Minnesota Energy Resources Corporation
2685 145th Street West
Rosemount, MN 55068
www.minnesotaenergyresources.com

May 31, 2019

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101

VIA ELECTRONIC FILING

Re: In the Matter of the Petition of Minnesota Energy Resources Corporation for its Annual Review of Depreciation Rates for 2019 Docket No. G011/D-19-___

Dear Mr. Wolf:

Enclosed for filing with the Minnesota Public Utilities Commission (the "Commission"), please find the Petition of Minnesota Energy Resources Corporation ("MERC") for its Annual Review of Depreciation Rates for 2019. This Petition is submitted in compliance with the Commission's May 4, 2018, Order in Docket No. G011/D-17-442 requiring that MERC file its 2019 Annual Review of Depreciation Rates on or before June 1, 2019. MERC is requesting that the Commission approve the Company's proposed depreciation lives and rates effective January 1, 2019. Through this filing, MERC also addresses the Commission's December 26, 2018, Findings of Fact, Conclusions, and Order, which required MERC, in either its next depreciation filing or rate case, to "propose a set of depreciation practices and adjustments for the separate depreciation of large assets, like office buildings or to provide explanation why no such modification from the Company's depreciation practices is warranted or appropriate."

Copies of this filing have been served on the Minnesota Department of Commerce, Division of Energy Resources and the Minnesota Office of the Attorney General Residential Utilities and Antitrust Division via electronic filing. A summary of the filing has been served on all parties on the attached service list.

Please contact me at (414) 221-2374 if you have any questions.

Sincerely,

/s/ Mary L. Wolter
Mary L. Wolter
Director – Gas Regulatory Planning & Policy

Enclosures
cc: Service List

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Dan Lipschultz	Commissioner
Valerie Means	Commissioner
Matthew Schuerger	Commissioner
John Tuma	Commissioner

In the Matter of the Petition of Minnesota Energy Resources Corporation for Annual Review of Depreciation Rates for 2019	Docket No. G011/D-19-____

PETITION FOR REVIEW OF ANNUAL DEPRECATION RATES FOR 2019

Pursuant to Minnesota Statutes section 216B.11 and Minnesota Rules 7825.0500 through 7825.0900, Minnesota Energy Resources Corporation ("MERC" or the "Company") files with the Minnesota Public Utilities Commission (the "Commission") a petition for review of the Company's plant in service, depreciation reserve, and depreciation accruals. This petition is being filed pursuant to the Commission's May 4, 2018, Order in Docket No. G011/D-17-442, which required that MERC file its 2019 Annual Review of Depreciation Rates on or before June 1, 2019. MERC requests that the Commission approve the Company's proposed depreciation lives and rates effective January 1, 2019.

I. SUMMARY OF FILING

Pursuant to Minn. R. 7829.1300, subp. 1, a one-paragraph summary of the filing is attached.

II. SERVICE

Pursuant to Minn. R. 7829.1300, subp. 2, MERC has served a copy of this filing on the Minnesota Department of Commerce, Division of Energy Resources and the

Minnesota Office of the Attorney General–Residential Utilities and Antitrust Division. In addition, MERC has served the summary of the filing on all parties on the attached service list.

III. GENERAL FILING INFORMATION

Pursuant to Minn. R. 7829.1300, subp.3, the following information is provided:

A. Name, Address, and Telephone Number of Filing Party

Minnesota Energy Resources Corporation
2685 145th Street West
Rosemount, MN 55060
(651) 322-8901

B. Name, Address, Electronic Address, and Telephone Number of Attorney for the Utility

Kristin M. Stastny
Briggs and Morgan, P.A.
2200 IDS Center
80 South 8th Street
Minneapolis, MN 55402
KStastny@briggs.com
(612) 977-8656

C. Date of the Filing and Date Proposed Agreement Will Take Effect

Date of Filing: May 31, 2019

Proposed Effective Date: MERC requests that the depreciation lives and rates proposed herein be effective January 1, 2019.

D. Statute Controlling Schedule for Processing the Filing

Under Minn. R. 7829.0100, subp. 11, this Petition is a "miscellaneous" filing because no determination of MERC's general revenue requirement is necessary.

Pursuant to Minn. R. 7829.1400, subp. 1, 4, comments on a miscellaneous filing are due within 30 days of filing, with replies due 10 days thereafter.

E. Signature, Electronic Address, and Title of Utility Employee Responsible for the Filing

Tina E. Wuyts
Senior Analyst
WEC Energy Group – Business Services
PO Box 19001
Green Bay, WI 54307-9001
(920) 433-4951
tina.wuyts@wecenergygroup.com

F. Description of the Filing, Impact on Rates and Services, and Reasons for the Filing

MERC seeks the Commission's approval of the Company's annual review of its plant in service, depreciation reserve, and depreciation accruals. MERC requests that the depreciation lives and rates be effective January 1, 2019. The current lives and depreciation rates were approved in Docket No. G011/D-17-442.

1. Vintage Amortization Accounting

Vintage amortization accounting for certain general plant accounts was proposed and approved in Docket No. G007,011/D-08-614. MERC continues to apply the lives and associated depreciation rates to the general plant accounts listed in the table below. As a result, these general plant accounts are excluded from the Annual Review of Depreciation Rates schedules.

Account Number	Description	Amortizable Life (Years)
391	Office Furniture & Equipment	20
391	Computer Equipment	5
393	Stores Equipment	20
394	Tools, Shop & Garage Equipment	20
395	Laboratory Equipment	20
397	Communication Equipment	12
398	Miscellaneous Equipment	20

As was approved in prior Annual Review of Depreciation Rates filings, MERC utilizes a revised report from the Company's capital asset management system to simulate the methodology used by MERC's depreciation consultant, Gannett Fleming. The report's remaining life calculation uses total future book accruals over the total annual accrual for vintage years not fully accrued. The report incorporates additions as well as vintage retirements to calculate a remaining life for each account based upon the approved life and curve from the most recently-approved depreciation study filed in Docket No. G011/D-17-442. A copy of this report is provided with the filing.

2. Minnesota Rule 7825.0700, Subpart 2B

Minnesota Rule 7825.0700, subpart 2B requires a list of any major future additions or retirements to the plant accounts that the utility believes may have a material effect on the current certification results. MERC continues to experience an increased level of investment particularly in distribution mains, services, and station accounts resulting in increased plant additions as a result of system improvements. Additionally, MERC will experience increased investment as a result of the approval of the Rochester Natural Gas Extension Project in Docket Nos. G011/M-15-895 and G011/M-16-315.

3. Compliance with December 26, 2018, Findings of Fact, Conclusions, and Order

On December 26, 2018, the Commission issued Findings of Fact, Conclusions, and Order in Docket No. G011/GR-17-563, requiring the following:

> In either its next rate case or its next depreciation filing, whichever comes first, MERC shall propose a set of depreciation practices and adjustments for the separate depreciation of large assets, like office buildings or to provide explanation why no such modification from the Company's depreciation practices is warranted or appropriate.[1]

Because this Annual Review of Depreciation Rates for 2019 filing is being made before the filing of any rate case by MERC, the Company addresses the Commission's order point in Attachment 3 to this filing.

This filing includes the following attachments:

- Attachment 1: MERC's 2019 Annual Review of Depreciation Rates;
- Attachment 2: MERC's Calculated Remaining Life; and
- Attachment 3: Compliance with December 26, 2018, Findings of Fact, Conclusion, and Order (Ordering Paragraph 15), including supporting schedules.

IV. CONCLUSION

MERC respectfully requests that the Commission approve the Company's proposed depreciation lives and rates effective January 1, 2019.

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[1] *In the Matter of the Application of Minn. Energy Res. Corp. for Auth. to Increase Rates for Nat. Gas Serv. in Minn.*, Docket No. G011/GR-17-563, FINDINGS OF FACT, CONCLUSIONS, AND ORDER at Order Point 15, p. 49 (Dec. 26, 2018).

DATED: May 31, 2019

Respectfully submitted,

BRIGGS AND MORGAN, P.A.

By: */s/ Kristin M. Stastny*

Kristin M. Stastny
2200 IDS Center
80 South 8th Street
Minneapolis, MN 55402
Telephone: (612) 977-8656
KStastny@Briggs.com

Attorney for Minnesota Energy Resources Corporation

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Katie J. Sieben	Chair
Dan Lipschultz	Commissioner
Valerie Means	Commissioner
Matther Schuerger	Commissioner
John A. Tuma	Commissioner

In the Matter of the Petition of Minnesota Energy Resources Corporation for Annual Review of Depreciation Rates for 2019	Docket No. G011/D-19-____

SUMMARY OF FILING

Pursuant to Minnesota Statutes section 216B.11 and Minnesota Rules 7825.0500 through 7825.0900, Minnesota Energy Resources Corporation ("MERC") files with the Minnesota Public Utilities Commission a petition for review of MERC's plant in service, depreciation reserve, and depreciation accruals.

Attachment 1

MERC's 2019 Annual Review of Depreciation Rates

Minnesota Energy Resources Corporation

2019 Annual Review of Depreciation Rates

MINNESOTA ENERGY RESOURCES CORPORATION
ANNUAL REVIEW OF DEPRECIATION RATES
2019

This report presents the 2019 annual remaining life update of depreciation rates for Minnesota Energy Resources Corporation. This update retains parameters approved in Docket No. G011/D-17-442. Plant and depreciation reserve data utilized in the study was as of December 31, 2018.

A summary of depreciation study results are as follows:

	Accrual Rate			2019 Annualized Accrual		
Function	Proposed	Present	Difference	Proposed	Present	Difference
Transmission	2.37%	2.55%	-0.18%	$ 214,572	$ 230,793	$ (16,221)
Distribution	2.22%	2.14%	0.08%	$ 11,237,960	$ 10,853,186	$ 384,774
General	4.63%	4.85%	-0.22%	$ 1,246,011	$ 1,303,981	$ (57,970)
Total Utility	2.34%	2.28%	0.06%	$ 12,698,543	$ 12,387,960	$ 310,583

The following statements are included in the report:
- Statement 1A-2018 provides a rollforward of plant activity for 2018
- Statement 1A-2017 provides a rollforward of plant activity for 2017
- Statement 1B-2018 provides a rollforward of depreciation reserve activity for 2018
- Statement 1B-2017 provides a rollforward of depreciation reserve activity for 2017
- Statement 1C-2018 provides a summary of the annual depreciation accruals for 2018
- Statement 1C-2017 provides a summary of the annual depreciation accruals for 2017
- Statement 2A provides the computation of proposed depreciation accrual rates

MINNESOTA ENERGY RESOURCES CORPORATION
Plant Activity for 2018
STATEMENT 1A

Functional Class	Utility Account	Account Description	Beginning Balance (January 1, 2018)	Additions	Retirements	Adjustments	Transfers	Ending Balance (December 31, 2018)
A	B	C	D	E	F	G	H	I
Transmission Plant								
	36700	Mains	$ 8,062,675.51	$ -	$ -	$ -	$ -	$ 8,062,675.51
	36900	Measuring & Regulating Station Equipment	$ 832,577.37	$ 148,926.96	$ -	$ -	$ -	$ 981,504.33
Total Transmission Plant			**$ 8,895,252.88**	**$ 148,926.96**	**$ -**	**$ -**	**$ -**	**$ 9,044,179.84**
Distribution Plant								
	37403	Easements	$ 596,817.87	$ -	$ -	$ -	$ -	$ 596,817.87
	37506	Structures & Improvments	$ 145,075.92	$ -	$ -	$ -	$ -	$ 145,075.92
	37600	Mains	$ 212,461,903.19	$ 28,434,807.97	$ (799,991.57)	$ -	$ -	$ 240,096,719.59
	37800	Measuring & Regulating Station Equipment	$ 12,798,136.98	$ 1,392,549.32	$ -	$ -	$ -	$ 14,190,686.30
	37900	City Gate Stations	$ 13,553,819.85	$ 2,013,673.11	$ -	$ -	$ -	$ 15,567,492.96
	38000	Services	$ 151,987,250.34	$ 11,128,220.09	$ (1,305,250.86)	$ -	$ -	$ 161,810,219.57
	38100	Meters	$ 48,968,723.73	$ 4,551,624.16	$ (2,306,988.35)	$ -	$ -	$ 51,213,359.54
	38101	AMI Devices	$ 339,538.31	$ 10,988.41	$ -	$ -	$ -	$ 350,526.72
	38300	House Regulators	$ 19,929,158.10	$ 146,519.90	$ (118,953.38)	$ -	$ -	$ 19,956,724.62
	38500	Industrial Measuring & Regulating Equipment	$ 2,623,148.60	$ 257,168.82	$ -	$ -	$ -	$ 2,880,317.42
Total Distribution Plant			**$ 463,403,572.89**	**$ 47,935,551.78**	**$ (4,531,184.16)**	**$ -**	**$ -**	**$ 506,807,940.51**
General Plant								
	39000	Structures & Improvements	$ 20,237,655.90	$ 1,042,745.50	$ (1,727,466.00)	$ -	$ -	$ 19,552,935.40
	39216	Autos & Light Duty Trucks	$ 6,002,356.46	$ 1,036,822.73	$ (195,900.31)	$ -	$ -	$ 6,843,278.88
	39269	Trailers & Trailer Mounted Equipment	$ 92,528.20	$ -	$ -	$ -	$ -	$ 92,528.20
	39618	Power Operated Equipment	$ 399,028.44	$ -	$ -	$ -	$ -	$ 399,028.44
Total General Plant			**$ 26,731,569.00**	**$ 2,079,568.23**	**$ (1,923,366.31)**	**$ -**	**$ -**	**$ 26,887,770.92**
Total Depreciable Gas Plant			**$ 499,030,394.77**	**$ 50,164,046.97**	**$ (6,454,550.47)**	**$ -**	**$ -**	**$ 542,739,891.27**
Non-Depreciable & Other Plant								
	30200	Franchises & Consents	$ 3,946,750.19	$ -	$ -	$ -	$ -	$ 3,946,750.19
	30300	Misc Intangible Plant	$ 14,345,284.81	$ 4,621,735.54	$ -	$ -	$ -	$ 18,967,020.35
	36501	Land Rights - Transmission	$ 8,600.00	$ -	$ -	$ -	$ -	$ 8,600.00
	37401	Land Rights - Distribution	$ 172,281.67	$ -	$ -	$ -	$ -	$ 172,281.67
	38901	Land in Fee - General	$ 1,252,260.27	$ 71,548.42	$ -	$ -	$ -	$ 1,323,808.69
Total Non-Depreciable & Other Plant			**$ 19,725,176.94**	**$ 4,693,283.96**	**$ -**	**$ -**	**$ -**	**$ 24,418,460.90**
Total Gas Plant			**$ 518,755,571.71**	**$ 54,857,330.93**	**$ (6,454,550.47)**	**$ -**	**$ -**	**$ 567,158,352.17**

MINNESOTA ENERGY RESOURCES CORPORATION
Plant Activity for 2017
STATEMENT 1A

Functional Class	Utility Account	Account Description	Beginning Balance (January 1, 2017)	Additions	Retirements	Adjustments	Transfers	Ending Balance (December 31, 2017)
A	B	C	D	E	F	G	H	I
Transmission Plant								
	36700	Mains	$ 9,574,350.90	$ -	$ -	$ -	$ (1,511,675.39)	$ 8,062,675.51
	36900	Measuring & Regulating Station Equipment	$ 829,003.14	$ 3,574.23	$ -	$ -	$ -	$ 832,577.37
Total Transmission Plant			**$ 10,403,354.04**	**$ 3,574.23**	**$ -**	**$ -**	**$ (1,511,675.39)**	**$ 8,895,252.88**
Distribution Plant								
	37403	Easements	$ 596,817.87	$ -	$ -	$ -	$ -	$ 596,817.87
	37506	Structures & Improvements	$ 145,075.92	$ -	$ -	$ -	$ -	$ 145,075.92
	37600	Mains	$ 196,545,659.51	$ 17,813,601.98	$ (3,409,033.69)	$ -	$ 1,511,675.39	$ 212,461,903.19
	37800	Measuring & Regulating Station Equipment	$ 11,925,878.63	$ 936,044.40	$ (63,786.05)	$ -	$ -	$ 12,798,136.98
	37900	City Gate Stations	$ 9,720,082.38	$ 3,837,194.97	$ (3,457.50)	$ -	$ -	$ 13,553,819.85
	38000	Services	$ 143,624,197.45	$ 10,338,370.06	$ (1,975,317.17)	$ -	$ -	$ 151,987,250.34
	38100	Meters	$ 46,436,065.86	$ 3,945,405.36	$ (1,412,747.49)	$ -	$ -	$ 48,968,723.73
	38101	AMI Devices	$ 339,538.31	$ -	$ -	$ -	$ -	$ 339,538.31
	38300	House Regulators	$ 19,506,251.54	$ 535,512.61	$ (112,606.05)	$ -	$ -	$ 19,929,158.10
	38500	Industrial Measuring & Regulating Equipment	$ 1,984,530.96	$ 638,617.64	$ -	$ -	$ -	$ 2,623,148.60
Total Distribution Plant			**$ 430,824,098.43**	**$ 38,044,747.02**	**$ (6,976,947.95)**	**$ -**	**$ 1,511,675.39**	**$ 463,403,572.89**
General Plant								
	39000	Structures & Improvements	$ 12,549,004.24	$ 7,692,750.22	$ (4,098.56)	$ -	$ -	$ 20,237,655.90
	39216	Autos & Light Duty Trucks	$ 5,747,626.92	$ 950,611.55	$ (695,882.01)	$ -	$ -	$ 6,002,356.46
	39269	Trailers & Trailer Mounted Equipment	$ 92,528.20	$ -	$ -	$ -	$ -	$ 92,528.20
	39618	Power Operated Equipment	$ 307,375.12	$ 91,653.32	$ -	$ -	$ -	$ 399,028.44
Total General Plant			**$ 18,696,534.48**	**$ 8,735,015.09**	**$ (699,980.57)**	**$ -**	**$ -**	**$ 26,731,569.00**
Total Depreciable Gas Plant			**$ 459,923,986.95**	**$ 46,783,336.34**	**$ (7,676,928.52)**	**$ -**	**$ -**	**$ 499,030,394.77**
Non-Depreciable & Other Plant								
	30200	Franchises & Consents	$ 3,946,750.19	$ -	$ -	$ -	$ -	$ 3,946,750.19
	30300	Misc Intangible Plant	$ 11,463,874.71	$ 3,049,193.01	$ (167,782.91)	$ -	$ -	$ 14,345,284.81
	36501	Land Rights - Transmission	$ 8,600.00	$ -	$ -	$ -	$ -	$ 8,600.00
	37401	Land Rights - Distribution	$ 172,281.67	$ -	$ -	$ -	$ -	$ 172,281.67
	38901	Land in Fee - General	$ 1,252,260.27	$ -	$ -	$ -	$ -	$ 1,252,260.27
Total Non-Depreciable & Other Plant			**$ 16,843,766.84**	**$ 3,049,193.01**	**$ (167,782.91)**	**$ -**	**$ -**	**$ 19,725,176.94**
Total Gas Plant			**$ 476,767,753.79**	**$ 49,832,529.35**	**$ (7,844,711.43)**	**$ -**	**$ -**	**$ 518,755,571.71**

MINNESOTA ENERGY RESOURCES CORPORATION
Analysis of Depreciation Reserve for 2018
STATEMENT 1B

Functional Class	Utility Account	Account Description	Beginning Balance (January 1, 2018)	Accruals	Salvage and Other Credits	Retirements	Cost Of Removal	Transfers and Adjustments	Ending Balance (December 31, 2018)
A	B	C	D	E	F	G	H	I	J
Transmission Plant									
	36700	Mains	$ 3,519,228.36	$ 50,259.65	$ -	$ -	$ -	$ -	$ 3,569,488.01
	36900	Measuring & Regulating Station Equipment	$ (17,656.87)	$ 119,254.80	$ -	$ -	$ (16,357.94)	$ -	$ 85,239.99
Total Transmission Plant			**$ 3,501,571.49**	**$ 169,514.45**	**$ -**	**$ -**	**$ (16,357.94)**	**$ -**	**$ 3,654,728.00**
Distribution Plant									
	37403	Easements	$ 267,717.67	$ 24,350.16	$ -	$ -	$ -	$ -	$ 292,067.83
	37506	Structures & Improvements	$ 113,103.61	$ 14,362.44	$ -	$ -	$ -	$ -	$ 127,466.05
	37600	Mains	$ 76,330,278.18	$ 2,975,229.35	$ -	$ (799,991.57)	$ (81,629.90)	$ -	$ 78,423,886.06
	37800	Measuring & Regulating Station Equipment	$ 1,935,279.01	$ 672,475.12	$ -	$ -	$ (79,377.75)	$ -	$ 2,528,376.38
	37900	City Gate Stations	$ 1,574,642.11	$ 757,763.92	$ -	$ -	$ (317,309.89)	$ -	$ 2,015,096.14
	38000	Services	$ 73,726,213.04	$ 2,813,894.31	$ -	$ (1,305,250.86)	$ (5,063.88)	$ -	$ 75,229,792.61
	38100	Meters	$ 14,407,042.96	$ 1,083,147.68	$ 2,399.19	$ (2,306,988.35)	$ (38,702.57)	$ -	$ 13,146,898.91
	38101	AMI Devices	$ 131,225.85	$ 19,503.26	$ -	$ -	$ -	$ -	$ 150,729.11
	38300	House Regulators	$ 10,642,236.15	$ 170,286.92	$ -	$ (118,953.38)	$ 5,816.73	$ -	$ 10,699,386.42
	38500	Industrial Measuring & Regulating Equipment	$ 833,636.43	$ 60,244.54	$ -	$ -	$ (22,533.02)	$ -	$ 871,347.95
Total Distribution Plant			**$ 179,961,375.01**	**$ 8,591,257.70**	**$ 2,399.19**	**$ (4,531,184.16)**	**$ (538,800.28)**	**$ -**	**$ 183,485,047.46**
General Plant									
	39000	Structures & Improvements	$ 3,851,910.17	$ 454,355.69	$ -	$ (1,727,466.00)	$ (512.57)	$ -	$ 2,578,287.29
	39216	Autos & Light Duty Trucks	$ 1,528,033.20	$ 862,085.59	$ -	$ (195,900.31)	$ -	$ -	$ 2,194,218.48
	39269	Trailers & Trailer Mounted Equipment	$ 54,343.50	$ 2,859.12	$ -	$ -	$ -	$ -	$ 57,202.62
	39618	Power Operated Equipment	$ 166,953.15	$ 7,558.49	$ -	$ -	$ -	$ -	$ 174,511.64
Total General Plant			**$ 5,601,240.02**	**$ 1,326,858.89**	**$ -**	**$ (1,923,366.31)**	**$ (512.57)**	**$ -**	**$ 5,004,220.03**
Total Depreciable Gas Plant			**$ 189,064,186.52**	**$ 10,087,631.04**	**$ 2,399.19**	**$ (6,454,550.47)**	**$ (555,670.79)**	**$ -**	**$ 192,143,995.49**
Non-Depreciable & Other Plant									
	30200	Franchises & Consents	$ 3,920,528.98	$ 4,520.75	$ -	$ -	$ -	$ -	$ 3,925,049.73
	30300	Misc Intangible Plant	$ 2,377,439.70	$ 1,751,491.30	$ -	$ -	$ -	$ -	$ 4,128,931.00
	36501	Land Rights - Transmission	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	37401	Land Rights - Distribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38901	Land in Fee - General	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Non-Depreciable & Other Plant			**$ 6,297,968.68**	**$ 1,756,012.05**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 8,053,980.73**
Total Gas Plant			**$ 195,362,155.20**	**$ 11,843,643.09**	**$ 2,399.19**	**$ (6,454,550.47)**	**$ (555,670.79)**	**$ -**	**$ 200,197,976.22**

MINNESOTA ENERGY RESOURCES CORPORATION
Analysis of Depreciation Reserve for 2017
STATEMENT 1B

Functional Class	Utility Account	Account Description	Beginning Balance (January 1, 2017)	Accruals	Salvage and Other Credits	Retirements	Cost Of Removal	Transfers and Adjustments	Ending Balance (December 31, 2017)
A	B	C	D	E	F	G	H	I	J
Transmission Plant									
	36700	Mains	$ 3,867,749.55	$ 248,531.17	$ -	$ -	$ -	$ (597,052.36)	$ 3,519,228.36
	36900	Measuring & Regulating Station Equipment	$ (44,884.32)	$ 27,227.45	$ -	$ -	$ -	$ -	$ (17,656.87)
Total Transmission Plant			**$ 3,822,865.23**	**$ 275,758.62**	**$ -**	**$ -**	**$ -**	**$ (597,052.36)**	**$ 3,501,571.49**
Distribution Plant									
	37403	Easements	$ 243,367.51	$ 24,350.16	$ -	$ -	$ -	$ -	$ 267,717.67
	37506	Structures & Improvements	$ 109,302.61	$ 3,801.00	$ -	$ -	$ -	$ -	$ 113,103.61
	37600	Mains	$ 75,314,194.83	$ 4,119,928.26	$ -	$ (3,409,033.69)	$ (291,863.58)	$ 597,052.36	$ 76,330,278.18
	37800	Measuring & Regulating Station Equipment	$ 1,667,499.00	$ 331,566.06	$ -	$ (63,786.05)	$ -	$ -	$ 1,935,279.01
	37900	City Gate Stations	$ 1,260,338.80	$ 317,760.81	$ -	$ (3,457.50)	$ -	$ -	$ 1,574,642.11
	38000	Services	$ 71,791,726.46	$ 4,216,086.16	$ -	$ (1,975,317.17)	$ (306,282.41)	$ -	$ 73,726,213.04
	38100	Meters	$ 14,566,238.34	$ 1,221,908.93	$ 34,449.42	$ (1,412,747.49)	$ (2,806.24)	$ -	$ 14,407,042.96
	38101	AMI Devices	$ 106,303.77	$ 24,922.08	$ -	$ -	$ -	$ -	$ 131,225.85
	38300	House Regulators	$ 10,415,610.03	$ 331,927.38	$ 8,938.29	$ (112,606.05)	$ (1,633.50)	$ -	$ 10,642,236.15
	38500	Industrial Measuring & Regulating Equipment	$ 764,456.34	$ 69,180.09	$ -	$ -	$ -	$ -	$ 833,636.43
Total Distribution Plant			**$ 176,239,037.69**	**$ 10,661,430.93**	**$ 43,387.71**	**$ (6,976,947.95)**	**$ (602,585.73)**	**$ 597,052.36**	**$ 179,961,375.01**
General Plant									
	39000	Structures & Improvements	$ 3,534,848.79	$ 321,159.94	$ -	$ (4,098.56)	$ -	$ -	$ 3,851,910.17
	39216	Autos & Light Duty Trucks	$ 1,432,633.08	$ 606,474.63	$ 184,908.50	$ (695,882.01)	$ (101.00)	$ -	$ 1,528,033.20
	39269	Trailers & Trailer Mounted Equipment	$ 53,557.02	$ 786.48	$ -	$ -	$ -	$ -	$ 54,343.50
	39618	Power Operated Equipment	$ 150,985.55	$ 15,967.60	$ -	$ -	$ -	$ -	$ 166,953.15
Total General Plant			**$ 5,172,024.44**	**$ 944,388.65**	**$ 184,908.50**	**$ (699,980.57)**	**$ (101.00)**	**$ -**	**$ 5,601,240.02**
Total Depreciable Gas Plant			**$ 185,233,927.36**	**$ 11,881,578.20**	**$ 228,296.21**	**$ (7,676,928.52)**	**$ (602,686.73)**	**$ -**	**$ 189,064,186.52**
Non-Depreciable & Other Plant									
	30200	Franchises & Consents	$ 3,907,734.42	$ 12,794.56	$ -	$ -	$ -	$ -	$ 3,920,528.98
	30300	Misc Intangible Plant	$ 1,204,673.92	$ 1,286,586.13	$ -	$ (167,782.91)	$ -	$ 53,962.56	$ 2,377,439.70
	36501	Land Rights - Transmission	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	37401	Land Rights - Distribution	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	38901	Land in Fee - General	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Non-Depreciable & Other Plant			**$ 5,112,408.34**	**$ 1,299,380.69**	**$ -**	**$ (167,782.91)**	**$ -**	**$ 53,962.56**	**$ 6,297,968.68**
Total Gas Plant			**$ 190,346,335.70**	**$ 13,180,958.89**	**$ 228,296.21**	**$ (7,844,711.43)**	**$ (602,686.73)**	**$ 53,962.56**	**$ 195,362,155.20**

MINNESOTA ENERGY RESOURCES CORPORATION
Analysis of Depreciation Reserve for 2018
STATEMENT 1C

Functional Class	Utility Account	Account Description	Ending Plant Balance (December 31, 2018) From Statement 1A	Estimated Future Net Salvage Percent	Estimated Future Net Salvage Amount	Ending Depreciation Reserve (December 31, 2018) From Statement 1B	Average Life (Years)	Remaining Life (From 2017 Depr Study)	Annual Accrual From Statement 1B	Accrual Rate
A	B	C	D	E	F=D*E	G	H	I	J	K
Transmission Plant										
	36700	Mains	$ 8,062,675.51	-30.00%	$ (2,418,802.65)	$ 3,569,488.01	65.00	50.20	$ 50,259.65	1.79%
	36900	Measuring & Regulating Station Equipment	$ 981,504.33	-30.00%	$ (294,451.30)	$ 85,239.99	30.00	15.40	$ 119,254.80	8.81%
Total Transmission Plant			**$ 9,044,179.84**	**-30.00%**	**$ (2,713,253.95)**	**$ 3,654,728.00**			**$ 169,514.45**	**1.87%**
Distribution Plant										
	37403	Easements	$ 596,817.87	0.00%	$ -	$ 292,067.83	25.00	14.50	$ 24,350.16	4.08%
	37506	Structures & Improvements	$ 145,075.92	-10.00%	$ (14,507.59)	$ 127,466.05	35.00	6.20	$ 14,362.44	6.26%
	37600	Mains	$ 240,096,719.59	-30.00%	$ (72,029,015.88)	$ 78,423,886.06	65.00	53.50	$ 2,975,229.35	1.71%
	37800	Measuring & Regulating Station Equipment	$ 14,190,686.30	-15.00%	$ (2,128,602.95)	$ 2,528,376.38	35.00	25.20	$ 672,475.12	4.03%
	37900	City Gate Stations	$ 15,567,492.96	-40.00%	$ (6,226,997.18)	$ 2,015,096.14	35.00	28.60	$ 757,763.92	4.46%
	38000	Services	$ 161,810,219.57	-55.00%	$ (88,995,620.76)	$ 75,229,792.61	56.00	45.20	$ 2,813,894.31	2.32%
	38100	Meters	$ 51,213,359.54	-1.00%	$ (512,133.60)	$ 13,146,898.91	39.00	27.50	$ 1,083,147.68	2.53%
	38101	AMI Devices	$ 350,526.72	0.00%	$ -	$ 150,729.11	15.00	10.60	$ 19,503.26	6.51%
	38300	House Regulators	$ 19,956,724.62	-5.00%	$ (997,836.23)	$ 10,699,386.42	48.00	34.40	$ 170,286.92	1.50%
	38500	Industrial Measuring & Regulating Equipment	$ 2,880,317.42	-10.00%	$ (288,031.74)	$ 871,347.95	40.00	27.10	$ 60,244.54	2.64%
Total Distribution Plant			**$ 506,807,940.51**	**-33.78%**	**$ (171,192,745.93)**	**$ 183,485,047.46**			**$ 8,591,257.70**	**1.70%**
General Plant										
	39000	Structures & Improvements	$ 19,552,935.40	-10.00%	$ (1,955,293.54)	$ 2,578,287.29	55.00	34.50	$ 454,355.69	2.37%
	39216	Autos & Light Duty Trucks	$ 6,843,278.88	20.00%	$ 1,368,655.78	$ 2,194,218.48	8.00	4.60	$ 862,085.59	12.07%
	39269	Trailers & Trailer Mounted Equipment	$ 92,528.20	15.00%	$ 13,879.23	$ 57,202.62	16.00	13.70	$ 2,859.12	1.97%
	39618	Power Operated Equipment	$ 399,028.44	10.00%	$ 39,902.84	$ 174,511.64	18.00	12.80	$ 7,558.49	3.20%
Total General Plant			**$ 26,887,770.92**	**-1.98%**	**$ (532,855.69)**	**$ 5,004,220.03**			**$ 1,326,858.89**	**4.93%**
Total Depreciable Gas Plant			**$ 542,739,891.27**	**-32.14%**	**$ (174,438,855.57)**	**$ 192,143,995.49**			**$ 10,087,631.04**	**1.86%**

MINNESOTA ENERGY RESOURCES CORPORATION
Analysis of Depreciation Reserve for 2017
STATEMENT 1C

Functional Class	Utility Account	Account Description	Ending Plant Balance (December 31, 2017) From Statement 1A	Estimated Future Net Salvage Percent	Estimated Future Net Salvage Amount	Ending Depreciation Reserve (December 31, 2017) From Statement 1B	Average Life (Years)	Remaining Life (From 2016 Remainnig Life Update)	Annual Accrual From Statement 1B	Accrual Rate
A	B	C	D	E	F=D*E	G	H	I	J	K
Transmission Plant										
	36700	Mains	$ 8,062,675.51	-45.00%	$ (3,628,203.98)	$ 3,519,228.36	50.00	34.68	$ 248,531.17	2.88%
	36900	Measuring & Regulating Station Equipment	$ 832,577.37	-5.00%	$ (41,628.87)	$ (17,656.87)	45.00	32.24	$ 27,227.45	3.28%
Total Transmission Plant			**$ 8,895,252.88**	**-41.26%**	**$ (3,669,832.85)**	**$ 3,501,571.49**			**$ 275,758.62**	**3.10%**
Distribution Plant										
	37403	Easements	$ 596,817.87	0.00%	$ -	$ 267,717.67	25.00	15.50	$ 24,350.16	4.08%
	37506	Structures & Improvements	$ 145,075.92	-5.00%	$ (7,253.80)	$ 113,103.61	38.00	11.68	$ 3,801.00	2.62%
	37600	Mains	$ 212,461,903.19	-45.00%	$ (95,607,856.44)	$ 76,330,278.18	65.00	51.75	$ 4,119,928.26	2.04%
	37800	Measuring & Regulating Station Equipment	$ 12,798,136.98	-10.00%	$ (1,279,813.70)	$ 1,935,279.01	44.00	34.82	$ 331,566.06	2.75%
	37900	City Gate Stations	$ 13,553,819.85	-15.00%	$ (2,033,072.98)	$ 1,574,642.11	40.00	33.48	$ 317,760.81	3.04%
	38000	Services	$ 151,987,250.34	-60.00%	$ (91,192,350.20)	$ 73,726,213.04	50.00	38.00	$ 4,216,086.16	2.87%
	38100	Meters	$ 48,968,723.73	-1.00%	$ (489,687.24)	$ 14,407,042.96	38.00	24.48	$ 1,221,908.93	2.78%
	38101	AMI Devices	$ 339,538.31	-1.00%	$ (3,395.38)	$ 131,225.85	15.00	10.50	$ 24,922.08	7.34%
	38300	House Regulators	$ 19,929,158.10	-5.00%	$ (996,457.91)	$ 10,642,236.15	44.00	30.73	$ 331,927.38	1.69%
	38500	Industrial Measuring & Regulating Equipment	$ 2,623,148.60	-5.00%	$ (131,157.43)	$ 833,636.43	36.00	22.65	$ 69,180.09	3.07%
Total Distribution Plant			**$ 463,403,572.89**	**-41.38%**	**$ (191,741,045.07)**	**$ 179,961,375.01**			**$ 10,661,430.93**	**2.30%**
General Plant										
	39000	Structures & Improvements	$ 20,237,655.90	-5.00%	$ (1,011,882.80)	$ 3,851,910.17	55.00	41.43	$ 321,159.94	2.37%
	39216	Autos & Light Duty Trucks	$ 6,002,356.46	25.00%	$ 1,500,589.12	$ 1,528,033.20	8.00	4.82	$ 606,474.63	10.03%
	39269	Trailers & Trailer Mounted Equipment	$ 92,528.20	30.00%	$ 27,758.46	$ 54,343.50	15.00	14.25	$ 786.48	0.85%
	39618	Power Operated Equipment	$ 399,028.44	10.00%	$ 39,902.84	$ 166,953.15	14.00	9.62	$ 15,967.60	4.75%
Total General Plant			**$ 26,731,569.00**	**2.08%**	**$ 556,367.62**	**$ 5,601,240.02**			**$ 944,388.65**	**3.53%**
Total Depreciable Gas Plant			**$ 499,030,394.77**	**-39.05%**	**$ (194,854,510.29)**	**$ 189,064,186.52**			**$ 11,881,578.20**	**2.38%**

MINNESOTA ENERGY RESOURCES CORPORATION
Computation of Proposed Depreciation Rate
STATEMENT 2A

Functional Class	Utility Account	Account Description	Ending Plant Balance (December 31, 2018) From Statement 1A	Ending Reserve Balance (December 31, 2018) From Statement 1B	Percent of Recorded Reserve	Variable Group Average Service Life From Statement 1C	Remaining Life (Calculated)	Net Salvage From Statement 1C	Proposed Depreciation Rate	Present Depreciation Rate From Statement 1C	Proposed Annual Depreciation Expense	Present Annual Depreciation Expense	Change in Annual Depreciation Expense
A	B	C	D	E	F=E/D	G	H	I	J=(1-F-I)/H	K	L=D*J	M=D*K	N=L-M
Transmission Plant													
	36700	Mains	$ 8,062,675.51	$ 3,569,488.01	44.27%	65.00	48.36	-30.00%	1.77%	1.79%	$ 142,928	$ 144,322	$ (1,394)
	36900	Measuring & Regulating Station Equipment	$ 981,504.33	$ 85,239.99	8.68%	30.00	16.62	-30.00%	7.30%	8.81%	$ 71,644	$ 86,471	$ (14,827)
Total Transmission Plant			**$ 9,044,179.84**	**$ 3,654,728.00**	**40.41%**			**-30.00%**	**2.37%**	**2.55%**	**$ 214,572**	**$ 230,793**	**$ (16,221)**
Distribution Plant													
	37403	Easements	$ 596,817.87	$ 292,067.83	48.94%	25.00	12.50	0.00%	4.08%	4.08%	$ 24,380	$ 24,350	$ 30
	37506	Structures & Improvements	$ 145,075.92	$ 127,466.05	87.86%	35.00	7.77	-10.00%	2.85%	6.26%	$ 4,134	$ 9,082	$ (4,948)
	37600	Mains	$ 240,096,719.59	$ 78,423,886.06	32.66%	65.00	54.20	-30.00%	1.80%	1.71%	$ 4,311,842	$ 4,105,654	$ 206,188
	37800	Measuring & Regulating Station Equipment	$ 14,190,686.30	$ 2,528,376.38	17.82%	35.00	25.62	-15.00%	3.79%	4.03%	$ 538,287	$ 571,885	$ (33,598)
	37900	City Gate Stations	$ 15,567,492.96	$ 2,015,096.14	12.94%	35.00	29.28	-40.00%	4.34%	4.46%	$ 675,526	$ 694,310	$ (18,784)
	38000	Services	$ 161,810,219.57	$ 75,229,792.61	46.49%	56.00	45.10	-55.00%	2.41%	2.32%	$ 3,893,039	$ 3,753,997	$ 139,042
	38100	Meters	$ 51,213,359.54	$ 13,146,898.91	25.67%	39.00	27.96	-1.00%	2.69%	2.53%	$ 1,379,778	$ 1,295,698	$ 84,080
	38101	AMI Devices	$ 350,526.72	$ 150,729.11	43.00%	15.00	8.89	0.00%	6.41%	6.51%	$ 22,474	$ 22,819	$ (345)
	38300	House Regulators	$ 19,956,724.62	$ 10,699,386.42	53.61%	48.00	32.98	-5.00%	1.56%	1.50%	$ 310,951	$ 299,351	$ 11,600
	38500	Industrial Measuring & Regulating Equipment	$ 2,880,317.42	$ 871,347.95	30.25%	40.00	29.62	-10.00%	2.69%	2.64%	$ 77,549	$ 76,040	$ 1,509
Total Distribution Plant			**$ 506,807,940.51**	**$ 183,485,047.46**	**36.20%**			**-33.78%**	**2.22%**	**2.14%**	**$ 11,237,960**	**$ 10,853,186**	**$ 384,774**
General Plant													
	39000	Structures & Improvements - Rochester*	$ 3,241,516.59	$ 468,524.05	14.45%	**	41.50	-10.00%	2.30%	2.37%	$ 74,630	$ 76,824	$ (2,194)
	39000	Structures & Improvements - Rosemount*	$ 6,949,317.28	$ 145,221.02	2.09%	**	50.10	-10.00%	2.15%	2.37%	$ 149,681	$ 164,699	$ (15,018)
	39000	Structures & Improvements - Minor *	$ 9,362,101.53	$ 1,964,542.22	20.98%	45.00	30.70	-10.00%	2.90%	2.37%	$ 271,458	$ 221,882	$ 49,576
	39216	Autos & Light Duty Trucks	$ 6,843,278.88	$ 2,194,218.48	32.06%	8.00	4.47	20.00%	10.72%	12.07%	$ 733,871	$ 825,984	$ (92,113)
	39269	Trailers & Trailer Mounted Equipment	$ 92,528.20	$ 57,202.62	61.82%	16.00	12.07	15.00%	1.92%	1.97%	$ 1,777	$ 1,823	$ (46)
	39618	Power Operated Equipment	$ 399,028.44	$ 174,511.64	43.73%	18.00	12.65	10.00%	3.66%	3.20%	$ 14,594	$ 12,769	$ 1,825
Total General Plant			**$ 26,887,770.92**	**$ 5,004,220.03**	**18.61%**			**-1.98%**	**4.63%**	**4.85%**	**$ 1,246,011**	**$ 1,303,981**	**$ (57,970)**
Total Depreciable Gas Plant			**$ 542,739,891.27**	**$ 192,143,995.49**	**35.40%**			**-32.14%**	**2.34%**	**2.28%**	**$ 12,698,543**	**$ 12,387,960**	**$ 310,583**

Footnotes:

*New depreciation attributes have been assigned. See Attachment 3 for supporting schedules.

**R2.5 curve was selected for the interim retirement curve to establish a remaining life. Each location in the account is assigned an indivdiual probable retirement year.

Attachment 2

Calculated Remaining Life

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-36700-Mains

Survivor Curve:	R2
Average Service Life:	65
Net Salvage Percent:	-30
Remaining Life (Years):	48.36

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1965	$40,049.62	$32,800.64	$42,948.85	$9,115.66	24.05	$379.03
1966	$0.00	$0.00	$0.00	$0.00	24.64	$0.00
1991	$536,564.66	$249,287.94	$326,415.29	$371,118.77	41.77	$8,884.82
1992	$1,188,949.09	$533,838.14	$699,002.64	$846,631.18	42.55	$19,897.32
1994	$0.00	$0.00	$0.00	$0.00	44.12	$0.00
1998	$1,035,642.99	$366,203.36	$479,503.24	$866,832.65	47.32	$18,318.53
1999	$3,469,094.89	$1,169,778.80	$1,531,697.35	$2,978,126.00	48.14	$61,863.86
2000	$844,537.67	$270,927.68	$354,750.16	$743,148.81	48.96	$15,178.69
2002	$16.92	$4.87	$6.38	$15.62	50.61	$0.31
2003	$341.73	$92.61	$121.26	$322.99	51.45	$6.28
2005	$0.00	$0.00	$0.00	$0.00	53.13	$0.00
2010	$308,032.34	$46,574.49	$60,984.20	$339,457.84	57.44	$5,909.78
2012	$119,761.95	$13,916.34	$18,221.92	$137,468.61	59.19	$2,322.50
2013	$43,727.23	$4,311.50	$5,645.44	$51,199.96	60.07	$852.34
2014	$468,906.36	$37,887.63	$49,609.71	$559,968.56	60.96	$9,185.84
2015	$7,050.06	$444.15	$581.57	$8,583.51	61.85	$138.78
	$8,062,675.51	$2,726,068.16	$3,569,488.01	$6,911,990.15		$142,938.06

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-36900-Measuring & Reg Equip

Survivor Curve:	S2
Average Service Life:	30
Net Salvage Percent:	-30
Remaining Life (Years):	16.62

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1951	$453.29	$589.28	$589.28	$0.00	0	$0.00
1952	$1,673.37	$2,175.38	$2,175.38	$0.00	0	$0.00
1971	$12,046.02	$14,375.72	$3,604.41	$12,055.41	2.46	$4,900.57
1975	$713.92	$822.91	$206.33	$721.77	3.4	$212.28
1976	$183.46	$209.48	$52.52	$185.98	3.65	$50.95
1977	$958.96	$1,084.17	$271.83	$974.82	3.91	$249.31
1978	$111.64	$124.91	$31.32	$113.81	4.18	$27.23
1979	$64,259.98	$71,146.51	$17,838.50	$65,699.47	4.45	$14,763.93
1982	$15,000.00	$16,035.50	$4,020.57	$15,479.43	5.33	$2,904.21
1983	$15,000.00	$15,827.50	$3,968.42	$15,531.58	5.65	$2,748.95
1993	$28,280.78	$25,036.97	$6,277.50	$30,487.51	9.57	$3,185.74
1997	$11,384.90	$9,038.09	$2,266.11	$12,534.26	11.68	$1,073.14
2006	$15,740.26	$8,150.83	$2,043.65	$18,418.69	18.05	$1,020.43
2007	$5,086.30	$2,444.31	$612.86	$5,999.33	18.91	$317.26
2011	$66,499.17	$21,381.70	$5,361.02	$81,087.91	22.58	$3,591.14
2012	$240,933.15	$67,445.22	$16,910.48	$296,302.61	23.54	$12,587.20
2013	$107,575.32	$25,545.55	$6,405.02	$133,442.90	24.52	$5,442.21
2014	$75,561.62	$14,701.77	$3,686.16	$94,543.94	25.51	$3,706.15
2015	$169,685.32	$25,735.61	$6,452.67	$214,138.25	26.5	$8,080.69
2016	$1,429.91	$154.91	$38.84	$1,820.04	27.5	$66.18
2017	$148,926.96	$9,680.25	$2,427.12	$191,177.93	28.5	$6,708.00
	$981,504.33	$331,706.57	$85,239.99	$1,190,715.64		$71,635.56

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-37403-Easements

Survivor Curve:	SQ
Average Service Life:	25
Net Salvage Percent:	0
Remaining Life (Years):	12.50

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2006	$596,817.87	$298,408.94	$292,067.83	$304,750.04	12.5	$24,380.00
	$596,817.87	$298,408.94	$292,067.83	$304,750.04		$24,380.00

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group: 3750 RCG01 Struct & Improvement

Survivor Curve:	S2
Average Service Life:	35
Net Salvage Percent:	-10
Remaining Life (Years):	7.77

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1932	$15,520.12	$17,072.13	$17,072.13	$0.00	0	$0.00
1933	$480.97	$529.07	$529.07	$0.00	0	$0.00
1936	$886.59	$975.25	$975.25	$0.00	0	$0.00
1939	$365.65	$402.22	$402.22	$0.00	0	$0.00
1944	$677.83	$745.61	$745.61	$0.00	0	$0.00
1949	$2,147.43	$2,362.17	$2,362.17	$0.00	0	$0.00
1950	$1,858.29	$2,044.12	$2,044.12	$0.00	0	$0.00
1952	$551.26	$594.78	$588.45	$17.94	0.67	$26.78
1953	$183.59	$197.16	$195.06	$6.89	0.83	$8.30
1954	$1,878.52	$2,006.74	$1,985.38	$80.99	1.01	$80.19
1955	$532.99	$566.19	$560.16	$26.13	1.2	$21.77
1956	$47.40	$50.07	$49.54	$2.60	1.39	$1.87
1957	$1,246.87	$1,309.25	$1,295.31	$76.25	1.59	$47.95
1958	$1,095.68	$1,143.61	$1,131.43	$73.81	1.79	$41.24
1960	$4,988.03	$5,141.95	$5,087.21	$399.63	2.2	$181.65
1961	$745.47	$763.32	$755.19	$64.82	2.42	$26.79
1964	$214.36	$215.05	$212.76	$23.04	3.08	$7.48
1965	$2,756.54	$2,745.44	$2,716.21	$315.99	3.31	$95.46
1966	$27,748.11	$27,435.75	$27,143.67	$3,379.25	3.54	$954.59
1967	$5,962.67	$5,850.57	$5,788.29	$770.65	3.78	$203.88
1968	$716.59	$697.49	$690.06	$98.19	4.03	$24.36
1969	$1,418.65	$1,369.69	$1,355.11	$205.41	4.28	$47.99
1970	$4,288.73	$4,105.66	$4,061.96	$655.65	4.54	$144.42
1971	$5,409.32	$5,132.52	$5,077.88	$872.37	4.81	$181.37
1972	$391.26	$367.92	$364.00	$66.38	5.08	$13.07
1973	$53.61	$49.94	$49.41	$9.56	5.36	$1.78
1974	$2,025.24	$1,868.14	$1,848.25	$379.51	5.65	$67.17
1975	$5,099.39	$4,657.35	$4,607.77	$1,001.56	5.94	$168.61
1976	$413.45	$373.58	$369.60	$85.19	6.25	$13.63
1979	$159.62	$139.36	$137.88	$37.70	7.22	$5.22
1980	$2,280.45	$1,966.66	$1,945.72	$562.77	7.56	$74.44
1982	$835.66	$701.50	$694.03	$225.19	8.29	$27.16
1985	$376.17	$301.71	$298.50	$115.29	9.48	$12.16
1986	$6,308.92	$4,974.85	$4,921.89	$2,017.92	9.91	$203.62
1988	$11,113.18	$8,448.87	$8,358.93	$3,865.57	10.81	$357.59
1994	$17,793.00	$11,760.16	$11,634.96	$7,937.34	13.97	$568.17
1995	$7,450.00	$4,783.54	$4,732.61	$3,462.39	14.57	$237.64
1997	$1,035.22	$623.05	$616.42	$522.32	15.85	$32.95
2001	$8,019.09	$4,105.54	$4,061.84	$4,759.16	18.71	$254.36
	$145,075.92	$128,577.96	$127,466.05	$32,117.46		$4,133.68

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-37600-Mains

Survivor Curve:	R2
Average Service Life:	65
Net Salvage Percent:	-30
Remaining Life (Years):	54.20

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1953	$357,834.78	$338,153.87	$442,231.76	$22,953.45	17.75	$1,293.15
1954	$299,283.06	$280,009.23	$366,191.22	$22,876.76	18.22	$1,255.59
1955	$134,310.70	$124,344.85	$162,616.03	$11,987.88	18.71	$640.72
1956	$81,343.37	$74,510.53	$97,443.58	$8,302.81	19.2	$432.44
1957	$136,016.01	$123,230.51	$161,158.72	$15,662.10	19.7	$795.03
1958	$163,322.05	$146,303.89	$191,333.69	$20,984.97	20.21	$1,038.35
1959	$627,830.78	$555,755.81	$726,807.81	$89,372.21	20.74	$4,309.17
1960	$804,629.32	$703,728.80	$920,324.33	$125,693.79	21.27	$5,909.44
1961	$1,359,848.73	$1,174,637.33	$1,536,170.34	$231,633.01	21.81	$10,620.50
1962	$259,659.11	$221,437.29	$289,591.85	$47,965.00	22.36	$2,145.13
1963	$216,674.00	$182,396.17	$238,534.55	$43,141.65	22.91	$1,883.09
1964	$276,185.50	$229,344.44	$299,932.68	$59,108.47	23.48	$2,517.40
1965	$2,013,585.80	$1,649,126.77	$2,156,699.40	$460,962.14	24.05	$19,166.83
1966	$2,314,331.61	$1,868,128.48	$2,443,106.03	$565,525.06	24.64	$22,951.50
1967	$1,094,439.48	$870,517.16	$1,138,447.25	$284,324.07	25.23	$11,269.29
1968	$753,572.26	$590,348.51	$772,047.54	$207,596.39	25.83	$8,037.03
1969	$1,024,649.28	$790,209.52	$1,033,422.31	$298,621.75	26.44	$11,294.32
1970	$1,578,384.16	$1,197,677.90	$1,566,302.39	$485,597.02	27.06	$17,945.20
1971	$1,672,517.37	$1,248,032.46	$1,632,155.21	$542,117.37	27.69	$19,578.09
1972	$699,644.56	$513,259.25	$671,231.55	$238,306.38	28.32	$8,414.77
1973	$647,051.10	$466,394.43	$609,942.55	$231,223.88	28.96	$7,984.25
1974	$649,542.40	$459,746.11	$601,247.99	$243,157.13	29.61	$8,211.99
1975	$625,889.64	$434,742.94	$568,549.28	$245,107.25	30.27	$8,097.37
1976	$222,681.64	$151,690.73	$198,378.51	$91,107.62	30.94	$2,944.65
1977	$290,620.33	$194,076.26	$253,809.56	$123,996.87	31.61	$3,922.71
1978	$658,676.22	$430,905.98	$563,531.37	$292,747.71	32.29	$9,066.20
1979	$679,296.16	$435,021.26	$568,913.26	$314,171.75	32.98	$9,526.13
1980	$1,988,581.28	$1,246,045.03	$1,629,556.08	$955,599.58	33.67	$28,381.34
1981	$1,682,018.91	$1,030,068.38	$1,347,105.57	$839,519.02	34.38	$24,418.82
1982	$1,429,879.40	$855,353.86	$1,118,616.94	$740,226.28	35.09	$21,095.08
1983	$1,187,636.74	$693,579.86	$907,051.71	$636,876.05	35.8	$17,789.83
1984	$1,606,121.49	$914,525.58	$1,196,000.69	$891,957.25	36.53	$24,417.12
1985	$1,840,109.06	$1,020,892.51	$1,335,105.52	$1,057,036.26	37.26	$28,369.20
1986	$1,604,065.08	$866,515.96	$1,133,214.54	$952,070.06	37.99	$25,061.07
1987	$1,688,807.10	$886,961.49	$1,159,952.86	$1,035,496.37	38.74	$26,729.38
1988	$2,113,738.97	$1,078,429.62	$1,410,351.56	$1,337,509.10	39.49	$33,869.56
1989	$2,411,280.90	$1,194,066.30	$1,561,579.21	$1,573,085.96	40.24	$39,092.59
1990	$4,029,115.50	$1,933,169.62	$2,528,165.71	$2,709,684.44	41.01	$66,073.75
1991	$6,902,576.53	$3,206,937.06	$4,193,976.68	$4,779,372.81	41.77	$114,421.18
1992	$5,504,276.76	$2,471,420.27	$3,232,080.57	$3,923,479.22	42.55	$92,208.68
1993	$2,382,633.71	$1,032,633.45	$1,350,460.12	$1,746,963.70	43.33	$40,317.65
1994	$2,608,166.69	$1,089,170.41	$1,424,398.18	$1,966,218.52	44.12	$44,565.24
1995	$3,868,567.46	$1,554,390.41	$2,032,804.82	$2,996,332.88	44.91	$66,718.61
1996	$2,631,681.85	$1,015,302.86	$1,327,795.47	$2,093,390.93	45.71	$45,797.22
1997	$3,299,571.14	$1,220,181.41	$1,595,732.09	$2,693,710.39	46.51	$57,916.80
1998	$1,898,835.39	$671,428.19	$878,082.15	$1,590,403.86	47.32	$33,609.55
1999	$544,641.43	$183,653.09	$240,178.33	$467,855.53	48.14	$9,718.64
2000	$4,449,938.25	$1,427,540.19	$1,866,912.31	$3,918,007.42	48.96	$80,024.66
2001	$4,006,771.86	$1,219,661.35	$1,595,051.97	$3,613,751.45	49.78	$72,594.44
2002	$5,928,050.19	$1,706,092.84	$2,231,198.64	$5,475,266.61	50.61	$108,185.47
2003	$7,407,511.07	$2,007,435.50	$2,625,289.34	$7,004,475.05	51.45	$136,141.40
2004	$4,560,003.95	$1,159,153.00	$1,515,920.20	$4,412,084.94	52.29	$84,377.22
2005	$6,538,057.36	$1,552,134.82	$2,029,855.00	$6,469,619.57	53.13	$121,769.61
2006	$7,440,276.21	$1,638,348.82	$2,142,604.18	$7,529,754.89	53.99	$139,465.73

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group 3760 RCG01 Gas Mains

Survivor Curve:	R2
Average Service Life:	65
Net Salvage Percent:	-30
Remaining Life (Years):	54.20

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2007	$5,931,295.96	$1,205,239.34	$1,576,191.11	$6,134,493.64	54.84	$111,861.66
2008	$8,120,494.82	$1,510,412.04	$1,975,290.67	$8,581,352.59	55.7	$154,063.78
2009	$6,192,111.59	$1,043,990.01	$1,365,312.04	$6,684,433.03	56.57	$118,162.15
2010	$5,495,722.03	$830,953.17	$1,086,706.15	$6,057,732.49	57.44	$105,461.92
2011	$2,658,119.70	$355,656.42	$465,121.29	$2,990,434.32	58.31	$51,285.10
2012	$6,726,972.02	$781,674.15	$1,022,259.90	$7,722,803.73	59.19	$130,474.81
2013	$7,658,585.63	$755,136.54	$987,554.48	$8,968,606.84	60.07	$149,302.59
2014	$9,823,214.26	$793,715.71	$1,038,007.65	$11,732,170.89	60.96	$192,456.87
2015	$15,027,430.31	$946,728.11	$1,238,114.61	$18,297,544.80	61.85	$295,837.43
2016	$14,930,099.26	$674,840.49	$882,544.69	$18,526,584.35	62.74	$295,291.43
2017	$17,739,223.45	$482,506.88	$631,014.13	$22,429,976.36	63.64	$352,450.92
2018	$28,598,716.86	$257,388.45	$336,608.15	$36,841,723.76	64.55	$570,747.08
	$240,096,719.59	$59,967,063.65	$78,423,886.06	$233,701,849.41		$4,311,775.92

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-37800-Measuring & Reg Equipment

Survivor Curve:	S0.5
Average Service Life:	35
Net Salvage Percent:	-15
Remaining Life (Years):	25.62

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1959	$848.63	$875.26	$577.45	$398.47	3.61	$110.38
1967	$17,285.97	$16,289.31	$10,746.76	$9,132.10	6.32	$1,444.95
1972	$3,438.06	$3,039.88	$2,005.54	$1,948.23	8.09	$240.82
1973	$29,709.49	$25,917.29	$17,098.75	$17,067.16	8.45	$2,019.78
1974	$26,495.21	$22,791.18	$15,036.33	$15,433.16	8.82	$1,749.79
1975	$30,482.24	$25,850.25	$17,054.52	$18,000.05	9.19	$1,958.66
1976	$36,006.00	$30,085.07	$19,848.42	$21,558.48	9.57	$2,252.71
1977	$18,067.79	$14,871.08	$9,811.10	$10,966.86	9.95	$1,102.20
1978	$117,587.45	$95,276.07	$62,857.74	$72,367.82	10.34	$6,998.82
1979	$50,952.72	$40,631.88	$26,806.61	$31,789.02	10.73	$2,962.63
1980	$116,240.23	$91,167.21	$60,146.95	$73,529.31	11.13	$6,606.41
1981	$81,345.97	$62,703.80	$41,368.41	$52,179.46	11.54	$4,521.62
1982	$122,503.00	$92,778.52	$61,210.00	$79,668.45	11.95	$6,666.82
1983	$38,548.24	$28,662.82	$18,910.10	$25,420.38	12.37	$2,055.00
1984	$29,327.76	$21,402.14	$14,119.92	$19,607.01	12.79	$1,532.99
1985	$77,923.71	$55,764.43	$36,790.21	$52,822.06	13.22	$3,995.62
1986	$33,505.16	$23,492.86	$15,499.26	$23,031.68	13.66	$1,686.07
1987	$72,344.26	$49,656.07	$32,760.25	$50,435.65	14.11	$3,574.46
1988	$135,129.12	$90,752.72	$59,873.49	$95,525.00	14.56	$6,560.78
1989	$232,597.68	$152,697.05	$100,740.85	$166,746.48	15.02	$11,101.63
1990	$179,788.37	$115,252.05	$76,036.76	$130,719.87	15.49	$8,438.98
1991	$275,816.44	$172,369.51	$113,719.62	$203,469.29	15.98	$12,732.75
1992	$593,476.98	$361,334.22	$238,387.81	$444,110.72	16.47	$26,964.83
1993	$271,382.51	$160,770.88	$106,067.50	$206,022.39	16.97	$12,140.39
1994	$132,742.08	$76,413.93	$50,413.57	$102,239.82	17.48	$5,848.96
1995	$42,113.86	$23,523.60	$15,519.54	$32,911.40	18	$1,828.41
1996	$120,176.23	$64,994.74	$42,879.84	$95,322.83	18.54	$5,141.47
1997	$112,898.06	$59,018.27	$38,936.90	$90,895.87	19.09	$4,761.44
1998	$221,139.88	$111,533.48	$73,583.46	$180,727.40	19.65	$9,197.32
1999	$89,009.82	$43,225.71	$28,517.87	$73,843.42	20.22	$3,652.00
2000	$69,525.33	$32,438.53	$21,401.10	$58,553.03	20.8	$2,815.05
2001	$96,643.33	$43,154.01	$28,470.56	$82,669.26	21.41	$3,861.25
2002	$204,066.52	$87,031.46	$57,418.41	$177,258.08	22.02	$8,049.87
2003	$13,003.94	$5,276.81	$3,481.34	$11,473.19	22.65	$506.54
2004	$3,308.54	$1,271.90	$839.13	$2,965.70	23.3	$127.28
2005	$198,930.40	$72,095.22	$47,564.33	$181,205.63	23.97	$7,559.68
2006	$553,872.92	$188,356.36	$124,266.83	$512,687.03	24.65	$20,798.66
2007	$96,732.76	$30,671.19	$20,235.11	$91,007.56	25.35	$3,590.04
2008	$103,803.36	$30,457.39	$20,094.06	$99,279.81	26.07	$3,808.20
2009	$52,367.11	$14,091.99	$9,297.09	$50,925.08	26.81	$1,899.48
2010	$315,164.69	$76,837.15	$50,692.79	$311,746.60	27.58	$11,303.36
2011	$1,148,054.12	$250,472.61	$165,247.61	$1,155,014.63	28.36	$40,726.89
2012	$1,687,801.50	$323,865.00	$213,667.74	$1,727,303.99	29.16	$59,235.39
2013	$340,666.75	$56,078.61	$36,997.49	$354,769.28	29.99	$11,829.59
2014	$1,024,913.93	$140,091.09	$92,424.15	$1,086,226.87	30.84	$35,221.36
2015	$1,964,204.82	$211,685.16	$139,657.85	$2,119,177.69	31.72	$66,808.88
2016	$780,144.70	$61,007.32	$40,249.16	$856,917.24	32.62	$26,269.69
2017	$1,219,316.94	$58,091.74	$38,325.63	$1,363,888.85	33.55	$40,652.42
2018	$1,009,281.72	$16,249.44	$10,720.46	$1,149,953.52	34.51	$33,322.33
	$14,190,686.30	$3,832,364.25	$2,528,376.38	$13,790,912.87		$538,234.66

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-37900-City Gate Stations

Survivor Curve:	S2
Average Service Life:	35
Net Salvage Percent:	-40
Remaining Life (Years):	29.28

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1931	$2,510.06	$3,514.08	$3,514.08	$0.00	0	$0.00
1942	$1,255.03	$1,757.04	$1,757.04	$0.00	0	$0.00
1949	$552.55	$773.57	$773.57	$0.00	0	$0.00
1950	$702.48	$983.47	$983.47	$0.00	0	$0.00
1953	$2,510.06	$3,430.75	$2,305.27	$1,208.82	0.83	$1,456.41
1954	$2,529.67	$3,439.34	$2,311.04	$1,230.50	1.01	$1,218.32
1958	$4,216.11	$5,600.68	$3,763.34	$2,139.22	1.79	$1,195.09
1959	$3,372.89	$4,452.21	$2,991.63	$1,730.41	2	$865.21
1961	$3,216.01	$4,191.10	$2,816.18	$1,686.23	2.42	$696.79
1965	$6,808.04	$8,629.87	$5,798.78	$3,732.48	3.31	$1,127.64
1966	$7,242.36	$9,113.79	$6,123.94	$4,015.36	3.54	$1,134.28
1967	$6,847.83	$8,551.57	$5,746.16	$3,840.80	3.78	$1,016.08
1968	$799.69	$990.66	$665.66	$453.90	4.03	$112.63
1969	$3,524.17	$4,330.50	$2,909.85	$2,023.99	4.28	$472.90
1970	$5,074.73	$6,183.05	$4,154.65	$2,949.97	4.54	$649.77
1971	$4,930.69	$5,954.30	$4,000.95	$2,902.02	4.81	$603.33
1972	$10,905.59	$13,051.81	$8,770.07	$6,497.76	5.08	$1,279.09
1973	$4,480.98	$5,312.65	$3,569.80	$2,703.58	5.36	$504.40
1974	$2,225.69	$2,612.96	$1,755.76	$1,360.21	5.65	$240.74
1975	$4,431.75	$5,151.47	$3,461.49	$2,742.96	5.94	$461.78
1976	$6,342.12	$7,293.44	$4,900.77	$3,978.20	6.25	$636.51
1977	$3,305.57	$3,760.42	$2,526.78	$2,101.01	6.56	$320.28
1978	$634.93	$714.17	$479.88	$409.02	6.88	$59.45
1979	$3,740.99	$4,156.99	$2,793.26	$2,444.13	7.22	$338.52
1981	$1,927.90	$2,088.30	$1,403.22	$1,295.84	7.92	$163.62
1982	$6,360.45	$6,795.50	$4,566.19	$4,338.44	8.29	$523.33
1985	$1,949.35	$1,989.90	$1,337.10	$1,391.99	9.48	$146.83
1987	$21,255.70	$20,958.12	$14,082.65	$15,675.33	10.35	$1,514.52
1988	$1,554.41	$1,504.05	$1,010.63	$1,165.54	10.81	$107.82
1989	$5,490.75	$5,207.43	$3,499.09	$4,187.96	11.29	$370.94
1990	$41,080.00	$38,155.10	$25,638.04	$31,873.96	11.78	$2,705.77
1991	$161,241.31	$146,407.11	$98,377.16	$127,360.68	12.3	$10,354.53
1992	$61,696.52	$54,712.47	$36,763.64	$49,611.49	12.83	$3,866.83
1993	$93,438.01	$80,767.82	$54,271.33	$76,541.89	13.39	$5,716.35
1994	$23,368.37	$19,657.47	$13,208.69	$19,507.03	13.97	$1,396.35
1995	$41,323.00	$33,769.16	$22,690.93	$35,161.27	14.57	$2,413.26
1996	$22,852.70	$18,099.34	$12,161.71	$19,832.07	15.2	$1,304.74
1997	$212,834.52	$163,031.24	$109,547.62	$188,420.71	15.85	$11,887.74
1998	$46,938.18	$34,677.93	$23,301.57	$42,411.88	16.53	$2,565.75
1999	$52,662.29	$37,432.36	$25,152.39	$48,574.82	17.23	$2,819.20
2000	$48,637.67	$33,151.44	$22,275.86	$45,816.88	17.96	$2,551.05
2001	$246,076.71	$160,343.58	$107,741.67	$236,765.73	18.71	$12,654.50
2005	$34,055.71	$17,722.59	$11,908.56	$35,769.43	21.99	$1,626.62
2006	$120,324.53	$58,381.46	$39,228.98	$129,225.36	22.87	$5,650.43
2007	$153,932.88	$69,146.65	$46,462.57	$169,043.46	23.77	$7,111.63
2008	$90,257.48	$37,222.18	$25,011.17	$101,349.30	24.69	$4,104.87
2009	$172,047.37	$64,483.35	$43,329.11	$197,537.21	25.63	$7,707.27
2010	$407,350.32	$137,195.59	$92,187.54	$478,102.90	26.58	$17,987.32
2011	$1,208,274.02	$360,065.66	$241,943.41	$1,449,640.22	27.55	$52,618.52
2012	$621,528.49	$160,851.57	$108,083.01	$762,056.88	28.53	$26,710.72
2013	$206,641.77	$45,378.53	$30,491.76	$258,806.71	29.51	$8,770.14
2014	$1,818,477.96	$326,598.64	$219,455.50	$2,326,413.64	30.51	$76,250.86
2015	$1,658,576.83	$232,200.76	$156,025.55	$2,165,982.01	31.5	$68,761.33
2016	$2,691,317.90	$269,131.79	$180,841.08	$3,587,003.98	32.5	$110,369.35

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-37900-City Gate Stations

Survivor Curve:	S2
Average Service Life:	35
Net Salvage Percent:	-40
Remaining Life (Years):	29.28

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2017	$3,509,153.51	$210,549.21	$141,476.96	$4,771,337.95	33.5	$142,428.00
2018	$1,692,706.36	$33,854.13	$22,748.03	$2,347,040.88	34.5	$68,030.17
	$15,567,492.96	$2,995,480.32	$2,015,096.14	$19,779,394.01		$675,579.60

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38000-Services

Survivor Curve:	R2
Average Service Life:	56
Net Salvage Percent:	-55
Remaining Life (Years):	45.10

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1953	$111,860.06	$137,963.40	$173,383.09	$0.00	11.44	$0.00
1954	$96,086.89	$117,472.23	$148,934.68	$0.00	11.83	$0.00
1955	$7,319.21	$8,869.18	$11,344.78	$0.00	12.22	$0.00
1956	$22,841.28	$27,425.44	$35,403.98	$0.00	12.62	$0.00
1957	$72,375.69	$86,059.87	$112,182.32	$0.00	13.04	$0.00
1958	$110,593.99	$130,218.50	$171,420.68	$0.00	13.46	$0.00
1959	$179,024.80	$208,661.40	$277,488.44	$0.00	13.89	$0.00
1960	$161,225.72	$185,907.65	$249,180.71	$719.16	14.34	$50.15
1961	$283,031.17	$322,834.96	$432,710.77	$5,987.54	14.79	$404.84
1962	$150,461.56	$169,664.22	$227,408.88	$5,806.54	15.26	$380.51
1963	$135,152.27	$150,642.89	$201,913.71	$7,572.31	15.73	$481.39
1964	$175,091.02	$192,784.59	$258,398.20	$12,992.88	16.22	$801.04
1965	$367,309.54	$399,445.85	$535,395.93	$33,933.86	16.71	$2,030.75
1966	$294,556.52	$316,169.60	$423,776.89	$32,785.71	17.22	$1,903.93
1967	$313,490.56	$331,980.90	$444,969.52	$40,940.85	17.74	$2,307.83
1968	$221,878.68	$231,710.68	$310,572.65	$33,339.31	18.27	$1,824.81
1969	$280,343.62	$288,576.21	$386,792.18	$47,740.43	18.81	$2,538.03
1970	$203,797.45	$206,679.73	$277,022.50	$38,863.55	19.36	$2,007.41
1971	$377,915.61	$377,402.72	$505,850.50	$79,918.69	19.92	$4,011.98
1972	$326,836.35	$321,236.36	$430,568.10	$76,028.24	20.49	$3,710.50
1973	$263,607.45	$254,858.98	$341,599.39	$66,992.15	21.07	$3,179.50
1974	$294,718.68	$280,124.84	$375,464.41	$81,349.54	21.66	$3,755.75
1975	$306,051.83	$285,814.15	$383,090.06	$91,290.27	22.26	$4,101.09
1976	$218,602.78	$200,456.80	$268,681.61	$70,152.70	22.87	$3,067.46
1977	$285,679.46	$257,063.05	$344,553.62	$98,249.55	23.49	$4,182.61
1978	$615,419.31	$543,041.60	$727,864.03	$226,035.90	24.12	$9,371.31
1979	$819,258.40	$708,395.18	$949,495.16	$320,355.36	24.76	$12,938.42
1980	$1,637,484.91	$1,386,438.00	$1,858,307.63	$679,793.98	25.41	$26,753.01
1981	$1,218,423.84	$1,009,703.48	$1,353,352.75	$535,204.20	26.06	$20,537.38
1982	$1,428,548.46	$1,157,341.09	$1,551,238.33	$663,011.78	26.73	$24,804.03
1983	$1,268,642.50	$1,003,915.32	$1,345,594.61	$620,801.27	27.41	$22,648.71
1984	$1,405,194.40	$1,085,525.22	$1,454,980.17	$723,071.15	28.09	$25,741.23
1985	$1,775,736.80	$1,337,859.13	$1,793,195.10	$959,196.94	28.78	$33,328.59
1986	$1,694,115.35	$1,243,541.17	$1,666,776.33	$959,102.46	29.48	$32,534.00
1987	$2,137,104.25	$1,526,712.93	$2,046,324.67	$1,266,186.92	30.19	$41,940.61
1988	$2,200,909.29	$1,528,433.25	$2,048,630.49	$1,362,778.91	30.91	$44,088.61
1989	$2,219,634.36	$1,497,202.83	$2,006,770.90	$1,433,662.35	31.63	$45,326.03
1990	$3,585,204.93	$2,345,876.41	$3,144,287.75	$2,412,779.89	32.36	$74,560.57
1991	$3,776,473.13	$2,393,677.03	$3,208,357.16	$2,645,176.19	33.1	$79,914.69
1992	$3,763,146.16	$2,307,110.99	$3,092,328.65	$2,740,547.90	33.85	$80,961.53
1993	$2,567,061.82	$1,519,815.20	$2,037,079.32	$1,941,866.50	34.61	$56,107.09
1994	$2,923,353.71	$1,669,261.07	$2,237,388.60	$2,293,809.65	35.37	$64,851.84
1995	$3,309,583.22	$1,819,266.08	$2,438,447.32	$2,691,406.67	36.14	$74,471.68
1996	$2,916,907.89	$1,540,439.89	$2,064,723.56	$2,456,483.67	36.92	$66,535.31
1997	$3,875,703.43	$1,963,113.00	$2,631,252.07	$3,376,088.25	37.7	$89,551.41
1998	$449,005.46	$217,611.30	$291,674.59	$404,283.87	38.49	$10,503.61
1999	$2,595,116.43	$1,200,264.52	$1,608,770.61	$2,413,659.85	39.29	$61,431.91
2000	$2,819,301.48	$1,241,524.72	$1,664,073.58	$2,705,843.71	40.09	$67,494.23
2001	$4,066,657.70	$1,699,645.06	$2,278,113.68	$4,025,205.75	40.9	$98,415.79
2002	$3,452,748.28	$1,364,698.76	$1,829,169.50	$3,522,590.33	41.72	$84,434.09
2003	$3,759,105.93	$1,400,468.34	$1,877,113.15	$3,949,501.05	42.54	$92,842.06
2004	$3,819,307.09	$1,335,154.74	$1,789,570.27	$4,130,355.72	43.37	$95,235.32
2005	$3,268,828.40	$1,067,622.70	$1,430,984.59	$3,635,699.43	44.2	$82,255.64
2006	$4,667,937.24	$1,416,052.10	$1,898,000.79	$5,337,301.93	45.04	$118,501.37

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group 3800 RCG01 Gas Services

Survivor Curve:	R2
Average Service Life:	56
Net Salvage Percent:	-55
Remaining Life (Years):	45.10

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2007	$5,246,279.41	$1,468,068.24	$1,967,720.45	$6,164,012.63	45.89	$134,321.48
2008	$4,605,721.22	$1,180,462.80	$1,582,229.44	$5,556,638.45	46.74	$118,884.01
2009	$3,726,728.40	$866,464.35	$1,161,362.65	$4,615,066.37	47.6	$96,955.18
2010	$4,193,905.12	$875,253.02	$1,173,142.52	$5,327,410.42	48.46	$109,934.18
2011	$6,077,864.14	$1,122,071.40	$1,503,964.72	$7,916,724.70	49.33	$160,484.99
2012	$7,525,948.46	$1,208,183.51	$1,619,384.81	$10,045,835.31	50.2	$200,116.24
2013	$6,759,588.76	$920,511.14	$1,233,804.09	$9,243,558.49	51.08	$180,962.38
2014	$7,455,208.08	$831,588.52	$1,114,616.95	$10,440,955.58	51.97	$200,903.51
2015	$6,571,376.81	$572,941.92	$767,940.82	$9,417,693.24	52.85	$178,196.66
2016	$9,024,039.19	$561,988.15	$753,258.98	$13,234,001.76	53.75	$246,213.99
2017	$10,199,573.53	$383,941.09	$514,614.18	$15,294,724.79	54.64	$279,918.10
2018	$11,128,220.09	$138,605.96	$185,780.04	$17,062,961.10	55.55	$307,164.02
	$161,810,219.57	$56,149,815.43	$75,229,792.61	$175,576,047.72		$3,892,874.42

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38100-Meters

Survivor Curve:	S1
Average Service Life:	39
Net Salvage Percent:	-1
Remaining Life (Years):	27.96

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1905	$2,030,191.94	$2,050,493.86	$2,050,493.86	$0.00	0	$0.00
1966	$134,831.32	$110,061.08	$93,359.46	$42,820.17	7.48	$5,724.62
1967	$183,167.38	$147,904.37	$125,460.09	$59,538.97	7.82	$7,613.68
1968	$236,757.97	$189,031.81	$160,346.50	$78,779.05	8.17	$9,642.48
1969	$68,244.15	$53,886.46	$45,709.26	$23,217.33	8.51	$2,728.24
1970	$98,282.65	$76,688.94	$65,051.50	$34,213.97	8.87	$3,857.27
1971	$113,128.22	$87,218.09	$73,982.86	$40,276.64	9.23	$4,363.67
1972	$109,496.02	$83,396.94	$70,741.57	$39,849.41	9.59	$4,155.31
1973	$178,223.55	$134,035.08	$113,695.44	$66,310.35	9.96	$6,657.67
1974	$245,528.93	$182,236.61	$154,582.45	$93,401.76	10.34	$9,033.05
1975	$124,959.19	$91,517.55	$77,629.89	$48,578.90	10.72	$4,531.61
1976	$94,557.39	$68,296.86	$57,932.91	$37,570.06	11.11	$3,381.64
1977	$119,096.43	$84,818.03	$71,947.01	$48,340.38	11.5	$4,203.51
1978	$211,880.83	$148,702.31	$126,136.94	$87,862.70	11.9	$7,383.42
1979	$328,969.77	$227,384.75	$192,879.43	$139,380.04	12.31	$11,322.51
1980	$500,817.49	$340,718.98	$289,015.34	$216,810.32	12.73	$17,031.45
1981	$388,572.48	$260,028.72	$220,569.72	$171,888.49	13.16	$13,061.44
1982	$206,325.42	$135,773.24	$115,169.83	$93,218.84	13.59	$6,859.37
1983	$171,114.37	$110,652.64	$93,861.26	$78,964.26	14.03	$5,628.24
1984	$298,979.66	$189,853.62	$161,043.59	$140,925.86	14.48	$9,732.45
1985	$251,068.00	$156,438.54	$132,699.21	$120,879.47	14.94	$8,091.00
1986	$251,876.67	$153,876.62	$130,526.06	$123,869.38	15.41	$8,038.25
1987	$288,665.78	$172,763.51	$146,546.88	$145,005.55	15.89	$9,125.59
1988	$453,458.48	$265,635.98	$225,326.08	$232,666.98	16.38	$14,204.33
1989	$551,333.49	$315,832.10	$267,905.01	$288,941.81	16.88	$17,117.41
1990	$688,293.40	$385,020.74	$326,594.37	$368,581.96	17.4	$21,182.87
1991	$1,331,731.44	$727,016.10	$616,692.41	$728,356.35	17.92	$40,644.89
1992	$765,780.76	$407,344.31	$345,530.37	$427,908.19	18.46	$23,180.29
1993	$408,300.29	$211,372.87	$179,297.33	$233,085.96	19.01	$12,261.23
1994	$676,415.36	$340,363.54	$288,713.84	$394,465.67	19.57	$20,156.65
1995	$583,871.74	$285,026.72	$241,774.31	$347,936.15	20.15	$17,267.30
1996	$613,479.73	$289,947.82	$245,948.64	$373,665.89	20.75	$18,007.99
1997	$804,243.90	$367,611.64	$311,827.08	$500,459.26	21.35	$23,440.71
1998	$673,811.01	$296,998.62	$251,929.49	$428,619.63	21.98	$19,500.44
1999	$823,420.73	$349,295.07	$296,290.03	$535,364.91	22.62	$23,667.77
2000	$174,519.85	$71,048.37	$60,266.88	$115,998.17	23.28	$4,982.74
2001	$567,869.01	$221,183.52	$187,619.23	$385,928.47	23.96	$16,107.20
2002	$1,102,170.70	$409,597.72	$347,441.83	$765,750.58	24.65	$31,064.93
2003	$1,012,154.40	$357,272.34	$303,056.75	$719,219.19	25.37	$28,349.20
2004	$1,019,758.26	$340,677.70	$288,980.33	$740,975.51	26.1	$28,389.87
2005	$1,005,599.32	$316,415.69	$268,400.05	$747,255.26	26.85	$27,830.74
2006	$1,789,335.20	$526,876.63	$446,923.83	$1,360,304.72	27.63	$49,232.89
2007	$1,535,176.09	$420,630.38	$356,800.30	$1,193,727.55	28.42	$42,003.08
2008	$1,199,088.46	$303,080.37	$257,088.34	$953,991.00	29.24	$32,626.23
2009	$1,772,266.41	$409,402.63	$347,276.34	$1,442,712.73	30.08	$47,962.52
2010	$2,017,145.47	$421,045.50	$357,152.42	$1,680,164.50	30.94	$54,303.96
2011	$1,852,372.52	$344,436.80	$292,168.99	$1,578,727.26	31.82	$49,614.31
2012	$1,184,551.24	$192,650.55	$163,416.10	$1,032,980.65	32.72	$31,570.31
2013	$1,708,583.68	$237,168.94	$201,178.88	$1,524,490.64	33.64	$45,317.80
2014	$3,075,671.18	$352,061.83	$298,636.93	$2,807,790.96	34.58	$81,196.96
2015	$2,726,827.98	$244,337.77	$207,259.85	$2,546,836.41	35.54	$71,661.13
2016	$3,966,457.02	$254,748.24	$216,090.55	$3,790,031.04	36.52	$103,779.60

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38100-Meters

Survivor Curve:	S1
Average Service Life:	39
Net Salvage Percent:	-1
Remaining Life (Years):	27.96

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2017	$3,943,312.65	$153,182.53	$129,937.29	$3,852,808.48	37.5	$102,741.56
2018	$4,551,624.16	$58,937.70	$49,993.98	$4,547,146.42	38.5	$118,107.70
	$51,213,359.54	$15,131,999.32	13,146,898.91	$38,578,594.22		$1,379,641.06

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38101-AMI Devices

Survivor Curve:	S2.5
Average Service Life:	15
Net Salvage Percent:	0
Remaining Life (Years):	8.89

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2011	$0.00	$0.00	$0.00	$0.00	7.83	$0.00
2012	$334,935.06	$140,896.02	$148,595.09	$186,339.97	8.69	$21,443.03
2013	$4,603.25	$1,657.17	$1,747.72	$2,855.53	9.6	$297.45
2018	$10,988.41	$366.28	$386.30	$10,602.11	14.5	$731.18
	$350,526.72	$142,919.47	$150,729.11	$199,797.61		$22,471.67

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38300-House Regulators

Survivor Curve:	R3
Average Service Life:	48
Net Salvage Percent:	-5
Remaining Life (Years):	32.98

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1953	$348,969.98	$336,875.99	$366,418.48	$0.00	3.87	$0.00
1965	$1,263.36	$1,122.30	$1,326.53	$0.00	7.39	$0.00
1966	$49,289.74	$43,376.51	$51,754.23	$0.00	7.77	$0.00
1967	$15,115.98	$13,173.58	$15,871.78	$0.00	8.16	$0.00
1968	$15,778.22	$13,609.21	$16,567.13	$0.00	8.57	$0.00
1969	$22,923.89	$19,556.94	$24,070.08	$0.00	9	$0.00
1970	$15,979.60	$13,475.30	$16,778.58	$0.00	9.45	$0.00
1971	$25,457.72	$21,206.28	$26,730.61	$0.00	9.92	$0.00
1972	$29,948.40	$24,626.01	$31,445.82	$0.00	10.41	$0.00
1973	$37,165.86	$30,146.16	$39,024.15	$0.00	10.92	$0.00
1974	$46,735.81	$37,366.74	$49,072.60	$0.00	11.45	$0.00
1975	$25,835.11	$20,345.15	$27,126.87	$0.00	12	$0.00
1976	$18,212.87	$14,115.54	$19,123.51	$0.00	12.57	$0.00
1977	$28,343.55	$21,607.53	$29,760.73	$0.00	13.15	$0.00
1978	$83,100.44	$62,242.23	$87,192.09	$63.37	13.76	$4.61
1979	$95,863.03	$70,501.27	$98,761.77	$1,894.41	14.38	$131.74
1980	$193,236.12	$139,407.78	$195,289.54	$7,608.39	15.02	$506.55
1981	$140,642.91	$99,465.30	$139,336.07	$8,338.98	15.67	$532.16
1982	$202,323.86	$140,121.92	$196,289.93	$16,150.12	16.34	$988.38
1983	$153,977.63	$104,348.72	$146,177.01	$15,499.51	17.02	$910.66
1984	$178,090.87	$117,962.94	$165,248.51	$21,746.91	17.72	$1,227.25
1985	$192,810.21	$124,675.90	$174,652.37	$27,798.35	18.44	$1,507.50
1986	$277,751.00	$175,226.16	$245,465.75	$46,172.80	19.16	$2,409.85
1987	$342,178.49	$210,332.84	$294,644.98	$64,642.44	19.9	$3,248.36
1988	$329,907.64	$197,305.39	$276,395.46	$70,007.56	20.66	$3,388.56
1989	$342,505.51	$199,145.55	$278,973.25	$80,657.54	21.42	$3,765.52
1990	$409,725.24	$231,328.31	$324,056.50	$106,155.00	22.19	$4,783.91
1991	$529,157.30	$289,614.40	$405,706.64	$149,908.53	22.98	$6,523.43
1992	$491,619.39	$260,466.10	$364,874.20	$151,326.16	23.78	$6,363.59
1993	$365,104.63	$186,967.80	$261,914.04	$121,445.83	24.59	$4,938.83
1994	$475,634.98	$235,038.00	$329,253.22	$170,163.51	25.41	$6,696.71
1995	$268,471.88	$127,792.61	$179,018.42	$102,877.06	26.24	$3,920.62
1996	$286,676.39	$131,190.28	$183,778.04	$117,232.17	27.08	$4,329.11
1997	$495,555.28	$217,564.25	$304,775.11	$215,557.93	27.93	$7,717.79
1998	$735,952.58	$309,261.07	$433,228.70	$339,521.51	28.79	$11,793.04
1999	$865,456.53	$347,399.66	$486,655.18	$422,074.18	29.65	$14,235.22
2000	$878,966.10	$335,902.39	$470,549.21	$452,365.19	30.53	$14,817.07
2001	$1,483,013.81	$537,870.57	$753,476.55	$803,687.95	31.42	$25,578.87
2002	$1,225,990.37	$420,514.70	$589,078.45	$698,211.44	32.32	$21,603.08
2003	$1,212,313.64	$391,956.15	$549,072.19	$723,857.14	33.22	$21,789.80
2004	$1,857,058.00	$563,443.00	$789,299.72	$1,160,611.18	34.13	$34,005.60
2005	$1,466,379.12	$415,397.71	$581,910.31	$957,787.76	35.05	$27,326.33
2006	$509,257.50	$134,014.29	$187,734.06	$346,986.31	35.97	$9,646.55
2007	$154,426.68	$37,462.95	$52,480.01	$109,668.01	36.91	$2,971.23
2008	$165,318.14	$36,705.79	$51,419.35	$122,164.70	37.85	$3,227.60
2009	$235,823.58	$47,511.08	$66,555.95	$181,058.81	38.79	$4,667.67
2010	$214,528.35	$38,762.59	$54,300.62	$170,954.15	39.74	$4,301.82
2011	$190,552.40	$30,428.84	$42,626.27	$157,453.75	40.7	$3,868.64
2012	$269,456.95	$37,370.31	$52,350.24	$230,579.56	41.66	$5,534.79
2013	$253,884.52	$29,823.50	$41,778.28	$224,800.47	42.63	$5,273.29
2014	$311,538.60	$29,985.59	$42,005.35	$285,110.18	43.6	$6,539.22
2015	$274,651.12	$20,607.42	$28,867.92	$259,515.75	44.57	$5,822.66
2016	$440,099.97	$23,586.61	$33,041.32	$429,063.64	45.55	$9,419.62

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38300-House Regulators

Survivor Curve:	R3
Average Service Life:	48
Net Salvage Percent:	-5
Remaining Life (Years):	32.98

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2017	$530,183.87	$17,048.73	$23,882.72	$532,810.34	46.53	$11,450.90
2018	$146,519.90	$1,570.51	$2,200.05	$151,645.84	47.51	$3,191.87
	$19,956,724.62	$7,737,924.45	$10,699,386.42	$10,255,174.42		$310,960.00

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-38500-Industrial Meas & Reg Eq

Survivor Curve:	S1
Average Service Life:	40
Net Salvage Percent:	-10
Remaining Life (Years):	29.62

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1960	$26,744.18	$24,895.49	$25,703.19	$3,715.40	6.15	$604.13
1965	$1,221.00	$1,081.53	$1,116.62	$226.48	7.79	$29.07
1966	$1,251.91	$1,097.21	$1,132.80	$244.30	8.13	$30.05
1967	$3,313.93	$2,872.51	$2,965.71	$679.61	8.48	$80.14
1968	$13,408.70	$11,493.60	$11,866.50	$2,883.07	8.83	$326.51
1969	$5,097.26	$4,320.18	$4,460.35	$1,146.64	9.18	$124.91
1970	$8,622.98	$7,223.04	$7,457.38	$2,027.90	9.54	$212.57
1971	$21,680.29	$17,939.90	$18,521.94	$5,326.38	9.91	$537.48
1972	$668.26	$546.17	$563.89	$171.20	10.28	$16.65
1973	$217.43	$175.43	$181.13	$58.05	10.66	$5.45
1974	$3,081.40	$2,454.03	$2,533.65	$855.89	11.04	$77.53
1975	$7,267.44	$5,709.85	$5,895.10	$2,099.09	11.43	$183.65
1978	$5.03	$3.79	$3.91	$1.62	12.63	$0.13
1979	$22,769.00	$16,874.68	$17,422.16	$7,623.74	13.05	$584.20
1980	$105,174.41	$76,703.70	$79,192.26	$36,499.59	13.48	$2,707.68
1982	$12,616.28	$8,899.21	$9,187.93	$4,689.97	14.35	$326.83
1983	$25,697.68	$17,808.49	$18,386.27	$9,881.18	14.8	$667.65
1985	$199,796.54	$133,349.21	$137,675.57	$82,100.62	15.73	$5,219.37
1986	$257,267.46	$168,381.55	$173,844.50	$109,149.70	16.2	$6,737.64
1989	$51,482.56	$31,571.68	$32,595.99	$24,034.83	17.7	$1,357.90
1990	$58,648.26	$35,127.38	$36,267.04	$28,246.04	18.22	$1,550.28
1991	$32,906.98	$19,220.97	$19,844.57	$16,353.11	18.76	$871.70
1995	$17,558.14	$9,164.47	$9,461.80	$9,852.15	21.02	$468.70
1996	$22,020.35	$11,124.13	$11,485.04	$12,737.34	21.63	$588.87
1998	$61,846.22	$29,117.20	$30,061.88	$37,968.97	22.88	$1,659.48
1999	$17,674.42	$8,005.19	$8,264.91	$11,176.96	23.53	$475.01
2000	$17,848.84	$7,755.32	$8,006.93	$11,626.79	24.2	$480.45
2004	$111,686.02	$39,774.18	$41,064.61	$81,790.01	27.05	$3,023.66
2006	$21,860.95	$6,859.42	$7,081.97	$16,965.08	28.59	$593.39
2007	$11,906.80	$3,474.11	$3,586.82	$9,510.66	29.39	$323.60
2009	$5,671.00	$1,394.22	$1,439.45	$4,798.65	31.06	$154.50
2010	$0.00	$0.00	$0.00	$0.00	31.92	$0.00
2011	$48,462.60	$9,582.27	$9,893.15	$43,415.71	32.81	$1,323.25
2012	$25,903.55	$4,480.67	$4,626.04	$23,867.87	33.71	$708.04
2013	$85,310.49	$12,574.77	$12,982.74	$80,858.80	34.64	$2,334.26
2014	$392,301.10	$47,684.20	$49,231.26	$382,299.95	35.58	$10,744.80
2015	$284,700.60	$27,089.26	$27,968.14	$285,202.52	36.54	$7,805.21
2016	$250,288.67	$17,069.69	$17,623.49	$257,694.04	37.52	$6,868.18
2017	$442,930.58	$18,270.89	$18,863.66	$468,359.97	38.5	$12,165.19
2018	$203,408.11	$2,796.86	$2,887.60	$220,861.32	39.5	$5,591.43
	$2,880,317.42	$843,966.41	$871,347.95	$2,297,001.21		$77,559.51

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-39216-Vehicles

Survivor Curve:	S3
Average Service Life:	8
Net Salvage Percent:	20
Remaining Life (Years):	4.47

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
2007	$33,218.81	$24,449.04	$23,030.77	$3,544.28	0.64	$5,537.94
2009	$48,278.40	$33,360.37	$31,425.16	$7,197.56	1.09	$6,603.27
2010	$143,435.59	$94,667.49	$89,175.88	$25,572.59	1.4	$18,266.14
2011	$458,945.64	$285,464.19	$268,904.56	$98,251.95	1.78	$55,197.73
2012	$594,843.30	$340,845.21	$321,072.96	$154,801.68	2.27	$68,194.57
2013	$891,637.85	$455,626.94	$429,196.26	$284,114.02	2.89	$98,309.35
2014	$927,837.43	$403,609.28	$380,196.12	$362,073.82	3.65	$99,198.31
2015	$619,822.33	$214,458.53	$202,017.90	$293,839.96	4.54	$64,722.46
2016	$1,137,825.25	$283,318.49	$266,883.33	$643,376.87	5.51	$116,765.31
2017	$941,711.55	$141,256.73	$133,062.50	$620,306.74	6.5	$95,431.81
2018	$1,045,722.73	$52,286.14	$49,253.05	$787,325.14	7.5	$104,976.69
	$6,843,278.88	$2,329,342.41	$2,194,218.48	$3,280,404.62		$733,203.56

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-39269-Trailers

Survivor Curve:	R1.5
Average Service Life:	16
Net Salvage Percent:	15
Remaining Life (Years):	12.07

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1984	$468.00	$397.80	$397.80	$0.00	0	$0.00
1989	$999.00	$801.92	$849.15	$0.00	0.89	$0.00
1991	$2,640.00	$2,049.05	$2,244.00	$0.00	1.39	$0.00
1992	$2,721.15	$2,078.79	$2,312.98	$0.00	1.62	$0.00
2000	$1,425.44	$903.42	$1,211.62	$0.00	4.07	$0.00
2004	$4,772.72	$2,565.93	$4,056.81	$0.00	5.88	$0.00
2006	$24,805.71	$11,873.41	$21,084.85	$0.00	6.99	$0.00
2010	$9,953.44	$3,421.18	$6,707.45	$1,752.97	9.53	$183.94
2011	$13,864.20	$4,249.81	$8,332.03	$3,452.54	10.23	$337.49
2012	$1,584.06	$424.97	$833.19	$513.26	10.95	$46.87
2014	$9,802.26	$1,859.06	$3,644.81	$4,687.11	12.43	$377.08
2015	$17,563.98	$2,612.64	$5,122.25	$9,807.13	13.2	$742.96
2016	$1,928.24	$206.92	$405.69	$1,233.32	13.98	$88.22
	$92,528.20	$33,444.91	$57,202.62	$21,446.34		$1,776.57

Minnesota Energy Resources Corporation
Calculated Remaining Life Depreciation Accrual Related to Original Cost as of December 31, 2018

Depreciation Group MERC-39618-Other Specialized Equip

Survivor Curve:	S1.5
Average Service Life:	18
Net Salvage Percent:	10
Remaining Life (Years):	12.65

Year	Original Cost	Calculated Accrued	Allocated Book Reserve	Future Book Accruals	Remaining Life	Annual Accrual
1963	$5,537.90	$4,984.11	$4,984.11	$0.00	0	$0.00
1991	$20,477.61	$16,197.79	$18,429.85	$0.00	2.18	$0.00
1996	$4,444.30	$3,202.12	$3,999.87	$0.00	3.59	$0.00
2002	$8,588.04	$5,243.00	$6,838.71	$890.52	5.79	$153.80
2004	$64,882.53	$36,593.75	$47,731.12	$10,663.15	6.72	$1,586.78
2005	$6,101.58	$3,282.65	$4,281.73	$1,209.69	7.24	$167.08
2009	$51,099.89	$21,283.10	$27,760.66	$18,229.24	9.67	$1,885.13
2010	$5,639.00	$2,148.46	$2,802.35	$2,272.75	10.38	$218.96
2012	$57,228.89	$17,340.35	$22,617.92	$28,888.08	11.94	$2,419.44
2013	$51,233.74	$13,372.01	$17,441.80	$28,668.56	12.78	$2,243.24
2014	$25,802.83	$5,599.21	$7,303.35	$15,919.20	13.66	$1,165.39
2015	$6,338.81	$1,083.94	$1,413.83	$4,291.09	14.58	$294.31
2017	$91,653.32	$6,828.17	$8,906.34	$73,581.65	16.51	$4,456.79
	$399,028.44	$137,158.66	$174,511.64	$184,613.95		$14,590.92

Attachment 3

Compliance with December 26, 2018 Findings of Fact, Conclusions, and Order (Ordering Paragraph 15) with Supporting Schedules

Attachment 3
Compliance with December 26, 2018, Findings of Fact, Conclusions, and Order in Docket No. G011/GR-17-563

I. Introduction

On December 26, 2018, the Minnesota Public Utilities Commission issued its Findings of Fact, Conclusions, and Order in Docket No. G011/GR-17-563 ("Order"). Order point 15 required:

> In either its next rate case or its next depreciation filing, whichever comes first, MERC shall propose a set of depreciation practices and adjustments for the separate depreciation of large assets, like office buildings or to provide explanation why no such modification from the Company's depreciation practices is warranted or appropriate.

To address the Commission's order, MERC engaged its depreciation and valuation consultant, John J. Spanos at Gannett Fleming Valuation and Rate Consultants, LLC. Mr. Spanos has more than 32 years of experience managing depreciation and valuation projects. Mr. Spanos' educational and professional experience is included with the schedules supporting this Attachment 3.

Additionally, the Company reviewed the depreciation practices of other utilities in the state of Minnesota, including recent changes proposed by Minnesota Power in Docket No. E015/D-18-544, related to FERC Account 390, Structures and Improvements. In Docket No. E015/D-18-544, Minnesota Power agreed to include a proposal in its next depreciation petition to depreciate its largest structures included in plant account 390 separately, while continuing to group the smaller structures in the account.

Consistent with prior Commission decisions in its own depreciation dockets and the Federal Energy Regulatory Commission's ("FERC's") Uniform System of Accounts ("USoA"),[1] MERC currently segregates its structures into major and minor groupings within FERC Account 390, Structures and Improvements, and has been depreciating them utilizing group accounting. In accordance with the Commission's requirement in the last rate case that MERC evaluate its practices for this filing, and to accommodate the Department's feedback in MERC's last rate case, the Company is proposing to modify its depreciation practices to separately depreciate each building in the major grouping within Account 390. As discussed in this filing, the buildings that MERC has identified as falling within the proposed category of major buildings comprise approximately 52 percent of the total book costs within Account 390, Structures and Improvements.

Below, MERC summarizes the Company's current depreciation practices, including treatment of larger assets like office buildings, and proposes modifications to provide for the separate depreciation of the buildings that have been identified as part of the major grouping.

[1] Docket Nos. G-007,011/D-12-533, G-011/D-14-455, G-011/D-15-534, G-011/D-16-490, and G-011/D-17-442.

II. Current Depreciation Practices

In accordance with Minnesota statutes, rules, and prior Commission orders, MERC conducts a formal depreciation study on a regular basis (generally once every five years) to analyze the Company's property. When completed at regular intervals, depreciation studies allow for adjustments to depreciation attributes by incorporating property changes in additions and retirements since the previous study which, when analyzed, may indicate changes are warranted in the current depreciation attributes.

Consistent with the FERC USoA, the cost of an asset should be recovered over the life of the asset through depreciation. The cost should be paid for by ratepayers receiving the benefit while the asset was in use. The objective of depreciation is to allocate, in a systematic and rational manner, the full cost of an asset (original cost less net salvage) over its service life. The FERC USoA requires this in General Instruction 22-A:

> Method. Utilities must use a method of depreciation that allocates in a systematic and rational manner the service value of depreciable property over the service life of the property.

While no depreciation method will perfectly align the use of an asset with annual depreciation expense, the goal of depreciation accounting is to recover costs of prudent investment in utility infrastructure utilizing a systematic and rational method.

The USoA has also determined that there may be more than one reasonable, systematic, and rational method of accounting for utility assets. Not all assets are sufficiently unique to warrant depreciating each one on an individual basis. In those situations, a group procedure for depreciation is appropriate.

The calculation of annual depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures, to the extent appropriate for the business. The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages. The results are compared to industry-recognized Iowa Curves to assist in the selection of depreciation attributes.

Further, in the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life. Applying one depreciation

rate for all assets within the group establishes a smooth recovery pattern and recovery of the full service value systematically and rationally, as prescribed by the FERC USoA.

Beginning with its 2012 Depreciation Study, MERC segregated its approximately 20 structures in Account 390, each consisting of many component parts, into a major and minor grouping for life analysis purposes as a result of the construction of the Rochester Service Center, because the Rochester Service Center was considered to be quite different than other structures in the account. The Rochester Service Center was therefore separated into its own group at the time – major structures and improvements within Account 390. This delineation further resulted in separate depreciation attributes for each grouping; however, a composite depreciation rate was derived using both the major and minor grouping for depreciation accrual purposes. This approach was supported by the Department and approved by the Commission in MERC's 2012 Depreciation Study, Docket No. G-007,011/D-12-533. The Rochester Service Center remained the only building in the major grouping in MERC's 2017 Depreciation Study, Docket No. G-011/D-17-442.

Finally, the Company uses a remaining life technique for recovery of the undepreciated cost (original cost less accumulated reserve plus future net salvage) over the estimated remaining life of the assets. The benefit of this technique is that any necessary adjustments of depreciation reserves, because of changes to the estimates of life and net salvage, are accrued automatically over the remaining life of the property. The remaining life technique continually measures the actual book reserve to the theoretical reserve based on life and net salvage parameters and trues up the difference over the remaining life of the asset class in order to ensure full recovery—no more, no less—in a systematic and rational matter. The remaining life technique is particularly important when using the life span method that is further discussed below.

III. Group and Composite Accounting

In the context of utility accounting, there are two independent justifications for the application of group accounting for utility assets: (1) with respect to certain fixed assets such as utility poles and other components of the transmission and distribution system, the components are too numerous to practically track on an individual basis given the small relative value of each individual asset; and (2) with respect to larger assets like buildings that are comprised of numerous components and parts, it is impractical to separately track all components, especially when the components are typically inseparable from the building (e.g., a roof or HVAC system).

As explained in PwC interpretive guidance regarding utility asset retirement, and depreciation:

> Two methods of depreciating multiple-asset accounts are employed: the group method and the composite method. The term "group" refers to a collection of assets that are similar in

> nature. "Composite" refers to a collection of assets that are dissimilar in nature.
>
> …
>
> Utilities often apply the mass-asset convention of accounting (also known as the "group" method) to certain fixed assets such as utility poles and other components of their transmission and distribution systems which are too numerous to practically track on an individual basis given the small relative value of each individual asset. Similarly, many utility companies utilize the composite convention of accounting for component parts of larger assets such as electric generating stations which also contain numerous components and parts which are impractical to separately track.[2]

Composite depreciation is the application of a single straight-line depreciation rate and average useful life to the calculation of depreciation for a group of disparate fixed assets. The method is used to calculate depreciation when there are a number of assets comprising a single larger asset; for example, the doors, roof, windows, electrical systems, and HVAC equipment of a building may all have different useful lives, but are aggregated for depreciation through the composite method. MERC believes this method is appropriate for its buildings because of their many component parts, and because MERC has many buildings on its system – most of which are worth a few hundred thousand dollars or less. However, MERC proposes to separately depreciate two of its buildings – the Rosemount and Rochester Service Centers – individually, each for the composite of all its components parts, as discussed in more detail below.

IV. Proposed Modifications For Separate Depreciation of Large Assets

As noted above, in MERC's last rate case in Docket No. G011/GR-17-563, the Commission ordered that MERC either propose a set of depreciation practices and adjustments for the separate depreciation of large assets, like office buildings, or provide an explanation as to why no such modification of the Company's depreciation practices is warranted or appropriate.

While the Company's depreciation practices have previously been approved by the Department and Commission in the Company's annual depreciation dockets and are consistent with the USoA and Generally Accepted Accounting Principles ("GAAP"), MERC is open to separately depreciating the Company's newly constructed buildings that represent significant investments. Subsequent to MERC's 2017 Depreciation Study, the Rosemount Service Center was placed in service. This building is similar in

[2] PriceWaterhouseCoopers, Questions and Answers, Interpretations for the Utility Industry, Accounting for Property, Plant and Equipment, Asset Retirement Obligations and Depreciation (available at https://www.pwc.com/gx/en/energy-utilities-mining/pdf/ppe.pdf).

nature to the Rochester Service Center and would warrant inclusion with the major grouping, given their relative size compared to other MERC buildings, as well as their recent additions to the system. Taken together, these two buildings comprise approximately 52 percent of the total book costs within Account 390, Structures and Improvements. Further, keeping these two newer and larger buildings in the major grouping but depreciating them separately ensures the Company is not changing longstanding depreciation practices midway through the structures' lives, especially where the Company's past and current accounting practices were consistent with GAAP and approved through several annual depreciation filings.

As reflected in Table 1 below, MERC currently has 22 buildings within Account 390 with a total gross plant value of $19.6 million as of December 31, 2018. The gross plant value of the two identified structures is $10.2 million, or 52 percent of the total. Because the largest structures represent such a disproportionate share of the property booked to the account, depreciating them separately from the rest of the group will allow for a routine evaluation of those larger assets within the context of periodic depreciation studies, including appropriate adjustments to the depreciation parameters of those buildings based on a re-assessment of the circumstances. Whether this separate depreciation approach ultimately provides a net benefit or cost to customers as compared to a group depreciation approach will depend on the nature and type of each asset's retirement; in general, when applied consistently, the comparative effect on customers should be revenue neutral over time.

Attachment 3
Compliance with December 26, 2018, Findings of Fact, Conclusions, and Order in Docket No. G011/GR-17-563

Table 1		
Major Grouping:		
Asset Location	**Book Cost**	
Rochester Service Center (New) - 4618041 - 160	$3,241,516.59	
Rosemount Service Center - 000001 - 007	$6,949,317.28	
	$10,190,833.87	52%
Minor Grouping:		
Asset Location	**Book Cost**	
Albert Lea Service Center - 78146014 - 421	$1,340,956.18	
Bemidji Service Center - 000007 - 248	$466,052.42	
Bemidji Warehouse - 000008 - 248	$122,184.18	
Caledonia Work Center - 61205346 - 133	$591,869.88	
Chatfield Operations - Bldg - 51343199 - 147	$319,773.30	
Cloquet Service Center - 000022 - 181	$3,140,174.99	
Crosby Work Center - 000014 - 191	$84,948.31	
Detroit Lakes Work Center - 000009 - 243	$111,599.53	
Eveleth Work Center - 000024 - 224	$369,467.14	
Fairmont Service Center - 000028 - 067	$640,994.16	
Grand Rapids Work Center - 000027 - 203	$408,604.10	
International Falls Work Center - 000023 - 212	$290,952.17	
Pine City Service Center - 000002 - 023	$293,274.97	
Roseau Work Center - 000010 - 273	$61,246.80	
Silver Bay Work Center - 000026 - 215	$29,948.05	
Staples Work Center - 000013 - 280	$13,373.05	
Thief River Falls Work Center - 000015 - 268	$230,972.14	
Wadena Work Center - 000016 - 291	$200,023.43	
Warroad Work Center - 40964822 - 275	$229,918.68	
Worthington Service Center (New) : 3536855 - 079	$415,768.05	
	$9,362,101.53	48%
	$19,552,935.40	

The Company notes that the minor grouping includes the Cloquet Service Center, which represents a relatively large investment at a book cost of $3,140,175. Upon examination, however, Cloquet's initial investment was recorded in 1980 and an addition to the building was recorded in 1992. As a result, the remaining life attributes of the minor group appropriately represent the remaining life of this building. Additionally, keeping the Cloquet Service Center in the minor group is consistent with longstanding depreciation practices for this property. As a result, there is no need to separately depreciate this building.

Going forward, MERC proposes to include new buildings in the major grouping when they are newly acquired or constructed and will constitute at least one percent of the Company's total depreciable net plant based on the most recent year end at the time of the addition (as reflected in Statement 2A of Attachment 1). As of the end of 2018, this would equate to a major structure threshold of $3,505,959, or roughly one percent of $350,595,896 in total depreciable net plant, which is consistent with placing the new Rosemount Service Center in the major grouping. In this way, MERC will establish a

materiality threshold for major buildings, and avoid the unnecessary administrative burden of individually depreciating many small, dispersed assets.

For the buildings included in the major grouping, MERC will introduce the use of a life span coupled with an interim retirement curve. The life span method models retirements for depreciation expense and rate calculations assuming the remaining assets at a location will be retired simultaneously at a specific date or at the end of a period of time. The incorporation of an interim retirement component is necessary as the retirement of individual assets within the location will occur prior to the retirement of the overall group. The interim survivor curve is based on the dispersion pattern of assets within the group while the assets are in service. In the case of structures, this includes doors, roofs, windows, electrical systems, HVAC equipment, etc. This component is determined through historical analysis and informed judgement.

The total Account 390, Structures and Improvements, book reserve must be assigned to the location or group level. The assignment is calculated based on the life and net salvage parameters as well as the surviving age by vintage of all assets in the account. As of December 31, 2018, the total Account 390 book reserve was $2,578,287. Based on the 2008 construction of the Rochester Service Center, 2017 construction of the Rosemount Service Center, the 55-year life span of each service center, 75-R2.5 interim survivor curve, and negative 10% net salvage, a total of $613,745 of book reserve is assigned to the major structures. This amount is determined as a ratio of 68 percent of the theoretical reserve of these two facilities. In a similar fashion, the minor structures with vintages 1965 through 2018, totaling $9.4 million in plant, a 45-R2 survivor curve, negative 10% net salvage, and 68 percent book reserve to theoretical reserve. The actual book reserve of $2,578,287 was established based on all prior depreciation accrual rates, retirements, cost of removal, and gross salvage from the first installation to December 31, 2018. This assignment of the actual book reserve proportionately allocated to the theoretical reserve while maintaining past recovery patterns without changing total rate base insures appropriate future recovery consistent with the life parameters.

The attached supporting schedules prepared by Mr. Spanos set forth the proposed survivor curves, remaining lives, and resulting depreciation rates for Account 390, Structures and Improvements. For the major structures, MERC proposes to separately depreciate the Rochester Service Center with a depreciation rate of 2.30 percent and the Rosemount Service Center with a depreciation rate of 2.15 percent. MERC then proposes to continue depreciating the remainder of the assets within Account 390 together using a depreciation rate of 2.90 percent.

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MAJOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR	ORIGINAL COST	CALCULATED ACCRUED	ALLOC. BOOK RESERVE	FUTURE BOOK ACCRUALS	REM. LIFE	ANNUAL ACCRUAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)
ROCHESTER SERVICE CENTER						
INTERIM SURVIVOR CURVE.. IOWA 75-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2063						
NET SALVAGE PERCENT.. -10						
2008	3,193,360.22	683,325	464,782	3,047,914	41.53	73,391
2012	14,421.85	2,053	1,396	14,468	42.04	344
2014	33,734.52	3,448	2,345	34,763	42.27	822
	3,241,516.59	688,826	468,524	3,097,144		74,557

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 41.5 2.30

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS - MAJOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
ROSEMOUNT SERVICE CENTER						
INTERIM SURVIVOR CURVE.. IOWA 75-R2.5						
PROBABLE RETIREMENT YEAR.. 6-2072						
NET SALVAGE PERCENT.. -10						
2017	6,949,317.28	213,504	145,221	7,499,028	50.12	149,621
	6,949,317.28	213,504	145,221	7,499,028		149,621

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 50.1 2.15

MINNESOTA ENERGY RESOURCES CORPORATION

ACCOUNT 390.01 STRUCTURES AND IMPROVEMENTS - MINOR

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2018

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2						
NET SALVAGE PERCENT.. -10						
1965	25,877.53	22,854	15,545	12,920	8.87	1,457
1968	35,294.41	30,170	20,521	18,303	10.03	1,825
1974	20,757.30	16,394	11,151	11,682	12.69	921
1977	1,325.06	998	679	779	14.19	55
1979	18,100.79	13,159	8,950	10,961	15.26	718
1980	354,371.22	252,767	171,926	217,882	15.82	13,773
1981	94,825.39	66,317	45,107	59,201	16.39	3,612
1982	592,631.10	406,058	276,192	375,702	16.97	22,139
1983	26,610.71	17,849	12,140	17,132	17.56	976
1985	1,224.30	785	534	813	18.78	43
1986	1,050.71	657	447	709	19.41	37
1987	163,770.40	99,881	67,937	112,210	20.05	5,597
1988	190,005.57	112,863	76,767	132,239	20.70	6,388
1989	187,981.87	108,582	73,855	132,925	21.37	6,220
1990	116,035.14	65,124	44,296	83,343	22.04	3,781
1991	163,400.15	88,952	60,503	119,237	22.73	5,246
1992	1,671,165.00	881,566	599,622	1,238,660	23.42	52,889
1993	111,673.50	56,971	38,750	84,091	24.13	3,485
1994	68,701.57	33,856	23,028	52,544	24.84	2,115
1995	1,350.36	641	436	1,049	25.57	41
1997	40,942.63	17,965	12,219	32,818	27.05	1,213
1998	21,975.58	9,239	6,284	17,889	27.80	643
2002	8,294.34	2,857	1,943	7,181	30.91	232
2003	3,241.68	1,053	716	2,850	31.71	90
2004	2,917.60	891	606	2,603	32.51	80
2005	188,695.83	53,876	36,645	170,920	33.32	5,130
2006	154,651.23	41,017	27,899	142,217	34.15	4,164
2007	299,382.04	73,330	49,878	279,442	34.98	7,989
2008	21,295.89	4,784	3,254	20,171	35.81	563
2009	249,655.92	50,896	34,619	240,003	36.66	6,547
2010	95,716.13	17,524	11,919	93,369	37.51	2,489
2011	227,750.32	36,968	25,145	225,380	38.36	5,875
2012	581,991.45	82,085	55,833	584,358	39.23	14,896
2013	660,601.22	79,126	53,820	672,841	40.10	16,779
2014	330,428.31	32,469	22,085	341,386	40.98	8,331
2015	359,680.46	27,608	18,778	376,871	41.86	9,003
2016	519,310.19	28,562	19,427	551,814	42.75	12,908
2017	1,469,983.16	48,509	32,995	1,583,986	43.65	36,288
2018	279,435.47	3,074	2,091	305,288	44.55	6,853
	9,362,101.53	2,888,277	1,964,542	8,333,770		271,391

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.7 2.90

EDUCATIONAL AND PROFESSIONAL EXPERIENCE

JOHN J. SPANOS

John J. Spanos is a Certified Depreciation Professional as designated by the Society of Depreciation Professionals, a national organization of individuals involved in public utility and railroad depreciation issues. Mr. Spanos has completed the multi-year course work offered by Depreciation Programs, Inc. (DPI).

Mr. Spanos is employed by Gannett Fleming Valuation and Rate Consultants, LLC (Gannett Fleming) as President and is located in the firm's Harrisburg, Pennsylvania, headquarters with technical and administrative support staffs available to assist on the project. Mr. Spanos' resume is set forth as follows.

TECHNICAL SPECIALTIES

- Public Utility Plant Depreciation
- Public Utility Plant Original Cost

PERSONAL INFORMATION

- M.B.A., York College of Pennsylvania, 1997
- B.S., Industrial Management and Mathematics, Carnegie-Mellon University, 1986
- Member, Society of Depreciation Professionals – President 2012
- Member, American Gas Association Industry Accounting Committee
- Certified Depreciation Professional

EXPERIENCE

In June, 1986, I was employed by Gannett Fleming Valuation and Rate Consultants, Inc. as a Depreciation Analyst. During the period from June, 1986 through December, 1995, I assisted in the preparation of numerous depreciation and original cost studies for utility

companies in various industries. I helped perform depreciation studies for the following telephone companies: United Telephone of Pennsylvania, United Telephone of New Jersey and Anchorage Telephone Utility. I helped perform depreciation studies for the following companies in the railroad industry: Union Pacific Railroad, Burlington Northern Railroad and Wisconsin Central Transportation Corporation.

I assisted in the preparation of depreciation studies for the following organizations in the electric industry: Chugach Electric Association, the Cincinnati Gas & Electric Company (CG&E), The Union Light, Heat and Power Company (ULH&P), Northwest Territories Power Corporation and the City of Calgary - Electric System.

I assisted in the preparation of depreciation studies for the following pipeline companies: TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead Pipeline Company.

I assisted in the preparation of depreciation studies for the following gas companies: Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas Company, T. W. Phillips Gas & Oil Company, CG&E, ULH&P, Lawrenceburg Gas Company and Penn Fuel Gas, Inc.

I assisted in the preparation of depreciation studies for the following water companies: Indiana-American Water Company, Consumers Pennsylvania Water Company and The York Water Company; and depreciation and original cost studies for Philadelphia Suburban Water Company and Pennsylvania-American Water Company.

In each of the above studies, I assembled and analyzed historical and simulated data, performed field reviews, developed preliminary estimates of service life and net salvage, calculated annual depreciation, and prepared reports for submission to state Public Utility

Commissions or federal regulatory agencies. I performed these studies under the general direction of William M. Stout, P.E.

In January, 1996, I was assigned to the position of Supervisor of Depreciation Studies. In July, 1999, I was promoted to the position of Manager, Depreciation and Valuation Studies.

In December, 2000, I was promoted to the position of Vice-President of Gannett Fleming Valuation and Rate Consultants, Inc., in April 2012, I was promoted to the position of Senior Vice President of the Valuation and Rate Division of Gannett Fleming, Inc. (now doing business as Gannett Fleming Valuation and Rate Consultants, LLC) and in January 2019, I was promoted to my present position of President of Gannett Fleming Valuation and Rate Consultants, LLC. In my current position I am responsible for conducting all depreciation, valuation and original cost studies, including the preparation of final exhibits and responses to data requests for submission to the appropriate regulatory bodies.

I am also responsible for assembling and overseeing the basic data required for depreciation studies, conduct statistical analyses of accounting data, estimates service life and net salvage, and calculate annual and accrued depreciation. I also perform field inspections for purposes of estimating service lives and verifying property records for original cost, bond indenture and depreciation studies. I have also supervised the updating of continuing property records. My additional duties include presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

Since January 1996, I have conducted depreciation studies similar to those previously listed including assignments for:

> Pennsylvania-American Water Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-American Water Company; Indiana-American Water Company; Iowa-American Water Company; New Jersey-American Water

Company; Hampton Water Works Company; Omaha Public Power District; Enbridge Pipe Line Company; Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water Company; Public Service Company of Colorado; Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water Company; St. Louis County Water Company; Missouri-American Water Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of Kentucky; South Carolina Electric & Gas Company; Idaho Power Company; El Paso Electric Company; Aqua North Carolina; Aqua Ohio; Aqua Texas, Inc.; Aqua Illinois, Inc.; Ameren Missouri; Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke Energy North Carolina; Duke Energy South Carolina; Monongahela Power Company; Potomac Edison Company; Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Duke Energy Progress; Northern Indiana Public Service Company; Tennessee- American Water Company; Columbia Gas of Maryland; Maryland-American Water Company; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy

Mississippi; Entergy Louisiana; Entergy Gulf States Louisiana; the Borough of Hanover; Louisville Gas and Electric Company; Kentucky Utilities Company; Madison Gas and Electric; Central Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey Central Power & Light Company; Cheyenne Light, Fuel and Power Company; United Water Arkansas; Central Vermont Public Service Corporation; Green Mountain Power; Portland General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills Power; Black Hills Colorado Gas; Black Hills Kansas Gas; Black Hills Service Company; Black Hills Utility Holdings; Public Service Company of Oklahoma; City of Dubois; Peoples Gas Light and Coke Company; North Shore Gas Company; Connecticut Light and Power; New York State Electric and Gas Corporation; Rochester Gas and Electric Corporation; Greater Missouri Operations; Tennessee Valley Authority; Omaha Public Power District; Indianapolis Power & Light Company; Vermont Gas Systems, Inc.; Metropolitan Edison; Pennsylvania Electric; West Penn Power; Pennsylvania Power; PHI Service Company - Delmarva Power and Light; Atmos Energy Corporation; Citizens Energy Group; PSE&G Company; Berkshire Gas Company; Alabama Gas Corporation; Mid-Atlantic Interstate Transmission, LLC; SUEZ Water; WEC Energy Group; Rocky Mountain Natural Gas, LLC; Illinois-American Water Company and Northern Illinois Gas Company.

I have also submitted testimony to regulated commissions on the subject of utility plant deprecation including:

Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; Illinois Commerce Commission; the Indiana

Utility Regulatory Commission; the California Public Utilities Commission; the Federal Energy Regulatory Commission (“FERC”); the Arkansas Public Service Commission; the Public Utility Commission of Texas; Maryland Public Service Commission; Washington Utilities and Transportation Commission; The Tennessee Regulatory Commission; the Regulatory Commission of Alaska; Minnesota Public Utility Commission; Utah Public Service Commission; District of Columbia Public Service Commission; the Mississippi Public Service Commission; Delaware Public Service Commission; Virginia State Corporation Commission; Colorado Public Utility Commission; Oregon Public Utility Commission; South Dakota Public Utilities Commission; Wisconsin Public Service Commission; Wyoming Public Service Commission; the Public Service Commission of West Virginia; Maine Public Utility Commission; Iowa Utility Board; Connecticut Public Utilities Regulatory Authority; New Mexico Public Regulation Commission; Commonwealth of Massachusetts Department of Public Utilities; Rhode Island Public Utilities Commission and the North Carolina Utilities Commission.

Mr. Spanos' technical education has included formal instructional programs offered by Depreciation Programs, Inc. Courses successfully completed include "Techniques of Life Analysis", "Techniques of Salvage and Depreciation Analysis", "Forecasting Life and Salvage", "Modeling and Life Analysis Using Simulation", and "Managing a Depreciation Study". Mr. Spanos also completed the week long course "Introduction to Public Utility Accounting" conducted by the American Gas Association.

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	Year	Jurisdiction	Docket No.	Client Utility	Subject
01.	1998	PA PUC	R-00984375	City of Bethlehem – Bureau of Water	Original Cost and Depreciation
02.	1998	PA PUC	R-00984567	City of Lancaster	Original Cost and Depreciation
03.	1999	PA PUC	R-00994605	The York Water Company	Depreciation
04.	2000	D.T.&E.	DTE 00-105	Massachusetts-American Water Company	Depreciation
05.	2001	PA PUC	R-00016114	City of Lancaster	Original Cost and Depreciation
06.	2001	PA PUC	R-00017236	The York Water Company	Depreciation
07.	2001	PA PUC	R-00016339	Pennsylvania-American Water Company	Depreciation
08.	2001	OH PUC	01-1228-GA-AIR	Cinergy Corp – Cincinnati Gas & Elect Company	Depreciation
09.	2001	KY PSC	2001-092	Cinergy Corp – Union Light, Heat & Power Co.	Depreciation
10.	2002	PA PUC	R-00016750	Philadelphia Suburban Water Company	Depreciation
11.	2002	KY PSC	2002-00145	Columbia Gas of Kentucky	Depreciation
12.	2002	NJ BPU	GF02040245	NUI Corporation/Elizabethtown Gas Company	Depreciation
13.	2002	ID PUC	IPC-E-03-7	Idaho Power Company	Depreciation
14.	2003	PA PUC	R-0027975	The York Water Company	Depreciation
15.	2003	IN URC	R-0027975	Cinergy Corp – PSI Energy, Inc.	Depreciation
16.	2003	PA PUC	R-00038304	Pennsylvania-American Water Company	Depreciation
17.	2003	MO PSC	WR-2003-0500	Missouri-American Water Company	Depreciation
18.	2003	FERC	ER-03-1274-000	NSTAR-Boston Edison Company	Depreciation
19.	2003	NJ BPU	BPU 03080683	South Jersey Gas Company	Depreciation
20.	2003	NV PUC	03-10001	Nevada Power Company	Depreciation
21.	2003	LA PSC	U-27676	CenterPoint Energy – Arkla	Depreciation
22.	2003	PA PUC	R-00038805	Pennsylvania Suburban Water Company	Depreciation
23.	2004	AB En/Util Bd	1306821	EPCOR Distribution, Inc.	Depreciation
24.	2004	PA PUC	R-00038168	National Fuel Gas Distribution Corp (PA)	Depreciation
25.	2004	PA PUC	R-00049255	PPL Electric Utilities	Depreciation
26.	2004	PA PUC	R-00049165	The York Water Company	Depreciation
27.	2004	OK Corp Cm	PUC 200400187	CenterPoint Energy – Arkla	Depreciation
28.	2004	OH PUC	04-680-El-AIR	Cinergy Corp. – Cincinnati Gas and Electric Company	Depreciation
29.	2004	RR Com of TX	GUD#	CenterPoint Energy – Entex Gas Services Div.	Depreciation
30.	2004	NY PUC	04-G-1047	National Fuel Gas Distribution Gas (NY)	Depreciation
31.	2004	AR PSC	04-121-U	CenterPoint Energy – Arkla	Depreciation
32.	2005	IL CC	05-	North Shore Gas Company	Depreciation
33.	2005	IL CC	05-	Peoples Gas Light and Coke Company	Depreciation
34.	2005	KY PSC	2005-00042	Union Light Heat & Power	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
35.	2005	IL CC	05-0308	MidAmerican Energy Company	Depreciation
36.	2005	MO PSC	GF-2005	Laclede Gas Company	Depreciation
37.	2005	KS CC	05-WSEE-981-RTS	Westar Energy	Depreciation
38.	2005	RR Com of TX	GUD #	CenterPoint Energy – Entex Gas Services Div.	Depreciation
39.	2005	FERC		Cinergy Corporation	Accounting
40.	2005	OK CC	PUD 200500151	Oklahoma Gas and Electric Company	Depreciation
41.	2005	MA Dept Tele-com & Ergy	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-934/05-G-0935	Central Hudson Gas & Electric Company	Depreciation
43.	2005	AK Reg Com	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A05-12-002	Pacific Gas & Electric	Depreciation
45.	2006	PA PUC	R-00051030	Aqua Pennsylvania, Inc.	Depreciation
46.	2006	PA PUC	R-00051178	T.W. Phillips Gas and Oil Company	Depreciation
47.	2006	NC Util Cm.		Pub. Service Company of North Carolina	Depreciation
48.	2006	PA PUC	R-00051167	City of Lancaster	Depreciation
49.	2006	PA PUC	R00061346	Duquesne Light Company	Depreciation
50.	2006	PA PUC	R-00061322	The York Water Company	Depreciation
51.	2006	PA PUC	R-00051298	PPL GAS Utilities	Depreciation
52.	2006	PUC of TX	32093	CenterPoint Energy – Houston Electric	Depreciation
53.	2006	KY PSC	2006-00172	Duke Energy Kentucky	Depreciation
54.	2006	SC PSC		SCANA	
55.	2006	AK Reg Com	U-06-6	Municipal Light and Power	Depreciation
56.	2006	DE PSC	06-284	Delmarva Power and Light	Depreciation
57.	2006	IN URC	IURC43081	Indiana American Water Company	Depreciation
58.	2006	AK Reg Com	U-06-134	Chugach Electric Association	Depreciation
59.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
60.	2006	FERC	ISO82, ETC. AL	TransAlaska Pipeline	Depreciation
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	PA PUC	R-00072155	PPL Electric Utilities Corporation	Depreciation
65.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
66.	2007	PA PUC	R-00072229	Pennsylvania American Water Company	Depreciation
67.	2007	KY PSC	2007-0008	NiSource – Columbia Gas of Kentucky	Depreciation
68.	2007	NY PSC	07-G-0141	National Fuel Gas Distribution Corp (NY)	Depreciation
69.	2008	AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
70.	2008	TN Reg Auth	08-00039	Tennessee-American Water Company	Depreciation
71.	2008	DE PSC	08-96	Artesian Water Company	Depreciation
72.	2008	PA PUC	R-2008-2023067	The York Water Company	Depreciation
73.	2008	KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
74.	2008	IN URC	43526	Northern Indiana Public Service Company	Depreciation
75.	2008	IN URC	43501	Duke Energy Indiana	Depreciation
76.	2008	MD PSC	9159	NiSource – Columbia Gas of Maryland	Depreciation
77.	2008	KY PSC	2008-000251	Kentucky Utilities	Depreciation
78.	2008	KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
79.	2008	PA PUC	2008-20322689	Pennsylvania American Water Co. - Wastewater	Depreciation
80.	2008	NY PSC	08-E887/08-00888	Central Hudson	Depreciation
81.	2008	WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
82.	2008	IL CC	ICC-09-166	Peoples Gas, Light and Coke Company	Depreciation
83.	2009	IL CC	ICC-09-167	North Shore Gas Company	Depreciation
84.	2009	DC PSC	1076	Potomac Electric Power Company	Depreciation
85.	2009	KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
86.	2009	FERC	ER08-1056-002	Entergy Services	Depreciation
87.	2009	PA PUC	R-2009-2097323	Pennsylvania American Water Company	Depreciation
88.	2009	NC Util Cm	E-7, Sub 090	Duke Energy Carolinas, LLC	Depreciation
89.	2009	KY PSC	2009-00202	Duke Energy Kentucky	Depreciation
90.	2009	VA St. CC	PUE-2009-00059	Aqua Virginia, Inc.	Depreciation
91.	2009	PA PUC	2009-2132019	Aqua Pennsylvania, Inc.	Depreciation
92.	2009	MS PSC	09-	Entergy Mississippi	Depreciation
93.	2009	AK PSC	09-08-U	Entergy Arkansas	Depreciation
94.	2009	TX PUC	37744	Entergy Texas	Depreciation
95.	2009	TX PUC	37690	El Paso Electric Company	Depreciation
96.	2009	PA PUC	R-2009-2106908	The Borough of Hanover	Depreciation
97.	2009	KS CC	10-KCPE-415-RTS	Kansas City Power & Light	Depreciation
98.	2009	PA PUC	R-2009-	United Water Pennsylvania	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
99.	2009	OH PUC		Aqua Ohio Water Company	Depreciation
100.	2009	WI PSC	3270-DU-103	Madison Gas & Electric Company	Depreciation
101.	2009	MO PSC	WR-2010	Missouri American Water Company	Depreciation
102.	2009	AK Reg Cm	U-09-097	Chugach Electric Association	Depreciation
103.	2010	IN URC	43969	Northern Indiana Public Service Company	Depreciation
104.	2010	WI PSC	6690-DU-104	Wisconsin Public Service Corp.	Depreciation
105.	2010	PA PUC	R-2010-2161694	PPL Electric Utilities Corp.	Depreciation
106.	2010	KY PSC	2010-00036	Kentucky American Water Company	Depreciation
107.	2010	PA PUC	R-2009-2149262	Columbia Gas of Pennsylvania	Depreciation
108.	2010	MO PSC	GR-2010-0171	Laclede Gas Company	Depreciation
109.	2010	SC PSC	2009-489-E	South Carolina Electric & Gas Company	Depreciation
110.	2010	NJ BD OF PU	ER09080664	Atlantic City Electric	Depreciation
111.	2010	VA St. CC	PUE-2010-00001	Virginia American Water Company	Depreciation
112.	2010	PA PUC	R-2010-2157140	The York Water Company	Depreciation
113.	2010	MO PSC	ER-2010-0356	Greater Missouri Operations Company	Depreciation
114.	2010	MO PSC	ER-2010-0355	Kansas City Power and Light	Depreciation
115.	2010	PA PUC	R-2010-2167797	T.W. Phillips Gas and Oil Company	Depreciation
116.	2010	PSC SC	2009-489-E	SCANA – Electric	Depreciation
117.	2010	PA PUC	R-2010-22010702	Peoples Natural Gas, LLC	Depreciation
118.	2010	AK PSC	10-067-U	Oklahoma Gas and Electric Company	Depreciation
119.	2010	IN URC		Northern Indiana Public Serv. Company - NIFL	Depreciation
120.	2010	IN URC		Northern Indiana Public Serv. Co. - Kokomo	Depreciation
121.	2010	PA PUC	R-2010-2166212	Pennsylvania American Water Co. - WW	Depreciation
122.	2010	NC Util Cn.	W-218,SUB310	Aqua North Carolina, Inc.	Depreciation
123.	2011	OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
124.	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation
125.	2011	CO PUC	11AL-387E	Black Hills Colorado	Depreciation
126.	2011	PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
127.	2011	PA PUC	R-2010-2179103	City of Lancaster – Bureau of Water	Depreciation
128.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011	IL CC	11-0217	MidAmerican Energy Corporation	Depreciation
131.	2011	OK CC	201100087	Oklahoma Gas & Electric Company	Depreciation
132.	2011	PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
133.	2011	FERC	2011-2232243	Carolina Gas Transmission	Depreciation
134.	2012	WA UTC	UE-120436/UG-120437	Avista Corporation	Depreciation
135.	2012	AK Reg Cm	U-12-009	Chugach Electric Association	Depreciation
136.	2012	MA PUC	DPU 12-25	Columbia Gas of Massachusetts	Depreciation
137.	2012	TX PUC	40094	El Paso Electric Company	Depreciation
138.	2012	ID PUC	IPC-E-12	Idaho Power Company	Depreciation
139.	2012	PA PUC	R-2012-2290597	PPL Electric Utilities	Depreciation
140.	2012	PA PUC	R-2012-2311725	Borough of Hanover – Bureau of Water	Depreciation
141.	2012	KY PSC	2012-00222	Louisville Gas and Electric Company	Depreciation
142.	2012	KY PSC	2012-00221	Kentucky Utilities Company	Depreciation
143.	2012	PA PUC	R-2012-2285985	Peoples Natural Gas Company	Depreciation
144.	2012	DC PSC	Case 1087	Potomac Electric Power Company	Depreciation
145.	2012	OH PSC	12-1682-EL-AIR	Duke Energy Ohio (Electric)	Depreciation
146.	2012	OH PSC	12-1685-GA-AIR	Duke Energy Ohio (Gas)	Depreciation
147.	2012	PA PUC	R-2012-2310366	City of Lancaster – Sewer Fund	Depreciation
148.	2012	PA PUC	R-2012-2321748	Columbia Gas of Pennsylvania	Depreciation
149.	2012	FERC	ER-12-2681-000	ITC Holdings	Depreciation
150.	2012	MO PSC	ER-2012-0174	Kansas City Power and Light	Depreciation
151.	2012	MO PSC	ER-2012-0175	KCPL Greater Missouri Operations Company	Depreciation
152.	2012	MO PSC	GO-2012-0363	Laclede Gas Company	Depreciation
153.	2012	MN PUC	G007,001/D-12-533	Integrys – MN Energy Resource Group	Depreciation
153.	2012	TX PUC		Aqua Texas	Depreciation
155.	2012	PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013	NJ BPU	ER12121071	PHI Service Company– Atlantic City Electric	Depreciation
157.	2013	KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation
158.	2013	VA St CC	2013-00020	Virginia Electric and Power Company	Depreciation
159.	2013	IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
160.	2013	PA PUC	2013-2355276	Pennsylvania American Water Company	Depreciation
161.	2013	NY PSC	13-E-0030, 13-G-0031, 13-S-0032	Consolidated Edison of New York	Depreciation
162.	2013	PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
163.	2013	TN Reg Auth	12-0504	Tennessee American Water	Depreciation
164.	2013	ME PUC	2013-168	Central Maine Power Company	Depreciation
165.	2013	DC PSC	Case 1103	PHI Service Company – PEPCO	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
166.	2013	WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Company	Depreciation
167.	2013	FERC	ER13- -0000	Kentucky Utilities	Depreciation
168.	2013	FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
169.	2013	FERC	ER13- -0000	PPL Utilities	Depreciation
170.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
171.	2013	NJ BPU	ER12111052	Jersey Central Power and Light Company	Depreciation
172.	2013	PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
173.	2013	OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
174.	2013	IL CC	13-0500	Nicor Gas Company	Depreciation
175.	2013	WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
176.	2013	UT PSC	13-035-02	PacifiCorp	Depreciation
177.	2013	OR PUC	UM 1647	PacifiCorp	Depreciation
178.	2013	PA PUC	2013-2350509	Dubois, City of	Depreciation
179.	2014	IL CC	14-0224	North Shore Gas Company	Depreciation
180.	2014	FERC	ER14-	Duquesne Light Company	Depreciation
181.	2014	SD PUC	EL14-026	Black Hills Power Company	Depreciation
182.	2014	WY PSC	20002-91-ER-14	Black Hills Power Company	Depreciation
183.	2014	PA PUC	2014-2428304	Borough of Hanover – Municipal Water Works	Depreciation
184.	2014	PA PUC	2014-2406274	Columbia Gas of Pennsylvania	Depreciation
185.	2014	IL CC	14-0225	Peoples Gas Light and Coke Company	Depreciation
186.	2014	MO PSC	ER-2014-0258	Ameren Missouri	Depreciation
187.	2014	KS CC	14-BHCG-502-RTS	Black Hills Service Company	Depreciation
188.	2014	KS CC	14-BHCG-502-RTS	Black Hills Utility Holdings	Depreciation
189.	2014	KS CC	14-BHCG-502-RTS	Black Hills Kansas Gas	Depreciation
190.	2014	PA PUC	2014-2418872	Lancaster, City of – Bureau of Water	Depreciation
191.	2014	WV PSC	14-0701-E-D	First Energy – MonPower/PotomacEdison	Depreciation
192	2014	VA St CC	PUC-2014-00045	Aqua Virginia	Depreciation
193.	2014	VA St CC	PUE-2013	Virginia American Water Company	Depreciation
194.	2014	OK CC	PUD201400229	Oklahoma Gas and Electric Company	Depreciation
195.	2014	OR PUC	UM1679	Portland General Electric	Depreciation
196.	2014	IN URC	Cause No. 44576	Indianapolis Power & Light	Depreciation
197.	2014	MA DPU	DPU. 14-150	NSTAR Gas	Depreciation
198.	2014	CT PURA	14-05-06	Connecticut Light and Power	Depreciation
199.	2014	MO PSC	ER-2014-0370	Kansas City Power & Light	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
200.	2014	KY PSC	2014-00371	Kentucky Utilities Company	Depreciation
201.	2014	KY PSC	2014-00372	Louisville Gas and Electric Company	Depreciation
202.	2015	PA PUC	R-2015-2462723	United Water Pennsylvania Inc.	Depreciation
203.	2015	PA PUC	R-2015-2468056	NiSource - Columbia Gas of Pennsylvania	Depreciation
204.	2015	NY PSC	15-E-0283/15-G-0284	New York State Electric and Gas Corporation	Depreciation
205.	2015	NY PSC	15-E-0285/15-G-0286	Rochester Gas and Electric Corporation	Depreciation
206.	2015	MO PSC	WR-2015-0301/SR-2015-0302	Missouri American Water Company	Depreciation
207.	2015	OK CC	PUD 201500208	Oklahoma, Public Service Company of	Depreciation
208.	2015	WV PSC	15-0676-W-42T	West Virginia American Water Company	Depreciation
209.	2015	PA PUC	2015-2469275	PPL Electric Utilities	Depreciation
210.	2015	IN URC	Cause No. 44688	Northern Indiana Public Service Company	Depreciation
211.	2015	OH PSC	14-1929-EL-RDR	First Energy-Ohio Edison/Cleveland Electric/ Toledo Edison	Depreciation
212.	2015	NM PRC	15-00127-UT	El Paso Electric	Depreciation
213.	2015	TX PUC	PUC-44941; SOAH 473-15-5257	El Paso Electric	Depreciation
214.	2015	WI PSC	3270-DU-104	Madison Gas and Electric Company	Depreciation
215.	2015	OK CC	PUD 201500273	Oklahoma Gas and Electric	Depreciation
216.	2015	KY PSC	Doc. No. 2015-00418	Kentucky American Water Company	Depreciation
217.	2015	NC UC	Doc. No. G-5, Sub 565	Public Service Company of North Carolina	Depreciation
218.	2016	WA UTC	Docket UE-17	Puget Sound Energy	Depreciation
219.	2016	NY PSC	Case No. 16-W-0130	SUEZ Water New York, Inc.	Depreciation
220.	2016	MO PSC	ER-2016-0156	KCPL – Greater Missouri	Depreciation
221.	2016	WI PSC		Wisconsin Public Service Commission	Depreciation
222.	2016	KY PSC	Case No. 2016-00026	Kentucky Utilities Company	Depreciation
223.	2016	KY PSC	Case No. 2016-00027	Louisville Gas and Electric Company	Depreciation
224.	2016	OH PUC	Case No. 16-0907-WW-AIR	Aqua Ohio	Depreciation
225.	2016	MD PSC	Case 9417	NiSource - Columbia Gas of Maryland	Depreciation
226.	2016	KY PSC	2016-00162	Columbia Gas of Kentucky	Depreciation
227.	2016	DE PSC	16-0649	Delmarva Power and Light Company – Electric	Depreciation
228.	2016	DE PSC	16-0650	Delmarva Power and Light Company – Gas	Depreciation
229.	2016	NY PSC	Case 16-G-0257	National Fuel Gas Distribution Corp – NY Div	Depreciation
230.	2016	PA PUC	R-2016-2537349	Metropolitan Edison Company	Depreciation
231.	2016	PA PUC	R-2016-2537352	Pennsylvania Electric Company	Depreciation
232.	2016	PA PUC	R-2016-2537355	Pennsylvania Power Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
233.	2016	PA PUC	R-2016-2537359	West Penn Power Company	Depreciation
234.	2016	PA PUC	R-2016-2529660	NiSource - Columbia Gas of PA	Depreciation
235.	2016	KY PSC	Case No. 2016-00063	Kentucky Utilities / Louisville Gas & Electric Co	Depreciation
236.	2016	MO PSC	ER-2016-0285	KCPL Missouri	Depreciation
237.	2016	AR PSC	16-052-U	Oklahoma Gas & Electric Co	Depreciation
238.	2016	PSCW	6680-DU-104	Wisconsin Power and Light	Depreciation
239.	2016	ID PUC	IPC-E-16-23	Idaho Power Company	Depreciation
240.	2016	OR PUC	UM1801	Idaho Power Company	Depreciation
241.	2016	ILL CC	16-	MidAmerican Energy Company	Depreciation
242.	2016	KY PSC	Case No. 2016-00370	Kentucky Utilities Company	Depreciation
243.	2016	KY PSC	Case No. 2016-00371	Louisville Gas and Electric Company	Depreciation
244.	2016	IN URC		Indianapolis Power & Light	Depreciation
245.	2016	AL RC	U-16-081	Chugach Electric Association	Depreciation
246.	2017	MA DPU	D.P.U. 17-05	NSTAR Electric Company and Western Massachusetts Electric Company	Depreciation
247.	2017	TX PUC	PUC-26831, SOAH 973-17-2686	El Paso Electric Company	Depreciation
248.	2017	WA UTC	UE-17033 and UG-170034	Puget Sound Energy	Depreciation
249.	2017	OH PUC	Case No. 17-0032-EL-AIR	Duke Energy Ohio	Depreciation
250.	2017	VA SCC	Case No. PUE-2016-00413	Virginia Natural Gas, Inc.	Depreciation
251.	2017	OK CC	Case No. PUD201700151	Public Service Company of Oklahoma	Depreciation
252.	2017	MD PSC	Case No. 9447	Columbia Gas of Maryland	Depreciation
253.	2017	NC UC	Docket No. E-2, Sub 1142	Duke Energy Progress	Depreciation
254.	2017	VA SCC	Case No. PUR-2017-00090	Dominion Virginia Electric and Power Company	Depreciation
255.	2017	FERC	ER17-1162	MidAmerican Energy Company	Depreciation
256.	2017	PA PUC	R-2017-2595853	Pennsylvania American Water Company	Depreciation
257.	2017	OR PUC	UM1809	Portland General Electric	Depreciation
258.	2017	FERC	ER17-217	Jersey Central Power & Light	Depreciation
259.	2017	FERC	ER17-211	Mid-Atlantic Interstate Transmission, LLC	Depreciation
260.	2017	MN PUC	Docket No. G007/D-17-442	Minnesota Energy Resources Corporation	Depreciation
261.	2017	IL CC	Docket No. 17-0124	Northern Illinois Gas Company	Depreciation
262.	2017	OR PUC	UM1808	Northwest Natural Gas Company	Depreciation
263.	2017	NY PSC	Case No. 17-W-0528	SUEZ Water Owego-Nichols	Depreciation
264.	2017	MO PSC	GR-2017-0215	Laclede Gas Company	Depreciation
265.	2017	MO PSC	GR-2017-0216	Missouri Gas Energy	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
266.	2017	ILL CC	Docket No. 17-0337	Illinois-American Water Company	Depreciation
267.	2017	FERC	Docket No. ER17- _	PPL Electric Utilities Corporation	Depreciation
268.	2017	IN URC	Cause No. 44988	Northern Indiana Public Service Company	Depreciation
269.	2017	NJ BPU	BPU Docket No. WR17090985	New Jersey American Water Company, Inc.	Depreciation
270.	2017	RI PUC	Docket No. 4800	SUEZ Water Rhode Island	Depreciation
271.	2017	OK CC	Cause No. PUD 201700496	Oklahoma Gas and Electric Company	Depreciation
272.	2017	NJ BPU	ER18010029 & GR18010030	Public Service Electric and Gas Company	Depreciation
273.	2017	NC Util Com.	Docket No. E-7, SUB 1146	Duke Energy Carolinas, LLC	Depreciation
274.	2017	KY PSC	Case No. 2017-00321	Duke Energy Kentucky, Inc.	Depreciation
275.	2017	MA DPU	D.P.U. 18-40	Berkshire Gas Company	Depreciation
276.	2018	IN IURC	Cause No. 44992	Indiana-American Water Company, Inc.	Depreciation
277.	2018	IN IURC	Cause No. 45029	Indianapolis Power and Light	Depreciation
278.	2018	NC Util Com.	Docket No. W-218, Sub 497	Aqua North Carolina, Inc.	Depreciation
279.	2018	PA PUC	Docket No. R-2018-2647577	NiSource - Columbia Gas of Pennsylvania, Inc.	Depreciation
280.	2018	OR PUC	Docket UM 1933	Avista Corporation	Depreciation
281.	2018	WA UTC	Docket No. UE-108167	Avista Corporation	Depreciation
282.	2018	ID PUC	AVU-E-18-03, AVU-G-18-02	Avista Corporation	Depreciation
283.	2018	IN URC	Cause No. 45039	Citizens Energy Group	Depreciation
284.	2018	FERC	Docket No. ER18-	Duke Energy Progress	Depreciation
285.	2018	PA PUC	Docket No. R-2018-3000124	Duquesne Light Company	Depreciation
286.	2018	MD PSC	Case No. 9480	NiSource - Columbia Gas of Maryland	Depreciation
287.	2018	MA DPU	D.P.U. 18-45	NiSource - Columbia Gas of Massachusetts	Depreciation
288.	2018	OH PUC	Case No. 18-0299-GA-ALT	Vectren Energy Delivery of Ohio	Depreciation
289.	2018	PA PUC	Docket No. R-2018-3000834	SUEZ Water Pennsylvania Inc.	Depreciation
290.	2018	MD PSC	Case No. 9847	Maryland-American Water Company	Depreciation
291.	2018	PA PUC	Docket No. R-2018-3000019	The York Water Company	Depreciation
292.	2018	FERC	Docket Nos. ER-18-2231-000	Duke Energy Carolinas, LLC	Depreciation
293.	2018	KY PSC	Case No. 2018-00261	Duke Energy Kentucky, Inc.	Depreciation
294.	2018	NJ BPU	BPU Docket No. WR18050593	SUEZ Water New Jersey	Depreciation
295.	2018	WA UTC	Docket No. UE-180778	PacifiCorp	Depreciation
296.	2018	UT PSC	Docket No. 18-035-36	PacifiCorp	Depreciation
297.	2018	OR PUC	Docket No. UM-1968	PacifiCorp	Depreciation
298.	2018	ID PUC	Case No. PAC-E-18-08	PacifiCorp	Depreciation
299.	2018	WY PSC	20000-539-EA-18	PacifiCorp	Depreciation
300.	2018	PA PUC	Docket No. R-2018-3003068	Aqua Pennsylvania, Inc.	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
301.	2018	IL CC	Docket No. 18-1467	Aqua Illinois, Inc.	Depreciation
302.	2018	KY PSC	Case No. 2018-00294	Louisville Gas & Electric Company	Depreciation
303.	2018	KY PSC	Case No. 2018-00295	Kentucky Utilities Company	Depreciation
304.	2018	IN URC	Cause No. 45159	Northern Indiana Public Service Company	Depreciation
305.	2018	VA SCC	Case No. PUR-2019-00175	Virginia American Water Company	Depreciation
306.	2019	PA PUC	Docket No. R-2018-3006818	Peoples Natural Gas Company, LLC	Depreciation
307.	2019	OK CC	Cause No. PUD201800140	Oklahoma Gas and Electric Company	Depreciation
308.	2019	MD PSC	Case No. 9490	FirstEnergy – Potomac Edison	Depreciation
309.	2019	SC PSC	Docket No. 2018-318-E	Duke Energy Progress	Depreciation
310.	2019	SC PSC	Docket No. 2018-319-E	Duke Energy Carolinas	Depreciation

In the Matter of the Petition of Minnesota Energy Resources Corporation for Annual Review of Deprecation Rates for 2019

Docket No. G011/D-19-___

CERTIFICATE OF SERVICE

I, Kristin M. Stastny, hereby certify that on the 31st day of May, 2019, on behalf of Minnesota Energy Resources Corporation (MERC), I electronically filed a true and correct copy of the enclosed Petition on www.edockets.state.mn.us. Said documents were also served via U.S. mail and electronic service as designated on the attached service list.

Dated this 31st day of May, 2019.

/s/ Kristin M. Stastny
Kristin M. Stastny

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Michael	Ahern	ahern.michael@dorsey.com	Dorsey & Whitney, LLP	50 S 6th St Ste 1500 Minneapolis, MN 554021498	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Daryll	Fuentes	dfuentes@usg.com	USG Corporation	550 W Adams St Chicago, IL 60661	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Brian	Meloy	brian.meloy@stinson.com	STINSON LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Catherine	Phillips	catherine.phillips@we-energies.com	We Energies	231 West Michigan St Milwaukee, WI 53203	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Elizabeth	Schmiesing	eschmiesing@winthrop.com	Winthrop & Weinstine, P.A.	225 South Sixth Street Suite 3500 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Colleen	Sipiorski	Colleen.Sipiorski@wecenergygroup.com	Minnesota Energy Resources Corporation	700 North Adams St Green Bay, WI 54307	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Kristin	Stastny	kstastny@briggs.com	Briggs and Morgan, P.A.	2200 IDS Center 80 South 8th Street Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Mary	Wolter	mary.wolter@wecenergygroup.com	Minnesota Energy Resources Corporation (HOLDING)	231 West Michigan St Milwaukee, WI 53203	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List