in this proceeding. Third, this ratio is just slightly higher than the 50.32 percent that was approved in the Company's last rate case, Docket No. G011/GR-15-736. Fourth, this ratio is on the low end of the companies included in Ms. Bulkley's proxy group.[3]

Q. HOW DO THE COMPANY'S PROPOSED COMMON EQUITY RATIO AND ROE ADDRESS MERC'S BUSINESS RISK?

A. MERC is a small utility competing for capital in a larger marketplace, with a high concentration of large customers in the cyclical mining business. MERC needs increasing amounts of capital in the years ahead due to its customers' capital expansion needs – including in Rochester and other areas of greater Minnesota. Each of these factors and circumstances presents risks to investments in MERC.

Business risk can be offset somewhat with decreased financial risk by maintaining a lower debt ratio (and a higher common equity ratio), which in turn increases interest coverage. Interest coverage is an indication of the amount of cash flow required to make interest payments. A lower debt ratio leads to lower interest payments and higher interest coverage, all of which indicate decreased financial risk. Such ratios help MERC attract capital to finance its investments on behalf of customers.

[3] See Section IX of the Direct Testimony of Ann Bulkley for a comparison of the Company's proposed capital structure to that of the proxy group.

Q. WHAT OTHER BENEFITS DOES A CAPITAL STRUCTURE WITH AN ADEQUATE COMMON EQUITY RATIO PROVIDE?

A. An adequate common equity ratio is critical to maintaining MERC's position as a quality utility that is both able to attract capital and provide quality gas service. In its own right, MERC is a relatively small utility that does not directly compete for equity capital in the marketplace. However, MERC does receive equity through its parent, which in turn must attract capital from marketplace investors. MERC customers benefit from the Company being part of a larger entity that is able to utilize scalability to deliver quality platforms for service. For example, MERC likely could not attract the same level of capital its parent can attract.

At the same time, this also means MERC is a relatively small component of a larger organization and that organization must consider the levels of investment necessary to deliver high quality gas delivery service to be of value. Providing MERC with an adequate authorized ROE and capital structure will help ensure that MERC has access to capital at reasonable rates when MERC needs it, which in turn promotes financial stability and therefore reliable operations on behalf of customers.

Q. IN SUMMARY, WHAT IS YOUR RECOMMENDATION REGARDING THE REQUIRED COMMON EQUITY RATIO AND THE REQUIRED ROE FOR THE 2018 PROPOSED TEST YEAR?

A. MERC recommends that the average common equity ratio be set at 50.90 percent with an ROE of 10.30 percent. These values are recommended because:

1. They reflect the business risk associated with the utility industry and with MERC in particular;
2. They recognize that MERC has delivered, and will continue to deliver, reliable service at a reasonable cost to its customers. Therefore, the shareholder should be properly compensated for delivering on its commitment to those customers; and
3. They reflect a cost of capital that will help keep customer costs at reasonable levels during MERC's current capital investment period.

VI. CONCLUSION

Q. IN YOUR OPINION, DOES THE PROPOSED CAPITAL STRUCTURE AND COST OF CAPITAL PROVIDE A REASONABLE BASIS FOR ESTABLISHING RATES IN THIS CASE?

A. Yes. The proposed capital structure and cost of capital is reasonable and supports the revenue increase MERC has requested in this case.

Q. DOES THIS CONCLUDE YOUR TESTIMONY ON CAPITAL STRUCTURE AND COST OF CAPITAL?

A. Yes, it does.

Minnesota Energy Resources Corporation
Capital Structure
Amounts in thousands

Line No.	Description	Reference	2016 Historic Capital Structure: Amount	Percent Capital	Cost Rate %	Weighted Cost: Debt	Capital
1							
2	Long-Term Debt	Exhibit____(LJG-1) Page 2	$ 86,923	36.38%	4.96%	3.72%	1.80%
3							
4	Short-Term Debt	Exhibit____(LJG-1) Page 3	29,058	12.16%	1.58%	0.40%	0.19%
5							
6	Adjusted Common Equity	Exhibit____(LJG-1) Page 4	122,931	51.45%	9.11%		4.69%
7							
8	Total Capital		$ 238,912	100.00%		4.11%	6.68%
9							

Line No.	Description	Reference	2017 Projected Capital Structure: Amount	Percent Capital	Cost Rate %	Weighted Cost: Debt	Capital
14							
15	Long-Term Debt	Exhibit____(LJG-1) Page 2	$ 100,059	38.00%	4.02%	3.14%	1.53%
16							
17	Short-Term Debt	Exhibit____(LJG-1) Page 3	27,987	10.63%	2.72%	0.59%	0.29%
18							
19	Adjusted Common Equity	Exhibit____(LJG-1) Page 4	135,268	51.37%	9.11%		4.68%
20							
21	Total Capital		$ 263,314	100.00%		3.74%	6.50%
22							

Line No.	Description	Reference	2018 Proposed Capital Structure: Amount	Percent Capital	Cost Rate %	Weighted Cost: Debt	Capital
27							
28	Long-Term Debt	Exhibit____(LJG-1) Page 2	$ 119,020	39.63%	3.60%	2.90%	1.43%
29							
30	Short-Term Debt	Exhibit____(LJG-1) Page 3	28,448	9.47%	3.70%	0.71%	0.35%
31							
32	Adjusted Common Equity	Exhibit____(LJG-1) Page 4	152,874	50.90%	10.30%		5.24%
33							
34	Total Capital		$ 300,342	100.00%		3.62%	7.02%

Minnesota Energy Resources Corporation
Long-Term Debt
Amounts in thousands

Line No.	Description	Reference	Historic 2016	Additional Borrowings	Projected 2017	Additional Borrowings	Proposed 2018
1							
2	December	General Ledger	$ 107,000	$ (29,000)	$ 78,000	$ 42,000	$ 120,000
3	January	General Ledger	107,000	(29,000)	78,000	42,000	120,000
4	February	General Ledger	107,000	(29,000)	78,000	42,000	120,000
5	March	General Ledger	107,000	(29,000)	78,000	42,000	120,000
6	April	General Ledger	78,000	-	78,000	42,000	120,000
7	May	General Ledger	78,000	-	78,000	42,000	120,000
8	June	General Ledger	78,000	42,000	120,000	-	120,000
9	July	General Ledger	78,000	42,000	120,000	-	120,000
10	August	General Ledger	78,000	42,000	120,000	-	120,000
11	September	General Ledger	78,000	42,000	120,000	-	120,000
12	October	General Ledger	78,000	42,000	120,000	-	120,000
13	November	General Ledger	78,000	42,000	120,000	-	120,000
14	December	General Ledger	78,000	42,000	120,000	-	120,000
15							
16	Average Long-Term Debt	13 Month Average of Lines 2 - 14	$ 86,923		$ 100,615		$ 120,000
17	Unamortized Debt Expense	13 Month Average			(556)		(980)
18	Average Net Long-Term Debt		$ 86,923		$ 100,059		$ 119,020
19							
20	Annual Interest Expense		$ 4,309		$ 3,987		$ 4,212
21	Amortization of Debt Expense		-		35		70
22	Total Interest Expense	General Ledger	$ 4,309		$ 4,022		$ 4,282
23							
24	Interest Rate on Interest Expense	Line 20 ÷ Line 18	4.96%		3.98%		3.54%
25	Interest Rate on Amortization	Line 21 ÷ Line 18			0.03%		0.06%
26	Total Interest Rate on Long-Term Debt	Sum of Lines 24 - 25	4.96%		4.02%		3.60%

Minnesota Energy Resources Corporation
Short-Term Debt
Amounts in thousands

Line No.	Description	Reference	Historic 2016	Additional Borrowings	Projected 2017	Additional Borrowings	Proposed 2018
1							
2	December	General Ledger	$ 26,600	$ 9,750	$ 36,350	$ (2,632)	$ 33,718
3	January	General Ledger	28,350	4,275	32,625	(1,810)	30,815
4	February	General Ledger	12,100	12,025	24,125	(2,644)	21,481
5	March	General Ledger	-	41,341	41,341	(32,068)	9,273
6	April	General Ledger	26,925	13,035	39,960	(31,493)	8,467
7	May	General Ledger	25,200	15,068	40,268	(30,074)	10,194
8	June	General Ledger	24,425	(18,637)	5,788	13,716	19,504
9	July	General Ledger	30,425	(19,143)	11,282	15,124	26,406
10	August	General Ledger	35,475	(20,419)	15,056	18,402	33,458
11	September	General Ledger	42,400	(22,894)	19,506	18,354	37,860
12	October	General Ledger	48,600	(20,680)	27,920	16,573	44,493
13	November	General Ledger	40,900	(5,003)	35,897	13,830	49,727
14	December	General Ledger	36,350	(2,632)	33,718	10,709	44,427
15							
16	Average	13 Month Average of Lines 2 - 14	$ 29,058	$ (1,070)	$ 27,987	$ 461	$ 28,448
17							
18	Annual Interest on Debt Balance	General Ledger	$ 303		$ 537		$ 747
19							
20	Credit Facility Fees*	General Ledger	$ 45		$ 96		$ 149
21	Guarantee Fees	General Ledger	111		121		145
22	Rating Agency Fees	General Ledger			7		11
23	Total Other Short-Term Interest	Sum of Lines 19-21	$ 156		$ 224		$ 305
24							
25	Total Short-Term Interest Expense	General Ledger	$ 459		$ 761		$ 1,052
26							
27	Interest Rate on Short-Term Debt	Line 18 ÷ Line 16	1.04%		1.92%		2.63%
28	Other Short-Term Interest	Line 23 ÷ Line 16	0.54%		0.80%		1.07%
29	Total Interest Rate on Short-Term Debt	Sum of Lines 27 - 28	1.58%		2.72%		3.70%
30							
31	*Credit Facility Upfront Fee Amortization & Quarterly Commitment Fees						

Minnesota Energy Resources Corporation
Average Common Equity
Amounts in thousands

Line No.	Description	Reference	Historic 2016	Additional Paid In Capital	Retained Earnings	Projected 2017	Additional Paid In Capital	Retained Earnings	Proposed 2018
1									
2	**Common Stock**								
3	December	General Ledger	201,221	31,011	13,951	246,183	(39,998)	14,433	220,618
4	January	General Ledger	205,840	31,011	14,043	250,894	(28,272)	16,922	239,544
5	February	General Ledger	216,675	25,013	12,999	254,687	(28,272)	18,514	244,928
6	March	General Ledger	219,335	(4,988)	13,151	227,498	1,728	18,588	247,814
7	April	General Ledger	219,880	(4,989)	13,874	228,765	1,730	18,656	249,151
8	May	General Ledger	220,232	(4,990)	13,324	228,566	1,729	17,794	248,088
9	June	General Ledger	216,789	(14,991)	15,700	217,498	11,729	13,450	242,677
10	July	General Ledger	215,652	(14,993)	15,745	216,404	11,731	11,672	239,808
11	August	General Ledger	216,189	(14,994)	14,042	215,237	11,731	10,068	237,037
12	September	General Ledger	215,397	(14,995)	14,225	214,627	11,731	8,702	235,060
13	October	General Ledger	216,202	(14,996)	13,939	215,145	11,731	9,443	236,320
14	November	General Ledger	233,878	(29,997)	13,287	217,168	11,731	10,948	239,847
15	December	General Ledger	246,183	(39,998)	14,433	220,618	11,731	15,742	248,090
16									
17	Average	13 Month Average of Lines 3 - 15	218,729	(5,607)	14,055	227,176	(711)	14,226	240,691
18									
19	**Equity**			**Goodwill re**			**Goodwill re**		
20	**Adjustments**			**Deferred Tax**	**Def Comp**		**Deferred Tax**	**Def Comp**	
21	December	General Ledger	97,578	(4,161)	507	93,924	(4,095)	37	89,866
22	January	General Ledger	97,167	(4,097)	547	93,617	(4,094)		89,523
23	February	General Ledger	96,996	(4,257)	536	93,275	(4,093)		89,181
24	March	General Ledger	96,881	(4,500)	553	92,934	(4,094)		88,840
25	April	General Ledger	96,299	(4,262)	556	92,593	(4,094)		88,499
26	May	General Ledger	96,335	(4,641)	558	92,252	(4,093)		88,158
27	June	General Ledger	95,447	(4,097)	561	91,911	(4,094)		87,817
28	July	General Ledger	95,630	(4,097)	37	91,570	(4,095)		87,476
29	August	General Ledger	95,289	(4,098)	37	91,228	(4,095)		87,134
30	September	General Ledger	94,948	(4,098)	37	90,887	(4,094)		86,793
31	October	General Ledger	94,607	(4,098)	37	90,546	(4,095)		86,452
32	November	General Ledger	94,266	(4,098)	37	90,205	(4,094)		86,111
33	December	General Ledger	93,924	(4,095)	37	89,866	(4,093)		85,772
34									
35	Average	13 Month Average of Lines 20 - 32	95,797	(4,200)	311	91,908	(4,094)		87,817
36									
37	**Adjusted**								
38	**Common Equity**								
39	December	General Ledger	103,643			152,259			130,752
40	January	General Ledger	108,673			157,277			150,021
41	February	General Ledger	119,679			161,412			155,747
42	March	General Ledger	122,454			134,564			158,974
43	April	General Ledger	123,581			136,172			160,652
44	May	General Ledger	123,897			136,314			159,930
45	June	General Ledger	121,342			125,587			154,860
46	July	General Ledger	120,022			124,834			152,332
47	August	General Ledger	120,900			124,009			149,903
48	September	General Ledger	120,449			123,740			148,267
49	October	General Ledger	121,595			124,599			149,868
50	November	General Ledger	139,612			126,963			153,736
51	December	General Ledger	152,259			130,752			162,318
52									
53	Average	13 Month Average of Lines 37 - 49	122,931			135,268			152,874
54									
55	**Return on Equity**		9.11%			9.11%			10.30%