414 Nicollet Mall
Minneapolis, Minnesota 55401

March 1, 2017

—VIA ELECTRONIC FILING—

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101

RE: PETITION AND COMPLIANCE FILING
STATE ENERGY POLICY RIDER
DOCKET NO. G002/M-17-____

Dear Mr. Wolf:

Northern States Power Company, doing business as Xcel Energy, submits the enclosed Petition and Compliance filing for approval of our July 2017-June 2018 State Energy Policy (SEP) Rider natural gas rate factor.

Pursuant to Minn. Stat. § 216.17, subd. 3, we have electronically filed this document, and served copies on the parties on the attached service lists.

If you have any questions regarding this filing please contact Rebecca Eilers at rebecca.d.eilers@xcelenergy.com or (612) 330-5570, or me at (612) 330-7681 or lisa.r.peterson@xcelenergy.com.

Sincerely,

/s/

LISA R. PETERSON
MANAGER, REGULATORY ANALYSIS

Enclosures

c: Service List

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
Katie Sieben	Commissioner
John Tuma	Commissioner

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY FOR APPROVAL OF A MODIFICATION TO OUR NATURAL GAS SEP TARIFF, 2017 SEP RATE FACTOR, AND 2016 SEP COMPLIANCE FILING

DOCKET NO. G002/M-17-___

PETITION AND COMPLIANCE FILING

OVERVIEW

Northern States Power Company, doing business as Xcel Energy, submits to the Minnesota Public Utilities Commission this Petition requesting approval of our 2017 natural gas State Energy Policy (SEP) Rider rate factor, our 2016 Annual SEP compliance filing, and our proposed Customer Notice and Tariff update.

We propose a 2017 natural gas SEP rate factor of $0.002103 per therm for the recovery of approximately $1.8 million for the 12 month period of July 2017 – June 2018. If approved as proposed, average natural gas residential customers using 73.67 therms per month would pay approximately $1.86 per year, compared to $1.21 in the current 2016 SEP Period.

The primary components of our natural gas SEP rate factor are:

1. Expenses for the state Reliability Administrator (RA);
2. Expenses for the development of State Building Guidelines (SBG) for the construction of new public facilities; and
3. Expenses associated with the Company's natural gas Cast Iron Pipe Replacement program less proceeds from any offsets or credits associated with the program (Greenhouse Gas Infrastructure costs).

Expenses once collected through our electric SEP rate factor are now included in base rates as a result of our last completed electric rate case (Docket No. E002/GR-13-868).

I. DESCRIPTION OF FILING

We provide the following information in this filing:

- Background Information;
- SEP Eligible Expenses;
- 2017 Natural Gas SEP Rate Factor;
- 2016 SEP True-Up; and
- Carbon Offsets.

In addition, we provide the following attachments to support our request.

Attachment	Description
Attachment A1	Proposed revision to the appropriate tariff sheet.
Attachment A2	Our 24-month forecast of SEP costs and rate factors applicable to all natural gas customers, including demand billed Commercial and Industrial customers under this rider.
Attachment B	SEP Tracker
Attachment C	A comparison by month for the past twelve months of actual natural gas costs versus forecasted costs.
Attachment D1	Detailed Reliability Administrator and Sustainable Building Guidelines costs.
Attachment D2	Detailed cast iron replacement revenue requirements.
Attachment D3	Cast iron replacement O&M credit.
Attachment D4	Revenue collections (Actual and Forecast).
Attachment E	Base assumptions used to calculate the cast iron pipe revenue requirements.
Attachment F	Bridge Schedule from our most recent natural gas rate case, reflecting the 2010 test year, as filed.
Attachment G	Description of revenue requirements categories.
Attachment H	Summary report of the Company's 2015 data as reported to the EPA in March 2016.

We submit this filing in accordance with the following statutory and rule provisions:

- Minn. Stat. § 16B.325 (Sustainable Building Guidelines)
- Minn. Stat. § 216B.16, Subd. 1 (Rate Change Notice)
- Minn. Stat. § 216B.62, Subd. 3b. (Reliability Administrator)[1]
- Minn. R. 7829.1300 (Miscellaneous Tariff Filings)

[1] The original statute authorizing the Reliability Administrator (Minn. Stat. § 216C.052, Subd. 2) was repealed by 2011 Minn. Laws Ch. 97 § 34. In the same legislative session, Minn. Stat. § 216B.62, Subd. 3b. was passed, authorizing the Assessment for Department Regional and National Duties through June 30, 2015. The assessment was renewed through June 30, 2017 during the 2015 legislative session. Our filing presumes this assessment will be renewed again during the current legislative session. For consistency, we have continued to label these Reliability Administrator (RA) expenses.

- Minn. R. 7829.0100 (Definitions)

II. SUMMARY OF FILING

Pursuant to Minn. R. 7829.1300, subp. 1, a one-paragraph summary of the filing accompanies this Petition.

III. SERVICE ON OTHER PARTIES

Pursuant to Minn. R. 7829.1300, subp. 2, Xcel Energy has served a summary of the filing on all parties on the Xcel Energy miscellaneous natural gas service list and the service list from our 2016 SEP Rider filing.[2]

IV. GENERAL FILING INFORMATION

Pursuant to Minn. R. 7829.1300, subp. 3, the Company provides the following information.

A. Name, Address, and Telephone Number of Utility

Northern States Power Company, doing business as
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401
(612) 330-5500

B. Name, Address, and Telephone Number of Utility Attorney

Mara K. Ascheman
Senior Attorney
Xcel Energy Services Inc.
414 Nicollet Mall – 401, 8th Floor
Minneapolis, MN 55401
(612) 215-4605

C. Date of Filing and Proposed Effective Date of Rates

The date of this filing is March 1, 2017. The Company proposes the 2017 natural gas SEP rate factor be included in the Resource Adjustment line on the Company's retail natural gas billing rates effective July 1, 2017.

[2] Docket No. G002/M-16-206

D. Statutes Controlling Schedule for Processing the Filing

The tariff change proposed in this Petition falls within the definition of a "Miscellaneous Filing" under Minn. R. 7829.0100, subp. 11, because no determination of Xcel Energy's general revenue requirement is necessary. Pursuant to Minn. R. 7829.1400, initial comments on a miscellaneous filing are due within 30 days of filing, with replies due 10 days thereafter.

E. Utility Employee Responsible for Filing

Lisa R. Peterson
Manager, Regulatory Analysis
Xcel Energy Services Inc.
414 Nicollet Mall – 401, 7th Floor
Minneapolis, Minnesota 55401
(612) 330-7681

V. BACKGROUND INFORMATION

The Commission first established the SEP Rider mechanism and approved recovery of eligible expenses in its April 6, 2004 Order in Docket No. E,G002/M-03-1544.

The Commission first approved recovery of costs associated with the replacement of remaining natural gas cast iron pipe on our system through the SEP rate factor in its November 25, 2008 Order in Docket No. E,G002/M-08-261 (November 25, 2008 Order).

The Commission subsequently directed the Company to provide the following information in future annual filings:[3]

- A comparison by month for the past twelve months of actual costs (revenue requirements) versus forecasted costs.[4] (See Attachment C.)
- A discussion of reasons for deviations from budgeted amounts (both higher and lower).[5]
- Specific cast iron project costs and related information.[6]

[3] Docket No. E,G002/M-10-210, Order dated September 23, 2010 (September 23, 2010 Order)
[4] This requirement was reiterated in the Order issued in the most recent SEP proceeding (Docket No. G002/M-16-206) dated May 20, 2016 (May 20, 2016 Order).
[5] Id.
[6] This reporting requirement was discontinued by the Commission's June 3, 2013 Order in Docket No. E,G002/M-13-161 since construction is complete and there are no new projects to discuss.

- Updated SEP Tracker schedules that identify beginning balances, current period transactions, and subsequent ending balances.

Our calculations in this filing reflect the rate of return approved by the Commission in our last natural gas rate case.[7]

VI. SEP ELIGIBLE EXPENSES

There are three types of expenses currently included for recovery in the SEP Rider as eligible according to Minnesota statutes and Commission orders. They are discussed below.

A. Reliability Administrator (RA)

RA costs are related to the expenses incurred by the Minnesota Department of Commerce, Division of Energy Resources, for services to the Commission and the public on reliability issues and other proceedings, analysis, or projects.

B. Sustainable Building Guidelines (SBG)

SBG costs result from the development of guidelines for the design of all new state buildings as defined in Minn. Stat. § 16B.325, with responsibility for the design guidelines shared by the Minnesota Department of Commerce, Division of Energy Resources and the Minnesota Department of Administration.

C. Greenhouse Gas Infrastructure Costs

In the November 25, 2008 Order, the Commission approved our proposed recovery of costs associated with replacement of cast iron pipe through the natural gas SEP rate factor and required that we credit any proceedings received from the sale of carbon offsets or credits associated with the cast iron replacement program.

VII. 2017 SEP RATE FACTOR AND CUSTOMER NOTICE

In this Section, we present our 2017 natural gas SEP Rider tariff and customer notice language, and we summarize the contents of our 2017 SEP rate factor.

[7] Docket No. G002/GR-09-1153.

A. Proposed 2017 Rider Tariff and Customer Notice

Our proposed SEP Rider tariff provides that the SEP rate factor be included on each natural gas customer's monthly bill effective July 1, 2017, which is done as part of the Resource Adjustment charge on monthly bill statements.

We provide as Attachment A1 to this filing proposed changes to our Natural Gas Rate Book, Section No. 5, 15th Revised Sheet No. 63 in both redline and clean versions.

We will submit a compliance filing in this docket containing the final 2017 natural gas SEP rate factor calculations and corresponding tariff pages within 10 days of receiving the Commission's Order approving this Petition.

We propose to implement the following bill message, effective the first month the 2017 natural gas SEP rate factor takes effect, notifying customers of the change in their monthly bills:

> *We have updated the Resource Adjustment line item on your bill to reflect changes in the State Energy Policy (SEP) portion of the Resource Adjustment, which recovers the costs of State energy-related mandates and greenhouse gas emissions reductions associated with the cast iron replacement program. The natural gas SEP portion of the Resource Adjustment increased to $0.002103 per therm.*

We will work with Commission Staff regarding this proposed customer notice in advance of implementation.

B. Proposed 2017 Natural Gas SEP Factor

Our proposed 2017 natural gas SEP rate factor compared to 2016 is as follows:

Table 1
Proposed Rates

Gas	2016 Approved	2017 Forecast
Revenue Requirement	$1,315,002	$1,832,232
Rate/therm	$ 0.001368	$0.002103

If approved as proposed, an average natural gas residential customer using 73.67 therms per month would pay approximately $1.86 per year, compared to $1.21 in the

current 2016 SEP Period. We discuss the specific inputs to the natural gas rate factor calculations below.

A summary of 2017 SEP forecasted costs proposed for recovery and the calculation of our proposed natural gas SEP rate factor compared to our approved 2016 SEP costs are follows:

Table 2
SEP Costs and Rate Factor

Gas	2016 Approved	2017 Forecast	Difference
RA/SBG	$31,557	$10,565	$(20,992)
Cast Iron	$1,821,962	$1,754,251	$(67,712)
Cast Iron O&M Credit	$(72,310)	$(72,310)	$0
Carryover	$(466,208)	$139,726	$605,934
Revenue Requirement	$1,315,002	$1,832,232	$517,230
Therm Sales	961,310,996	871,444,973	(89,866,023)
Factor	$0.001368	$0.002103	$0.000735

Note: The Sales Forecast information in Table 2 is annualized to provide a comparison of our projected factor and our approved factor.

The monthly breakdown of our proposed 2017 natural gas SEP rate factor costs, sales, projected revenues, and anticipated Tracker balance is provided in Attachment B.[8] In addition, we provide the projected revenue collections based on the gas sales forecast as Attachment D4 to this filing.[9] These attachments provide period transactions, as well as beginning and ending Tracker balances, as specified in the September 23, 2010 Order.

The costs and revenues included in the proposed natural gas 2017 SEP rate factor are not included for recovery under any other tariff rate or base rate.

We provide as Attachment F to this filing, the Bridge Schedule from our most recent natural gas rate case, reflecting the 2010 test year. Please refer to Attachment F, column (5), page 1 of 3, which shows that the SEP rate base was removed from the test year rate base; Attachment F, column (5), page 2 of 3, shows that the SEP revenues and expenses were removed from the test year operating income.

We have calculated our proposed natural gas SEP rate factor assuming all components are approved for eligibility, and are effective July 1, 2017 to June 30, 2018. If actual implementation occurs after July 1, 2017, we propose that the 2017 SEP Rider rate factor be adjusted to recover the approved program costs over the

[8] Includes interdepartmental sales.
[9] Summer 2016 sales forecast.

remaining months of the period, through June 30, 2018. This approach ensures that the cost recovery matches the approved eligible costs.

For a breakdown of the RA/SBG costs, please see Attachment D1.

C. Natural Gas Cast Iron Pipe Replacement Project

We completed replacement of 25 miles of cast iron pipe, and the replacement program concluded in 2012, though revenue requirements continue until the capitalized costs are fully depreciated. No additional cast iron renewal is planned. The June 3, 2013 Order in Docket No. E002/M-13-161 discontinued reporting requirements associated with specific cast iron replacement projects.

The Minnesota jurisdictional total revenue requirements associated with this project for the 2017 SEP period is approximately $1.8 million. See Attachment D2 for the detailed calculation of the cast iron revenue requirements. Attachment E shows the base assumptions used to calculate the cast iron pipe revenue requirements. We additionally provide Attachment G, which describes the revenue requirements categories.

D. O&M Credit Calculation

The September 23, 2010 Order requires that we adjust our O&M credit in this filing to reflect the outcome of our natural gas rate case in Docket No. G002/GR-09-1153.

We provide the calculation of the O&M credit calculation as Attachment D3 to this filing. Consistent with our 2012 filing and subsequent filings, we have credited the overall O&M level to reflect the portion of cast iron pipe replaced through the 2010 test year as that amount is reflected in base rates.

An external consultant has reviewed and verified the accuracy of our filing through: (1) calculation of our revenue requirements and trackers; (2) reviewing the compliance of these calculations with corresponding Minnesota Statutes and Rules, and previous Commission Orders and Company filings; and (3) verifying that costs proposed to be recovered through the SEP rate factor are not being recovered under any other cost recovery mechanism.

VIII. 2016 SEP COMPLIANCE INFORMATION AND TRUE-UP

A. Tracker Balance Adjustments

The estimated under-recovered amount in the 2016-2017 SEP Tracker is $139,726. The primary driver of this true-up is due to lower actual sales for the period July through December 2016 compared to the forecasted volumes which resulted in lower revenue collection.

We note that this true-up adjustment is estimated, as we have used actual revenue, costs, and sales through December 2016, and forecasted the January through June 2017 period. Please see Attachment B to this filing for the supporting calculations.

B. Budget Deviations

The September 23, 2010 Order and the May 20, 2016 Order require that we provide a comparison by month for the past twelve months of actual natural gas costs versus forecasted costs as well as a discussion of reasons for deviations from budgeted amounts (both higher and lower). See Attachment C for the comparison by month for the past twelve months (January 2016 – December 2016) of actual natural gas costs (revenue requirements) to the budgeted (forecast) costs excluding carryover balances. Specific deviations are explained below.

Two main factors contributed to the differences between the past twelve months' actual and budgeted natural gas costs. First, the RA/SBG costs were $20,993 lower than forecasted due to the actual billings from the Department of Commerce, including a true-up credit of $27,215 on the December assessment. Second, cast iron pipe replacement costs were $5,408 less than forecasted. In summary, total actual costs for the past twelve month were $26,401 lower than forecasted:

Table 3
Budget Deviations for Past 12 Months

RA/SBG	$(20,993)
Cast Iron	$(5,408)
Net variance	$(26,401)

In this same twelve-month period, revenue collections were $111,327 less than forecasted. Lower actual sales volumes during the twelve-month period contributed to the revenue shortfall.

IX. CARBON OFFSETS

Order Point No. 1.B of the November 25, 2008 Order requires the Company to report and credit the SEP Tracker with any proceeds received from the sale of carbon offsets or credits associated with the Cast Iron Pipe Replacement project.

We have not sold any carbon offsets or credits for greenhouse gas emissions associated with the natural gas project under the SEP Rider to-date. As a result, there are no carbon offsets and/or credits to report, nor are there proceeds to credit to the SEP Rider tracker account.

In 2012, we began to report annually to the U.S. Environmental Protection Agency (EPA) on greenhouse gas emissions for all types of natural gas pipe material.[10] In previous SEP proceedings, we committed to provide this report as an attachment in future SEP Petitions. Because we submit the data to the EPA website via electronic form, we include as Attachment H the summary report print-out of the Company's data for 2015 as reported to the EPA in March 2016.

X. MISCELLANEOUS INFORMATION

Pursuant to Minn. R. 7829.0700, subp. 2, Xcel Energy requests that the following persons be placed on the Commission's official service list for this matter:

Mara K. Ascheman
Senior Attorney
Xcel Energy
414 Nicollet Mall, 401 - 8th Floor
Minneapolis, Minnesota 55401
mara.k.ascheman@xcelenergy.com

Carl Cronin
Regulatory Administrator
Xcel Energy
414 Nicollet Mall, 401 - 7th Floor
Minneapolis, Minnesota 55401
regulatory.records@xcelenergy.com

Any information requests in this proceeding should be submitted to Mr. Cronin.

[10] 40 C.F.R. Part 98, Subparts A and W, provide the regulatory framework for the Greenhouse Gas (GHG) Reporting Program (November 10, 2010). The GHG calculation methodologies used in the rule generally include the use of engineering estimates, emissions modeling software, and emission factors, or, when other methods are not feasible, direct measurement of emissions. The established emission factor for cast iron main is 27.67 scf/hour/mile.

CONCLUSION

We respectfully request that the Commission approve our 2017 natural gas SEP Rider rate factor as proposed in this Petition, our 2016 Annual SEP compliance filing, and our proposed customer notice and tariff update.

Dated: March 1, 2017

Respectfully submitted by:

Northern States Power Company

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

Nancy Lange	Chair
Dan Lipschultz	Commissioner
Matthew Schuerger	Commissioner
Katie Sieben	Commissioner
John Tuma	Commissioner

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY FOR APPROVAL OF A MODIFICATION TO OUR NATURAL GAS SEP TARIFF, 2017 SEP RATE FACTOR, AND 2016 SEP COMPLIANCE FILING

DOCKET NO. G002/M-17-___

PETITION AND COMPLIANCE FILING

SUMMARY

Please take notice that on March 1, 2017, Northern States Power Company, doing business as Xcel Energy, filed with the Minnesota Public Utilities Commission a Petition for approval of our July 2017 – June 2018 natural gas State Energy Policy (SEP) Rider rate factor, pursuant to Minn. Stat. §§ 16B.325, 216B.16, subd. 1, 216B.62 subd. 3b, and Minn. R. 7829.1300 and 7829.0100, and previous Commission Orders in our SEP Rider filings. The Petition included the Company's 2016 Annual SEP Compliance Filing, including the calculation of the preliminary 2016 true-up of costs and revenues recorded in the SEP Tracker Accounts as required in the November 25, 2008 ORDER ACCEPTING AND MODIFYING PETITION REGARDING STATE ENERGY POLICY RIDER in Docket No. E,G002/M-08-261.

State Energy Policy Rider 2017
Attachment Table of Contents

Redline

STATE ENERGY POLICY RATE RIDER

Section No. 5
~~14th~~15th Revised Sheet No. 63

APPLICATION
Applicable to bills for gas service provided under the Company's retail rate schedules.

DETERMINATION OF CHARGES UNDER THIS RIDER
Customer bills under this rate will include the specific charges listed below.

RIDER
There shall be included on each customer's monthly bill a State Energy Policy Rate Rider which shall be the applicable State Energy Policy Rate Rider factor multiplied by the customer's monthly therm gas consumption.

DETERMINATION OF STATE ENERGY POLICY RATE FACTOR
The applicable State Energy Policy Rate Rider shall be the quotient obtained by dividing the annual State Energy Policy Tracker amount by the annual forecasted therm sales. The factor may be adjusted annually with approval of the Minnesota Public Utilities Commission.

Residential	~~$0.001368~~$0.002103 per therm	R
Commercial	~~$0.001368~~$0.002103 per therm	R

Recoverable State Energy Policy Rate Expense
All costs appropriately charged to the State Energy Policy Tracker account shall be eligible for recovery through this Rider, and all revenues received from the State Energy Policy adjustment portion of the Resource Adjustment shall be credited to the State Energy Policy Tracker account.

Clean

STATE ENERGY POLICY RATE RIDER

APPLICATION
Applicable to bills for gas service provided under the Company's retail rate schedules.

DETERMINATION OF CHARGES UNDER THIS RIDER
Customer bills under this rate will include the specific charges listed below.

RIDER
There shall be included on each customer's monthly bill a State Energy Policy Rate Rider which shall be the applicable State Energy Policy Rate Rider factor multiplied by the customer's monthly therm gas consumption.

DETERMINATION OF STATE ENERGY POLICY RATE FACTOR
The applicable State Energy Policy Rate Rider shall be the quotient obtained by dividing the annual State Energy Policy Tracker amount by the annual forecasted therm sales. The factor may be adjusted annually with approval of the Minnesota Public Utilities Commission.

Residential	$0.002103 per therm	R
Commercial	$0.002103 per therm	R

Recoverable State Energy Policy Rate Expense
All costs appropriately charged to the State Energy Policy Tracker account shall be eligible for recovery through this Rider, and all revenues received from the State Energy Policy adjustment portion of the Resource Adjustment shall be credited to the State Energy Policy Tracker account.

Gas Rate Factor				
	note	2016 Approved	2017 Forecast	2018 Forecast
Revenue Requirement	1	$ 1,315,002	$ 1,832,232	$ 1,638,574
Forecasted Therms	2	961,310,996	871,444,973	851,291,853
Gas Rate/therm	3	0.001368	0.002103	0.001925
Implemented Rate/therm		0.001368	TBD	TBD
Residential bill impact / Month	4	$ 0.10	$ 0.15	$ 0.14
Residential bill impact / Year	4	$ 1.21	$ 1.86	$ 1.70

Notes:
(1) For 2017 and 2018, refer to Gas Tracker (Attachment B) for supporting detail. For 2016, refer to Docket No. G002/M-16-206.
(2) For 2017 and 2018, refer to Gas Tracker Detail: Revenue Collections (Attachment D4) for supporting detail. For 2016, refer to the Commission Order in Docket No. G002/M-16-206.
(3) 2016 rate approved in Docket No. G002/M-16-206. For 2017 and 2018, rates are forecasted.
(4) Assumes 884 therms per year which equates to 73.67 therms per month.

Gas Tracker

	Reference Attachment	Carryover Balance	Jul-15 Actual	Aug-15 Actual	Sep-15 Actual	Oct-15 Actual	Nov-15 Actual	Dec-15 Actual	Jan-16 Actual	Feb-16 Actual	Mar-16 Actual	Apr-16 Actual	May-16 Actual	Jun-16 Actual	Total - 15/16 Actual
RA/SBG (1)	D1		$ -	$ -	$ 12,911	$ -	$ -	$ 1,868	$ -	$ -	$ 6,454	$ -	$ -	$ 10,646	$ 31,879
Cast Iron	D2		$ 158,756	$ 158,341	$ 157,927	$ 157,513	$ 157,098	$ 156,684	$ 155,488	$ 155,109	$ 154,740	$ 154,381	$ 154,031	$ 153,691	$ 1,873,761
Cast Iron O&M Credit	D3		$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (72,310)
Carryover from Prev Yr (2)		$ (1,245,117)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (103,760)	$ (1,245,117)
Revenue Requirements (3)			$ 48,970	$ 48,556	$ 61,053	$ 47,727	$ 47,313	$ 48,766	$ 45,703	$ 45,324	$ 51,409	$ 44,595	$ 44,246	$ 54,552	$ 588,213
Revenue Collections (4)	D4		$ 97,466	$ 85,412	$ 88,900	$ 90,860	$ 132,683	$ 161,745	$ 95,779	$ 97,468	$ 90,171	$ 61,438	$ 43,498	$ 33,357	$ 1,078,776
Carbon Offset Payments (5)			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance (6) (7)			$ (48,495)	$ (85,352)	$ (113,199)	$ (156,331)	$ (241,701)	$ (354,680)	$ (404,756)	$ (456,900)	$ (495,662)	$ (512,505)	$ (511,757)	$ (490,563)	$ (490,563)

	Reference Attachment	Carryover Balance	Jul-16 Actual	Aug-16 Actual	Sep-16 Actual	Oct-16 Actual	Nov-16 Actual	Dec-16 Actual	Jan-17 Forecast	Feb-17 Forecast	Mar-17 Forecast	Apr-17 Forecast	May-17 Forecast	Jun-17 Forecast	Total - 16/17 Act/Forecast
RA/SBG (1)	D1		$ -	$ -	$ 10,336	$ -	$ -	$ (16,871)	$ -	$ -	$ 1,805	$ -	$ -	$ 2,978	$ (1,752)
Cast Iron	D2		$ 153,362	$ 153,042	$ 152,732	$ 152,432	$ 152,142	$ 151,862	$ 150,869	$ 150,122	$ 149,766	$ 149,419	$ 149,080	$ 148,750	$ 1,813,577
Cast Iron O&M Credit	D3		$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (72,310)
Carryover from Prev Yr (2)		$ (490,563)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (40,880)	$ (490,563)
Revenue Requirements (3)			$ 106,456	$ 106,136	$ 116,162	$ 105,526	$ 105,236	$ 88,085	$ 103,963	$ 103,216	$ 104,665	$ 102,513	$ 102,174	$ 104,822	$ 1,248,953
Revenue Collections (4)	D4		$ 53,363	$ 72,224	$ 46,484	$ 55,752	$ 81,501	$ 126,152	$ 184,411	$ 153,554	$ 138,209	$ 84,497	$ 63,303	$ 49,777	$ 1,109,227
Carbon Offset Payments (5)			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance (6) (7)			$ 53,093	$ 87,005	$ 156,683	$ 206,457	$ 230,192	$ 192,125	$ 111,677	$ 61,338	$ 27,794	$ 45,810	$ 84,681	$ 139,726	$ 139,726

	Reference Attachment	Carryover Balance	Jul-17 Forecast	Aug-17 Forecast	Sep-17 Forecast	Oct-17 Forecast	Nov-17 Forecast	Dec-17 Forecast	Jan-18 Forecast	Feb-18 Forecast	Mar-18 Forecast	Apr-18 Forecast	May-18 Forecast	Jun-18 Forecast	Total - 17/18 Forecast
RA/SBG (1)	D1		$ -	$ -	$ 2,891	$ -	$ -	$ 2,891	$ -	$ -	$ 1,805	$ -	$ -	$ 2,978	$ 10,565
Cast Iron	D2		$ 148,429	$ 148,116	$ 147,812	$ 147,516	$ 147,229	$ 146,950	$ 145,828	$ 145,147	$ 144,803	$ 144,467	$ 144,138	$ 143,816	$ 1,754,251
Cast Iron O&M Credit	D3		$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (72,310)
Carryover from Prev Yr (2)		$ 139,726	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 11,644	$ 139,726
Revenue Requirements (3)			$ 154,047	$ 153,734	$ 156,321	$ 153,134	$ 152,847	$ 155,460	$ 151,446	$ 150,765	$ 152,227	$ 150,085	$ 149,756	$ 152,412	$ 1,832,232
Revenue Collections (4)	D4		$ 87,931	$ 74,693	$ 71,007	$ 114,824	$ 178,021	$ 266,459	$ 282,904	$ 236,920	$ 214,282	$ 132,693	$ 96,880	$ 76,035	$ 1,832,649
Carbon Offset Payments (5)			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance (6) (7)			$ 66,116	$ 145,156	$ 230,470	$ 268,779	$ 243,606	$ 132,606	$ 1,148	$ (85,007)	$ (147,061)	$ (129,670)	$ (76,794)	$ (417)	$ (417)

	Reference Attachment	Carryover Balance	Jul-18 Forecast	Aug-18 Forecast	Sep-18 Forecast	Oct-18 Forecast	Nov-18 Forecast	Dec-18 Forecast	Jan-19 Forecast	Feb-19 Forecast	Mar-19 Forecast	Apr-19 Forecast	May-19 Forecast	Jun-19 Forecast	Total - 18/19 Forecast
RA/SBG (1)	D1		$ -	$ -	$ 2,891	$ -	$ -	$ 2,891	$ -	$ -	$ 1,805	$ -	$ -	$ 2,978	$ 10,565
Cast Iron	D2		$ 143,502	$ 143,195	$ 142,896	$ 142,605	$ 142,321	$ 142,044	$ 141,783	$ 141,145	$ 140,804	$ 140,471	$ 140,144	$ 139,825	$ 1,700,735
Cast Iron O&M Credit	D3		$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (6,026)	$ (72,310)
Carryover from Prev Yr (2)		$ (417)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (35)	$ (417)
Revenue Requirements (3)			$ 137,441	$ 137,135	$ 139,727	$ 136,544	$ 136,260	$ 138,875	$ 135,722	$ 135,084	$ 136,549	$ 134,410	$ 134,084	$ 136,742	$ 1,638,574
Revenue Collections (4)	D4		$ 84,790	$ 67,103	$ 71,180	$ 92,344	$ 160,113	$ 233,782	$ 254,421	$ 213,553	$ 189,376	$ 119,424	$ 85,467	$ 67,183	$ 1,638,737
Carbon Offset Payments (5)			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Balance (6) (7)			$ 52,651	$ 122,683	$ 191,230	$ 235,431	$ 211,578	$ 116,671	$ (2,028)	$ (80,497)	$ (133,324)	$ (118,338)	$ (69,721)	$ (163)	$ (163)

Notes:

(1) RA/SBG actual expenses are for invoiced amounts. Refer to Attachment D1 for supporting detail for amounts beginning in 2016.

(2) The Carryover from Previous Year is the Balance (Revenue Requirements minus Revenue Collections) from the preceeding year. That total is divided by 12 to spread the Carryover evenly throughout the year.

(3) Revenue Requirements are the total SEP revenue requirements for the year plus the Carryover from the previous year.

(4) Revenue Collections are actual through December 2016 and forecasts thereafter.

(5) The Company does not forecast any carbon offset payments related to the natural gas Cast Iron Pipe Replacement project.

(6) Balance is the amount (over) under collected or the difference between the total revenue requirements and the amount of revenue received from customers under this Rider.

(7) Updates to balances approved in Docket No. G002/M-16-206 (2016 Filing) result from (1) revised MN Composite Income Tax Rates based upon 2015 income tax returns, effective January 1, 2015 (2) property tax update for 2015 based on ratio of actual paid taxes in 2015 and the value of property as of year-end 2013, and (3) actual RA/SBG invoices billed through December 2016.

State Energy Policy (SEP) Rider
Comparison by month of actual revenue requirements versus forecasted revenue requirements

Gas Tracker

	2015-2016 SEP Period						2016-2017 SEP Period						
	Jan-16 **Forecast**	Feb-16 **Forecast**	Mar-16 **Forecast**	Apr-16 **Forecast**	May-16 **Forecast**	Jun-16 **Forecast**	Jul-16 **Forecast**	Aug-16 **Forecast**	Sep-16 **Forecast**	Oct-16 **Forecast**	Nov-16 **Forecast**	Dec-16 **Forecast**	**Total**
Natural Gas Revenue Requirements (Docket 16-206)	149,914	149,535	151,734	148,806	148,456	157,380	147,786	147,466	156,261	146,856	146,566	156,906	1,807,668
	Jan-16 **Actual**	Feb-16 **Actual**	Mar-16 **Actual**	Apr-16 **Actual**	May-16 **Actual**	Jun-16 **Actual**	Jul-16 **Actual**	Aug-16 **Actual**	Sep-16 **Actual**	Oct-16 **Actual**	Nov-16 **Actual**	Dec-16 **Actual**	**Total**
Natural Gas Revenue Requirements (Docket 17-___)	149,463	149,084	155,169	148,355	148,005	158,312	147,336	147,016	157,042	146,406	146,116	128,965	1,781,268
Variance Forecast vs. actual-Gas Revenue Requirements	**451**	**451**	**-3,435**	**451**	**451**	**-931**	**451**	**450**	**-781**	**450**	**450**	**27,942**	**26,401**

	2015-2016 SEP Period						2016-2017 SEP Period						
	Jan-16 **Forecast**	Feb-16 **Forecast**	Mar-16 **Forecast**	Apr-16 **Forecast**	May-16 **Forecast**	Jun-16 **Forecast**	Jul-16 **Forecast**	Aug-16 **Forecast**	Sep-16 **Forecast**	Oct-16 **Forecast**	Nov-16 **Forecast**	Dec-16 **Forecast**	**Total**
Natural Gas Revenue (Docket 16-206)	109,576	92,383	72,567	54,122	33,946	32,403	66,924	63,188	53,361	87,157	126,232	176,655	968,512
	Jan-16 **Actual**	Feb-16 **Actual**	Mar-16 **Actual**	Apr-16 **Actual**	May-16 **Actual**	Jun-16 **Actual**	Jul-16 **Actual**	Aug-16 **Actual**	Sep-16 **Actual**	Oct-16 **Actual**	Nov-16 **Actual**	Dec-16 **Actual**	**Total**
Natural Gas Revenue (Docket 17-___)	95,779	97,468	90,171	61,438	43,498	33,357	53,363	72,224	46,484	55,752	81,501	126,152	857,185
Variance Forecast vs. actual-Gas Revenues	**13,797**	**-5,085**	**-17,605**	**-7,316**	**-9,551**	**-954**	**13,561**	**-9,035**	**6,877**	**31,404**	**44,731**	**50,504**	**111,327**

Net Result	**84,926**

The revenue requirements data has been adusted to exclude the carryover balance to better compare the monthly actual costs to the equivenent forecastred costs.

Gas Tracker Detail
RA/SBG

Part A: Monthly % of RA/SBG costs AS IF adjustment hadn't been made

		RA/SBG Invoice	RA/SBG w/o Adjustment (1)	Monthly % w/o Adjustment (2)
Jan-16	Actual	-	-	
Feb-16	Actual	-	-	
Mar-16	Actual	6,454	6,454	17%
Apr-16	Actual	-	-	
May-16	Actual	-	-	
Jun-16	Actual	10,646	10,646	28%
Jul-16	Actual	-	-	
Aug-16	Actual	-	-	
Sep-16	Actual	10,336	10,336	27%
Oct-16	Actual	-	-	
Nov-16	Actual	-	-	
Dec-16	Actual	(16,871)	10,337	27%
Annual		$ 10,565	$ 37,773	

Part B: Forecast of Monthly Payments based on previous year's Invoice total * Monthly % w/o Adjustment

		Previous Annual Invoice	Monthly % w/o Adjustment (2)	Monthly Payment
Jan-17	Forecast	$ 10,565	0%	$ -
Feb-17	Forecast	$ 10,565	0%	$ -
Mar-17	Forecast	$ 10,565	17%	$ 1,805
Apr-17	Forecast	$ 10,565	0%	$ -
May-17	Forecast	$ 10,565	0%	$ -
Jun-17	Forecast	$ 10,565	28%	$ 2,978
Jul-17	Forecast	$ 10,565	0%	$ -
Aug-17	Forecast	$ 10,565	0%	$ -
Sep-17	Forecast	$ 10,565	27%	$ 2,891
Oct-17	Forecast	$ 10,565	0%	$ -
Nov-17	Forecast	$ 10,565	0%	$ -
Dec-17	Forecast	$ 10,565	27%	$ 2,891
Jan-18	Forecast	$ 10,565	0%	$ -
Feb-18	Forecast	$ 10,565	0%	$ -
Mar-18	Forecast	$ 10,565	17%	$ 1,805
Apr-18	Forecast	$ 10,565	0%	$ -
May-18	Forecast	$ 10,565	0%	$ -
Jun-18	Forecast	$ 10,565	28%	$ 2,978
Jul-18	Forecast	$ 10,565	0%	$ -
Aug-18	Forecast	$ 10,565	0%	$ -
Sep-18	Forecast	$ 10,565	27%	$ 2,891
Oct-18	Forecast	$ 10,565	0%	$ -
Nov-18	Forecast	$ 10,565	0%	$ -
Dec-18	Forecast	$ 10,565	27%	$ 2,891
Jan-19	Forecast	$ 10,565	0%	$ -
Feb-19	Forecast	$ 10,565	0%	$ -
Mar-19	Forecast	$ 10,565	17%	$ 1,805
Apr-19	Forecast	$ 10,565	0%	$ -
May-19	Forecast	$ 10,565	0%	$ -
Jun-19	Forecast	$ 10,565	28%	$ 2,978

Notes

(1) An adjustment is made each December by the Department of Commerce so that the Company is paying only its required portion of indirect costs.

(2) In order to smooth the forecast the Company calculates the percentage of costs AS IF an adjustment had not been made and then applies that percentage to the annual invoice.

Gas Tracker Detail
Cast Iron Replacement Revenue Requirement by Month

	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Annual-15/16
Rate Base													
Plus CWIP Ending Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Plus Plant In-Service	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108
Less Book Depreciation Reserve	1,431,998	1,461,251	1,490,504	1,519,757	1,549,009	1,578,262	1,607,515	1,636,768	1,666,021	1,695,274	1,724,526	1,753,779	1,753,779
Less Accum Deferred Taxes	951,229	965,885	980,541	995,197	1,009,853	1,024,509	1,036,121	1,046,662	1,056,200	1,064,667	1,072,097	1,078,456	1,078,456
End Of Month Rate Base	11,352,881	11,308,972	11,265,063	11,221,154	11,177,246	11,133,337	11,092,472	11,052,679	11,013,888	10,976,168	10,939,485	10,903,873	10,903,873
Average Rate Base (BOM/EOM)	11,374,836	11,330,927	11,287,018	11,243,109	11,199,200	11,155,291	11,112,904	11,072,576	11,033,283	10,995,028	10,957,827	10,921,679	11,140,306
Calculation of Return													
Plus Debt Return	21,328	21,245	21,163	21,081	20,999	20,916	20,559	20,484	20,412	20,341	20,272	20,205	249,005
Plus Equity Return	50,428	50,234	50,039	49,844	49,650	49,455	49,175	48,996	48,822	48,653	48,488	48,328	592,114
Total Return	71,756	71,479	71,202	70,925	70,648	70,371	69,733	69,480	69,234	68,994	68,760	68,534	841,118
Income Statement Items													
Plus Property Taxes	22,532	22,532	22,532	22,532	22,532	22,532	22,122	22,122	22,122	22,122	22,122	22,122	267,922
Plus Book Depreciation	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	351,034
Plus Deferred Taxes	14,656	14,656	14,656	14,656	14,656	14,656	12,649	12,649	12,649	12,649	12,649	12,649	163,827
Plus Current Taxes	20,559	20,421	20,284	20,147	20,009	19,872	21,732	21,606	21,483	21,364	21,248	21,135	249,860
Total Income Statement Expense	87,000	86,862	86,725	86,587	86,450	86,313	85,755	85,629	85,506	85,387	85,271	85,158	1,032,643
Total Revenue Requirements	158,756	158,341	157,927	157,513	157,098	156,684	155,488	155,109	154,740	154,381	154,031	153,691	1,873,761
Jurisdictional Revenue Requirement	158,756	158,341	157,927	157,513	157,098	156,684	155,488	155,109	154,740	154,381	154,031	153,691	1,873,761

	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Annual-16/17
Rate Base													
Plus CWIP Ending Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Plus Plant In-Service	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108
Less Book Depreciation Reserve	1,783,032	1,812,285	1,841,538	1,870,790	1,900,043	1,929,296	1,958,549	1,987,802	2,017,055	2,046,307	2,075,560	2,104,813	2,104,813
Less Accum Deferred Taxes	1,083,778	1,088,028	1,091,208	1,093,351	1,094,422	1,094,456	1,186,346	1,195,469	1,203,752	1,211,105	1,217,557	1,223,080	1,223,080
End Of Month Rate Base	10,869,299	10,835,795	10,803,363	10,771,967	10,741,643	10,712,356	10,591,214	10,552,838	10,515,302	10,478,696	10,442,991	10,408,216	10,408,216
Average Rate Base (BOM/EOM)	10,886,586	10,852,547	10,819,579	10,787,665	10,756,805	10,727,000	10,651,785	10,572,026	10,534,070	10,496,999	10,460,843	10,425,603	10,664,292
Calculation of Return													
Plus Debt Return	20,140	20,077	20,016	19,957	19,900	19,845	19,528	19,382	19,312	19,244	19,178	19,114	235,695
Plus Equity Return	48,173	48,023	47,877	47,735	47,599	47,467	47,045	46,693	46,525	46,362	46,202	46,046	565,748
Total Return	68,313	68,100	67,893	67,693	67,499	67,312	66,574	66,075	65,838	65,606	65,380	65,160	801,443
Income Statement Items													
Plus Property Taxes	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	265,460
Plus Book Depreciation	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	351,034
Plus Deferred Taxes	12,649	12,649	12,649	12,649	12,649	12,649	10,954	10,954	10,954	10,954	10,954	10,954	141,616
Plus Current Taxes	21,025	20,919	20,816	20,716	20,620	20,527	21,966	21,718	21,600	21,484	21,371	21,262	254,025
Total Income Statement Expense	85,048	84,942	84,839	84,739	84,643	84,550	84,295	84,046	83,928	83,813	83,700	83,590	1,012,134
Total Revenue Requirements	153,362	153,042	152,732	152,432	152,142	151,862	150,869	150,122	149,766	149,419	149,080	148,750	1,813,577
Jurisdictional Revenue Requirement	153,362	153,042	152,732	152,432	152,142	151,862	150,869	150,122	149,766	149,419	149,080	148,750	1,813,577

	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Annual-17/18
Rate Base													
Plus CWIP Ending Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Plus Plant In-Service	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108
Less Book Depreciation Reserve	2,134,066	2,163,319	2,192,572	2,221,824	2,251,077	2,280,330	2,309,583	2,338,836	2,368,088	2,397,341	2,426,594	2,455,847	2,455,847
Less Accum Deferred Taxes	1,227,701	1,231,393	1,234,154	1,236,014	1,236,945	1,236,975	1,316,590	1,324,619	1,331,909	1,338,380	1,344,058	1,348,918	1,348,918
End Of Month Rate Base	10,374,341	10,341,397	10,309,383	10,278,270	10,248,086	10,218,804	10,109,936	10,072,654	10,036,111	10,000,387	9,965,456	9,931,343	9,931,343
Average Rate Base (BOM/EOM)	10,391,278	10,357,869	10,325,390	10,293,826	10,263,178	10,233,445	10,164,370	10,091,295	10,054,382	10,018,249	9,982,921	9,948,399	10,177,050
Calculation of Return													
Plus Debt Return	19,051	18,989	18,930	18,872	18,816	18,761	18,126	17,996	17,930	17,866	17,803	17,741	220,882
Plus Equity Return	45,895	45,747	45,604	45,464	45,329	45,198	44,893	44,570	44,407	44,247	44,091	43,939	539,384
Total Return	64,945	64,737	64,534	64,336	64,145	63,959	63,019	62,566	62,337	62,113	61,894	61,680	760,266
Income Statement Items													
Plus Property Taxes	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	265,460
Plus Book Depreciation	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	351,034
Plus Deferred Taxes	10,954	10,954	10,954	10,954	10,954	10,954	9,640	9,640	9,640	9,640	9,640	9,640	123,568
Plus Current Taxes	21,155	21,050	20,949	20,851	20,755	20,663	21,794	21,566	21,451	21,339	21,229	21,121	253,924
Total Income Statement Expense	83,483	83,379	83,278	83,180	83,084	82,991	82,809	82,581	82,466	82,354	82,244	82,136	993,985
Total Revenue Requirements	148,429	148,116	147,812	147,516	147,229	146,950	145,828	145,147	144,803	144,467	144,138	143,816	1,754,251
Jurisdictional Revenue Requirement	148,429	148,116	147,812	147,516	147,229	146,950	145,828	145,147	144,803	144,467	144,138	143,816	1,754,251

	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Annual-18/19
Rate Base													
Plus CWIP Ending Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Plus Plant In-Service	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108
Less Book Depreciation Reserve	2,485,100	2,514,353	2,543,605	2,572,858	2,602,111	2,631,364	2,660,617	2,689,869	2,719,122	2,748,375	2,777,628	2,806,881	2,806,881
Less Accum Deferred Taxes	1,352,986	1,356,234	1,358,664	1,360,302	1,361,121	1,361,147	1,431,676	1,439,162	1,445,959	1,451,992	1,457,287	1,461,818	1,461,818
End Of Month Rate Base	9,898,023	9,865,521	9,833,839	9,802,948	9,772,877	9,743,597	9,643,815	9,607,076	9,571,027	9,535,741	9,501,194	9,467,410	9,467,410
Average Rate Base (BOM/EOM)	9,914,683	9,881,772	9,849,680	9,818,393	9,787,912	9,758,237	9,693,706	9,625,446	9,589,052	9,553,384	9,518,467	9,484,302	9,706,253
Calculation of Return													
Plus Debt Return	17,681	17,622	17,565	17,509	17,455	17,402	17,610	17,486	17,420	17,355	17,292	17,230	209,629
Plus Equity Return	43,790	43,644	43,503	43,365	43,230	43,099	42,814	42,512	42,352	42,194	42,040	41,889	514,431
Total Return	61,471	61,267	61,068	60,874	60,685	60,501	60,424	59,999	59,772	59,549	59,332	59,119	724,061
Income Statement Items													
Plus Property Taxes	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	22,122	265,460
Plus Book Depreciation	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	29,253	351,034
Plus Deferred Taxes	9,640	9,640	9,640	9,640	9,640	9,640	8,988	8,988	8,988	8,988	8,988	8,988	111,772
Plus Current Taxes	21,016	20,913	20,813	20,716	20,621	20,528	20,996	20,783	20,670	20,559	20,450	20,343	248,409
Total Income Statement Expense	82,031	81,928	81,828	81,731	81,636	81,543	81,359	81,146	81,032	80,921	80,813	80,706	976,675
Total Revenue Requirements	143,502	143,195	142,896	142,605	142,321	142,044	141,783	141,145	140,804	140,471	140,144	139,825	1,700,735
Jurisdictional Revenue Requirement	143,502	143,195	142,896	142,605	142,321	142,044	141,783	141,145	140,804	140,471	140,144	139,825	1,700,735

Notes

Updates to 2015-2016 balances approved in Docket No. G002/M-16-206 (2016 Filing) result from (1) revised MN Composite Income Tax Rates based upon 2015 income tax returns, effective January 1, 2015 and (2) property tax update for 2015 based on ratio of actual paid taxes in 2015 and the value of property as of year-end 2013.

Gas Tracker Detail
Cast Iron Replacement Revenue Requirement by Year (July - June)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Rate Base											
Plus CWIP Ending Balance	0	0	0	0	0	0	0	0	0	0	0
Plus Plant In-Service	74,612	1,642,890	6,204,585	10,782,150	13,736,109	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108	13,736,108
Less Book Depreciation Reserve	79	32,575	141,240	367,414	700,678	1,051,711	1,402,745	1,753,779	2,104,813	2,455,847	2,806,881
Less Accum Deferred Taxes	104	31,775	117,324	296,641	531,982	747,645	936,573	1,078,456	1,223,080	1,348,918	1,461,818
End Of Month Rate Base	74,429	1,578,540	5,946,022	10,118,095	12,503,449	11,936,752	11,396,790	10,903,873	10,408,216	9,931,343	9,467,410
Average Rate Base (BOM/EOM)	3,101	1,241,969	4,103,512	8,400,586	12,097,994	12,216,681	11,663,507	11,140,306	10,664,292	10,177,050	9,706,253
Calculation of Return											
Plus Debt Return	103	38,829	120,101	233,763	303,346	278,611	261,249	249,005	235,695	220,882	209,629
Plus Equity Return	157	64,177	216,849	446,979	642,934	649,295	621,089	592,114	565,748	539,384	514,431
Total Return	260	103,005	336,950	680,742	946,280	927,907	882,338	841,118	801,443	760,266	724,061
Income Statement Items											
Plus Property Taxes	0	11,491	44,887	117,456	228,825	288,830	279,257	267,922	265,460	265,460	265,460
Plus Book Depreciation	79	32,496	108,665	226,174	333,264	351,034	351,034	351,034	351,034	351,034	351,034
Plus Deferred Taxes	104	31,672	85,548	179,317	235,341	215,663	188,928	163,827	141,616	123,568	111,772
Plus Current Taxes	5	12,955	65,757	132,542	213,293	237,495	244,716	249,860	254,025	253,924	248,409
Total Income Statement Expense	188	88,613	304,858	655,489	1,010,722	1,093,022	1,063,935	1,032,643	1,012,134	993,985	976,675
Total Revenue Requirements	447	191,619	641,808	1,336,231	1,957,002	2,020,928	1,946,272	1,873,761	1,813,577	1,754,251	1,700,735
MN Jurisdictional Revenue Requirement	447	191,619	641,808	1,336,231	1,957,002	2,020,928	1,946,272	1,873,761	1,813,577	1,754,251	1,700,735

Notes

Updates to 2015-2016 balances approved in Docket No. G002/M-16-206 (2016 Filing) result from (1) revised MN Composite Income Tax Rates based upon 2015 income tax returns, effective January 1, 2015 and (2) property tax update for 2015 based on ratio of actual paid taxes in 2015 and the value of property as of year-end 2013.

Gas Tracker Detail
Cast Iron O&M Credit

	Part A: Derivation of the Annual Credit Amount		
1	Overall O&M Expenses (1)	$	39,980,000
2	Total Gas Distribution Main in Minnesota (miles)		8,864
3	Average Test Year O&M Expenses per Mile of Gas Distribution Main (Line 1/Line 2)	$	4,510
4	Potential Percentage Reduction in O&M Expenses Associated with Gas Cast Iron (2)		93.48%
5	Potential O&M Expense Associated with Gas Cast Iron Pipe to be Replaced per Mile (Line 3*Line 4)	$	4,216
6	Gas Cast Iron Pipe to be Replaced (miles)		25
7	**Potential Annual O&M Expenses Reduction due to Gas Cast Iron Replacement (Line 5*Line 6)**	**$**	**105,408**
	Part B: Derivation of the Recovery in Base Rates		
8	Miles replaced in 2009		5.0
9	Miles replaced in 2010		5.7
10	Total Miles reflected in reduced O&M in base rates (Line 8 + Line 9*50%)		7.9
11	Expense Reduction per line mile (Line 5)	$	4,216
12	**Annual Credit reflected in base rates (Line 10*Line 11)**	**$**	**33,098**
	Part C: Derivation of 2012 Credit		
13	Miles to be replaced in 2010		5.7
14	Miles to be replaced in 2011		7.6
15	Miles to be replaced in 2012		6.7
16	Total Miles included in 2012 SEP O&M Credit (Lines 13*50% + Line 14 + Line 15)		17.2
17	Expense Reduction per line mile (Line 5)	$	4,216
18	**SEP O&M Credit in 2012 (Line 16*Line 17)**	**$**	**72,310**
	Part D: Reconciliation		
19	Credit reflected in base rates (Line 12)	$	33,098
20	SEP O&M Credit in 2012 (Line 18)	$	72,310
21	Potential Expense Reduction (Line 7) = Recovery in Base Rates (Line 12) + 2012 Credit (18)	**$**	**105,408**

Notes:

(1) Docket No. G002/GR-09-1153

(2) Average of 0.28571 leaks per mile associated with the gas cast iron minus an average of 0.01986 leaks per mile for overall gas distribution system piping. (0.28571-0.01986)/0.28571=93.48%. As of 2012, all cast iron had been removed and the leak rate cannot be reported. The average leak rate for the overall system was 0.01421 leaks/mile. The O&M credit approved in Docket No. E,G002/M-13-161 is assumed in 2013 and beyond, since all replacement work has been completed.

Gas Tracker Detail
Revenue Collections (SEP Rider Fiscal Period July - June)
Actual Revenues Through December 2016 and Forecast Revenues (Therm Sales * Gas Factor) through June 2019

2015 Rider Year	Jul-15 Actual	Aug-15 Actual	Sep-15 Actual	Oct-15 Actual	Nov-15 Actual	Dec-15 Actual	Jan-16 Actual	Feb-16 Actual	Mar-16 Actual	Apr-16 Actual	May-16 Actual	Jun-16 Actual	Total-15/16
Revenue Collections	**$ 97,466**	**$ 85,412**	**$ 88,900**	**$ 90,860**	**$ 132,683**	**$ 161,745**	**$ 95,779**	**$ 97,468**	**$ 90,171**	**$ 61,438**	**$ 43,498**	**$ 33,357**	**$ 1,078,776**

2016 Rider Year	Jul-16 Actual	Aug-16 Actual	Sep-16 Actual	Oct-16 Actual	Nov-16 Actual	Dec-16 Actual	Jan-17 Forecast	Feb-17 Forecast	Mar-17 Forecast	Apr-17 Forecast	May-17 Forecast	Jun-17 Forecast	Total-16/17
Forecast Sales							134,803,106	112,247,435	101,030,260	61,766,809	46,274,210	36,386,780	492,508,600
Rate							0.001368	0.001368	0.001368	0.001368	0.001368	0.001368	
Revenue Collections	**$ 53,363**	**$ 72,224**	**$ 46,484**	**$ 55,752**	**$ 81,501**	**$ 126,152**	**$ 184,411**	**$ 153,554**	**$ 138,209**	**$ 84,497**	**$ 63,303**	**$ 49,777**	**$ 1,109,227**

2017 Rider Year	Jul-17 Forecast	Aug-17 Forecast	Sep-17 Forecast	Oct-17 Forecast	Nov-17 Forecast	Dec-17 Forecast	Jan-18 Forecast	Feb-18 Forecast	Mar-18 Forecast	Apr-18 Forecast	May-18 Forecast	Jun-18 Forecast	Total-17/18
Forecast Sales	41,812,036	35,517,572	33,764,630	54,600,321	84,650,821	126,704,133	134,524,024	112,658,303	101,893,328	63,096,998	46,067,444	36,155,363	871,444,973
Rate	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	0.002103	
Revenue Collections	**$ 87,931**	**$ 74,693**	**$ 71,007**	**$ 114,824**	**$ 178,021**	**$ 266,459**	**$ 282,904**	**$ 236,920**	**$ 214,282**	**$ 132,693**	**$ 96,880**	**$ 76,035**	**$ 1,832,649**

Base Assumptions - Gas Cast Iron Pipe

Capital Structure	Actual 2015			Actual 2016			Budget 2017		
	Percent	Cost	Weighted Cost	Percent	Cost	Weighted Cost	Percent	Cost	Weighted Cost
Long Term Debt %	46.15%	4.85%	2.24%	46.54%	4.74%	2.21%	46.05%	4.71%	2.17%
Short Term Debt %	1.09%	0.93%	0.01%	0.85%	1.22%	0.01%	1.45%	1.91%	0.03%
Preferred Stock %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Common Stock %	52.76%	10.09%	5.32%	52.61%	10.09%	5.31%	52.50%	10.09%	5.30%
	100.00%		7.57%	100.00%		7.53%	100.00%		7.50%

Income Tax Rates								
		2015	**2016**	**2017**		**2015**	**2016**	**2017**
Income Tax Rates	MN Jur	9.8000%	9.8000%	9.8000%	Federal	35.0000%	35.0000%	35.0000%
MN Composite Income Tax Rate	MN Jur	41.3700%	41.3700%	41.3700%	MN Co	40.7696%	40.7696%	40.7696%

Property Tax Rates					
			2015	**2016**	**2017**
Property Tax Rate = Goodhue	100.00	% Taxable	1.743%	1.716%	1.716%
Property Tax Rate = Ramsey	100.00	% Taxable	2.027%	1.981%	1.981%
Property Tax Rate = Rice	100.00	% Taxable	1.715%	1.738%	1.738%
Property Tax Rate = Stearns	100.00	% Taxable	1.825%	1.774%	1.774%
Property Tax Rate = Washington	100.00	% Taxable	1.785%	1.758%	1.758%
Property Tax Rate = Winona	100.00	% Taxable	1.486%	1.539%	1.539%

State of MN Allocator			
Gas Distribution	**Total**	**Minnesota Company**	**Minnesota**
Direct Assigned - Minnesota	100.000%	100.000%	100.000%

Northern States Power Company, a Minnesota corporation
Gas Operations - State of Minnesota
RATE BASE SCHEDULES
RATE BASE ADJUSTMENT SCHEDULES
2010 Unadjusted Test Year versus 2010 Adjusted Test Year
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Line No.	Description	Unadjusted	Projected Gas Storage (1)	CIAC 2004 Rate Case Adjustment (2)	CIAC 2007 Rate Case Adjustment (3)	CIAC 2010 Rate Case Adjustment (4)	SEP Rider Adjustment (5)	New Area Surcharge (6)	Income Statement (7)	Adjusted
	Gas Plant as Booked									
1	Production	$15,537								$15,537
2	Storage	$30,880								$30,880
3	Transmission	$63,410								$63,410
4	Distribution	$739,803		($2,366)	($82)	($105)	($3,261)			$733,991
5	General	$33,543								$33,543
6	Common	$62,221								$62,221
7	TBT Investment	$0								$0
8	TOTAL Utility Plant in Service	$945,395		($2,366)	($82)	($105)	($3,261)	$0		$939,582
	Reserve for Depreciation									
9	Production	$11,942								$11,942
10	Storage	$23,142								$23,142
11	Transmission	$24,423								$24,423
12	Distribution	$333,684		($465)	($10)	($2)	($48)	($1,036)		$332,123
13	General	$12,567								$12,567
14	Common	$41,876								$41,876
15	TOTAL Reserve for Depreciation	$447,634		($465)	($10)	($2)	($48)	($1,036)		$446,074
	Net Utility Plant in Service									
16	Production	$3,595								$3,595
17	Storage	$7,738								$7,738
18	Transmission	$38,987								$38,987
19	Distribution	$406,119		($1,901)	($72)	($103)	($3,213)	$1,036		$401,867
20	General	$20,976								$20,976
21	Common	$20,345								$20,345
22	TBT Investment	$0								$0
23	Net Utility Plant in Service	$497,760		($1,901)	($72)	($103)	($3,213)	$1,036		$493,508
24	Utility Plant Held for Future Use	$0								$0
25	Construction Work in Progress	$4,337								$4,337
26	Less: Accumulated Deferred Income Taxe	$92,687		($473)	($4)	($1)	($52)	($26)		$92,132
27	Cash Working Capital	($4,321)							$379	($3,942)
	Other Rate Base Items:									
28	Materials and Supplies	$1,037								$1,037
29	Gas In Storage	$40,566	$2,133							$42,699
30	Non-Plant Assets & Liabilities	($9,805)								($9,805)
31	Prepayments	$5,651								$5,651
32	Customer Advances	($1,653)								($1,653)
33	Other Working Capital	$897								$897
34	Total Other Rate Base Items	$36,693	$2,133	$0	$0	$0	$0	$0	$0	$38,826
35	Total Average Rate Base	$441,783	$2,133	($1,428)	($69)	($102)	($3,161)	$1,062	$379	$440,597

Northern States Power Company, a Minnesota corporation
Gas Operations - State of Minnesota
INCOME STATEMENT SCHEDULES
INCOME STATEMENT ADJUSTMENT SCHEDULES
2010 Unadjusted Test Year versus 2010 Adjusted Test Year
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Line No.	Description	2010 Unadjusted(1)	Projected Gas Storage Adjustment 1	CIAC 2004 Rate Case Adjustment 2	CIAC 2007 Rate Case Adjustment 3	CIAC 2010 Rate Case Adjustment 4	SEP Rider Adjustment 5	New Area Surcharge Adjustment 6	Charitable Contributions Adjustment 7	Interest on Customer Deposits Adjustment 8	Advertising Adjustment 9	Professional & Association Dues Adjustment 10
	Operating Revenues											
1	Retail	$580,760					($269)					
2	Weather Impact Net Margin Adjustment	0										
3	Interdepartmental & Transportation	9,050										
4	Other Operating	5,382										
5	Gross Earnings Tax	0										
6	**Total Operating Revenues**	$595,192	$0	$0	$0	$0	($269)	$0	$0	$0	$0	$0
	Expenses											
	Operating Expenses:											
7	Purchased Gas	$426,919										
8	Other Production	4,305										
9	Transmission	1,261										
10	Distribution	28,447										
11	Customer Accounting	15,700										
12	Customer Service & Information	14,896										
13	Administrative & General	17,213							153	16	(254)	(2)
14	Sales, Econ Dvlp & Other	47									(19)	
15	Total Operating Expenses	$508,787	$0	$0	$0	$0	$0	$0	$153	$16	($273)	($2)
16	Depreciation	$32,877		($72)	($3)	($3)	($70)	$128				
17	Amortizations	(99)					99					
	Taxes:											
18	Property	$12,798					($22)					
19	Gross Earnings	0										
20	Deferred Income Tax & ITC	2,764		6	(1)	(1)	(70)	(52)				
21	Federal & State Income Tax	6,511	(27)	42	3	4	(4)	(13)	(63)	(7)	113	1
22	Payroll & Other	1,946										
23	Total Taxes	$24,019	($27)	$48	$2	$3	($96)	($65)	($63)	($7)	$113	$1
24	**Total Expenses**	$565,584	($27)	($24)	($1)	($0)	($67)	$63	$90	$9	($160)	($1)
25	Allowance for Funds Used During Construction	$414										
26	**Total Operating Income**	$30,022	$27	$24	$1	$0	($202)	($63)	($90)	($9)	$160	$1
	Revenue Requirement											
27	Total Rate Base	$441,783	$2,133	($1,428)	($69)	($102)	($3,161)	$1,062	$0	$0	$0	$0
28	Require Operating Inc (RB * Req Return)	$38,877	$188	($126)	($6)	($9)	($278)	$93	$0	$0	$0	$0
29	Operating Income	$30,022	$27	$24	$1	$0	($202)	($63)	($90)	($9)	$160	$1
30	Operating Income Deficiency	$8,855	$161	($150)	($7)	($9)	($76)	$156	$90	$9	($160)	($1)
31	**Revenue Requirement**	$15,103	$275	($256)	($12)	($16)	($130)	$266	$153	$16	($273)	($2)
Schedule M Items		42,771	-	(58)	(5)	(6)	(240)	-	-	-	-	-
Tax Additions		136	-	-	-	-	-	-	-	-	-	-
Rate Base Adjustment		441,783	2,133	(1,428)	(69)	(102)	(3,161)	1,062	-	-	-	-
Cost of Debt		3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%
Tax Rate		0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137
Calculation of Federal And State Income Tax												
	Operating Revenue	595,192	0	0	0	0	(269)	0	0	0	0	0
	Less Operating Expenses	508,787	0	0	0	0	0	0	153	16	(273)	(2)
	Operating Income before Adjustments	86,405	0	0	0	0	(269)	0	(153)	(16)	273	2
	Additions to Income	136	0	0	0	0	0	0	0	0	0	0
	Deductions from Income	57,416	0	(58)	(5)	(6)	(163)	0	0	0	0	0
	Debt Synchronization	13,386	65	(43)	(2)	(3)	(96)	32	0	0	0	0
	Operating Income After Adjustments	15,739	(65)	101	7	9	(10)	(32)	(153)	(16)	273	2
	Federal & State Income Tax	6,511	(27)	42	3	4	(4)	(13)	(63)	(7)	113	1

Northern States Power Company, a Minnesota corporation
Gas Operations - State of Minnesota
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INCOME STATEMENT ADJUSTMENT SCHEDULES
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Line No.	Description	Incentive Compensation Adjustment 11	Employee Expense Adjustment 12	2009 Wage Increase Adjustment 13	Gas Affordability Program Adjustment 14	CIP Adjustment 15	CIP Incentive Bonus Removal 16	Economic Development Adjustment 17	Rate Case Expense Amortization 18	CWC 19	2010 Adjusted(1)
	Operating Revenues										
1	Retail					(9,286)					$571,205
2	Weather Impact Net Margin Adjustment										0
3	Interdepartmental & Transportation										9,050
4	Other Operating						(1,027)				4,355
5	Gross Earnings Tax										0
6	**Total Operating Revenues**	$0	$0	$0	$0	($9,286)	($1,027)	$0	$0	$0	$584,610
	Expenses										
	Operating Expenses:										
7	Purchased Gas										$426,919
8	Other Production										4,305
9	Transmission										1,261
10	Distribution										28,447
11	Customer Accounting				(20)						15,680
12	Customer Service & Information					(9,286)					5,610
13	Administrative & General	(625)	(108)	236							16,629
14	Sales, Econ Dvlp & Other							3			31
15	Total Operating Expenses	($625)	($108)	$236	($20)	($9,286)	$0	$3	$0	$0	$498,882
16	Depreciation										$32,857
17	Amortizations								532		532
	Taxes:										
18	Property										$12,776
19	Gross Earnings										0
20	Deferred Income Tax & ITC										2,646
21	Federal & State Income Tax	259	45	(98)	8	0	(425)	(1)	(220)	(5)	6,122
22	Payroll & Other										1,946
23	Total Taxes	$259	$45	($98)	$8	$0	($425)	($1)	($220)	($5)	$23,490
24	**Total Expenses**	($366)	($63)	$138	($12)	($9,286)	($425)	$2	$312	($5)	$555,761
25	Allowance for Funds Used During Construction										$414
26	**Total Operating Income**	$366	$63	($138)	$12	$0	($602)	($2)	($312)	$5	$29,263
	Revenue Requirement										
27	Total Rate Base	$0	$0	$0	$0	$0	$0	$0	$0	$379	$440,597
28	Require Operating Inc (RB * Req Return)	$0	$0	$0	$0	$0	$0	$0	$0	$33	$38,773
29	Operating Income	$366	$63	($138)	$12	$0	($602)	($2)	($312)	$5	$29,263
30	Operating Income Deficiency	($366)	($63)	$138	($12)	$0	$602	$2	$312	$28	$9,510
31	**Revenue Requirement**	($625)	($108)	$236	($20)	$0	$1,027	$3	$532	$48	$16,220
	Schedule M Items	-	-	-	-	-	-	-	-	-	-
	Tax Additions	-	-	-	-	-	-	-	-	-	-
	Rate Base Adjustment	-	-	-	-	-	-	-	-	379	440,597
	Cost of Debt	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%	3.03%
	Tax Rate	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137	0.4137
	Calculation of Federal And State Income Tax										
	Operating Revenue	0	0	0	0	(9,286)	(1,027)	0	0	0	584,610
	Less Operating Expenses	(625)	(108)	236	(20)	(9,286)	0	3	0	0	498,882
	Operating Income before Adjustments	625	108	(236)	20	0	(1,027)	(3)	0	0	85,728
	Additions to Income	0	0	0	0	0	0	0	0	0	0
	Deductions from Income	0	0	0	0	0	0	0	532	0	14,722
	Debt Synchronization	0	0	0	0	0	0	0	0	11	13,350
	Operating Income After Adjustments	625	108	(236)	20	0	(1,027)	(3)	(532)	(11)	57,656
	Federal & State Income Tax	259	45	(98)	8	0	(425)	(1)	(220)	(5)	6,122

Revenue Requirements Category Descriptions

This attachment explains the three categories (Rate Base, Calculation of Return and Income Statement Items) and each component of these categories used to determine the Revenue Requirement. The calculation of the Revenue Requirement for the Cast Iron Replacement project is shown on Attachment D2.

I. Rate Base

The following section explains each component of the Rate Base category and the rationale for including or excluding the cost.

Plant in Service - This is an addition to rate base. This category reflects the original cost of gas plant that has been put into service. In the specific case of the annual 2017 plant in service for the natural gas Cast Iron Pipe Replacement project, the $13,736,108 shown on Attachment D2 of this filing reflect the dollar value portion of the project in service as of June 30, 2018. Standard ratemaking methodology calls for the inclusion of this item in the determination of rate base.

Book Depreciation Reserve - This is a reduction to rate base. It reflects the accumulated recovery of the amount invested in plant in service. In the specific case of the 2017 book depreciation reserve for the natural gas Cast Iron Pipe Replacement project, the $2,455,847 shown on Attachment D2 of this filing reflects the amount of the plant in service that has been recovered as of June 30, 2018, which results in a decrease to rate base. Standard ratemaking methodology calls for the inclusion of this credit balance (contra-asset) as a reduction in the determination of rate base.

Accumulated Deferred Taxes - This is a reduction to rate base. It reflects the tax timing differences between book and tax depreciation lives and other non-plant book/tax timing differences, multiplied by the tax rate. Over the life of an asset, the Accumulated Deferred Tax is zero. In the specific case of the 2017 accumulated deferred taxes for the natural gas Cast Iron Pipe Replacement project, the $1,348,918 shown on Attachment D2 of this filing reflects the accumulation of tax timing differences between book and tax depreciation through June 2018, which results in a decrease to rate base. The ADIT deduction from rate base has been developed in accordance with IRS tax regulation Sec. 1.167(l). The regulation requires the use of a pro-rate schedule for accumulated deferred income taxes used to reduce rate base to comply with

the tax normalization requirements of the Code when forecast information is used to set rates. Standard ratemaking methodology calls for the inclusion of this timing-related credit balance (contra-asset) as a reduction in the determination of rate base.

II. Calculation of Return

The following section explains both components of the Calculation of Return category. Note that for both items below, standard ratemaking methodology calls for the inclusion of these items in the calculation of revenue requirements.

Debt Return - This category reflects the return the Company is allowed in order to recover its weighted cost of debt for financing its capital investments. In the specific case of the annual 2017 debt return for the natural gas Cast Iron Pipe Replacement project, the $220,882 shown on Attachment D2 of this filing reflect the amount of debt return the Company is allowed for July 2017 - June 2018 based on the overall weighted cost of debt.

Equity Return - This category reflects the return the Company is allowed in order to recover its weighted cost of equity for financing its capital investments. In the specific case of the annual 2017 equity return for the natural gas Cast Iron Pipe Replacement project, the $539,384 shown on Attachment D2 of this filing reflect the amount of return on equity the Company is allowed for July 2017 - June 2018 based on the overall weighted cost of equity. The return on equity was approved in the most recent natural gas rate case (Docket No. G002/GR-09-1153).

III. Income Statement Items

The following section explains each component of the Income Statement Items category. Note that for each item below, standard ratemaking methodology calls for the inclusion of these items in the calculation of revenue requirements.

Property Taxes - This category reflects the estimated property taxes billed from local taxing authorities that the Company must pay based on the original cost of the Company's assets. Property taxes accrued are based on the original cost at December 31 from the prior year, and then are paid the following year. In the specific case of the annual 2017 property tax amount for the natural gas Cast Iron Pipe Replacement project, the $265,460 shown on Attachment D2 of this filing reflect one half of the amount of property taxes the Company is anticipating to accrue in calendar year 2017 for the plant in service as of

December 31, 2017, plus one-half of calendar year 2018. We reflect one-half of each year, since the 2017-2018 SEP period is split evenly across both calendar periods.

Book Depreciation - This category reflects the monthly/annual depreciation expense that is accumulated in the book depreciation reserve defined in part a) subsection ii). In the specific case of the annual 2017 book depreciation for the natural gas Cast Iron Pipe Replacement project, the $351,034 shown on Attachment D2 reflect the amount of plant in service that is being recovered through depreciation expense from July 2017 - June 2018 and included in the annual revenue requirement.

Deferred Taxes - This category reflects the monthly/annual deferred tax expense that is accumulated in the accumulated deferred reserve defined in part a) subsection iii). In the specific case of the annual 2017 deferred taxes for the natural gas Cast Iron Pipe Replacement project, the $123,568 shown on Attachment D2 reflect the July 2017 - June 2018 tax timing difference when book expense differs from tax expense and is included in the annual revenue requirement.

Current Taxes - This category reflects the current income taxes the Company is anticipated to pay based on its taxable income. In the specific case of the annual 2017 current taxes for the natural gas Cast Iron Pipe Replacement project, the $253,924 shown on Attachment D2 reflect the amount of current income taxes the Company is anticipating to pay as a result of the taxable income being generated by the Cast Iron Pipe Replacement project.

Certification Statement:

The designated representative or alternate designated representative must sign (i.e., agree to) this certification statement. If you are an agent and you click on "SUBMIT", you are not agreeing to the certification statement, but are submitting the certification statement on behalf of the designated representative or alternate designated representative who is agreeing to the certification statement. An agent is only authorized to make the electronic submission on behalf of the designated representative, not to sign (i.e., agree to) the certification statement.

Facility Name: Northern States Power Company, A Minnesota Corporation
Facility Identifier: 524615
Facility Reporting Year: 2015
Facility Location:
Address: 414 Nicollet Mall
City: Minneapolis
State: MN
Postal Code: 55401

Facility Site Details:

CO2 equivalent emissions from facility subparts C-II, SS, and TT (metric tons): 70258.9
CO2 equivalent emissions from supplier subparts LL-QQ (metric tons): 3604324.4
Biogenic CO2 emissions from facility subparts C-II, SS, and TT (metric tons): 0
Cogeneration Unit Emissions Indicator: N
GHG Report Start Date: 2015-01-01
GHG Report End Date: 2015-12-31
Description of Changes to Calculation Methodology:
Part 75 Biogenic Emissions Indication:
Plant Code Indicator: N
Primary NAICS Code: 221210
Second Primary NAICS Code:

Parent Company Details:

Parent Company Name: XCEL ENERGY
Address: 414 Nicollet Mall, Minneapolis, MN 55401
Percent Ownership Interest: 100

Subpart W: Petroleum and Natural Gas Systems

Gas Information Details

Gas Name	Other Gas Name	Gas Quantity	Own Result?
Methane		2788 (Metric Tons)	
Nitrous Oxide		0 (Metric Tons)	
Carbon Dioxide		558.9 (Metric Tons)	

SubpartWSummaryDetails:

Industry Segment Number	8
Industry Segment Name	Natural gas distribution [98.230(a)(8)]

Annual throughput [98.236(d)] Gaseous Throughput (MMscf)	
Annual throughput [98.236(d)] Liquid Throughput (thousand barrels)	
Total Reported CO2 Emissions (mt CO2)	558.9
Total Reported CH4 Emissions (mt CO2e)	
Total Reported N2O Emissions (mt CO2e)	
Total CO2e Emissions (mt CO2e)	70258.9
Total Reported CH4 Emissions (mt CH4)	2788.00
Total Reported N2O Emissions (mt N2O)	0.000

SubpartWSourceReportingFormRowDetails:

Source Reporting Form	Facility Overview [98.236(aa)]
Required for Selected Industry Segment	Yes
Total Reported CO2 Emissions (mt CO2)	
Total Reported CH4 Emissions (mt CH4)	
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Natural Gas Pneumatic Devices [98.236(b)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Natural Gas Driven Pneumatic Pumps [98.236(c)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Acid Gas Removal Units [98.236 (d)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Dehydrators [98.236(e)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Well Venting for Liquids Unloading [98.236(f)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Gas Well Completions and Workovers [98.236(g,h)]

Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Blowdown Vent Stacks [98.236(i)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Production Storage Tanks [98.236 (j)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Transmission Storage Tanks [98.236(k)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Well Testing [98.236(l)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Associated Gas Venting and Flaring [98.236(m)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Flare Stacks [98.236(n)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Centrifugal Compressors [98.236 (o)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Reciprocating Compressors [98.236 (p)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00

Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Equipment Leaks Surveys and Population Counts [98.236(q,r)]
Required for Selected Industry Segment	Yes
Total Reported CO2 Emissions (mt CO2)	83.9
Total Reported CH4 Emissions (mt CH4)	2788.00
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Offshore Petroleum and Natural Gas Production [98.236(s)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000
Source Reporting Form	Enhanced Oil Recovery Injection Pumps Blowdown [98.236(w)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Enhanced Oil Recovery Hydrocarbon Liquids [98.236(x)]
Required for Selected Industry Segment	No
Total Reported CO2 Emissions (mt CO2)	0.0
Total Reported CH4 Emissions (mt CH4)	
Total Reported N2O Emissions (mt N2O)	
Source Reporting Form	Combustion Equipment at Onshore Petroleum and Natural Gas Production and Natural Gas Distribution Facilities [98.236(z)]
Required for Selected Industry Segment	Yes
Total Reported CO2 Emissions (mt CO2)	475.0
Total Reported CH4 Emissions (mt CH4)	0.00
Total Reported N2O Emissions (mt N2O)	0.000

OnshoreRequirementsDetails:

Select the Basin in which applicable Sub-Basins are Located	
Select the basin associated with this facility [98.236 (aa)(1)(i)]	
Quantity of gas produced in the calendar year from wells (thousand standard cubic feet) [98.236(aa)(1) (i)(A)]	
Quantity of gas produced in the calendar year for sales (thousand standard cubic feet) [98.236(aa)(1) (i)(B)]	
Quantity of crude oil and condensate produced in the calendar year for sales (barrels) [98.236(aa)(1)(i)(C)]	

NaturalGasDistributionRowDetails:

Quantity of natural gas received at all custody transfer stations in the calendar year (thousand standard cubic feet) [98.236(aa)(9)(i)]	88289850
Quantity of natural gas withdrawn from in-system storage in the calendar year (thousand standard cubic feet) [98.236(aa)(9)(ii)]	109969
Quantity of natural gas added to in-system storage in the calendar year (thousand standard cubic feet) [98.236(aa)(9)(iii)]	702670
Quantity of natural gas delivered to end users (thousand standard cubic feet) [98.236(aa)(9)(iv)]	89489323
Quantity of natural gas transferred to third parties such as other LDCs or pipelines (thousand standard cubic feet) [98.236(aa)(9)(v)]	0
Quantity of natural gas consumed by the LDC for operational purposes (thousand standard cubic feet) [98.236(aa)(9)(vi)]	525883.68
Estimated quantity of gas stolen in the calendar year (thousand standard cubic feet) [98.236(aa)(9)(vii)]	4816

CombustionEmissionsDetails:

mt CO2	475.0
mt CH4 (mt CO2e)	
mt N2O (mt CO2e)	
Total Emissions (mt CO2e)	
mt CH4	0.00
mt N2O	0.000
Does the Facility have combustion emissions subject to reporting under 98.232?	
Does the Facility have combustion units subject to reporting under 98.232?	Yes
Were BAMM used for any parameters to calculate GHG emissions? [98.3(c)(7)]	
Provide a brief description of the BAMM used, parameter measured, and time period. [98.3(c)(7)]	
Were missing data procedures used for any parameters to calculate GHG emissions? [98.235]	
Were missing data procedures used for any parameters to calculate GHG emissions [98.235]?	No
Are there external fuel combustion units with a rated heat capacity less than or equal to 5 mmBtu/hr? [98.236(z)(1)(i)]	Yes
Are there internal fuel combustion units that are not compressor-drivers, with a rated heat capacity less than or equal to 1 mmBtu/hr? [98.236(z)(1)(i)]	No
Total Number of combustion units meeting the above criteria [98.236(z)(1)(ii)]	5
	Yes

Are there external fuel combustion units with a rated heat capacity greater than 5 mmBtu/hr? [98.236(z)(2)(i)]	
Are there internal fuel combustion units that are not compressor-drivers, with a rated heat capacity greater than 1 mmBtu/hr? [98.236(z)(2)(i)]	No
Are there Internal fuel combustion units of any heat capacity that are compressor-drivers? [98.236(z)(2)(i)]	No

LargeCombustionUnitEmissionsRowDetails:

Type of combustion unit [98.236(z)(2)(i)]	External fuel combustion units with a rated heat capacity greater than 5 mmBtu/hr
Type of fuel combusted [98.236(z)(2)(ii)]	Natural gas
Quantity of fuel combusted in calendar year [98.236(z)(2)(iii)]	8713
Unit of measure [98.236(z)(2)(iii)	thousand standard cubic feet
CO2 Emissions (mt CO2) [98.236(z)(2)(iv)]	475
CH4 Emissions (mt CH4) [98.236(z)(2)(v)]	0
N2O Emissions (mt N2O) [98.236(z)(2)(vi)]	0

OtherEmissionsFromEquipmentLeaksDetails:

mt CO2	83.9
mt CH4	2788.00
Does the facility have any equipment leaks subject to reporting via surveys under 98.232 [98.236(q)]?	Yes
Does the facility have any equipment leaks subject to reporting via population counts under 98.232 [98.236(r)]?	Yes
Were missing data procedures used for any parameters to calculate GHG emissions [98.235]?	No
Number of complete equipment leak surveys performed during the calendar year [98.236(q)(1)(i)]	42
For Natural gas distribution facilities conducting multi-year surveys, number of years in the leak survey cycle [98.236(q)(1)(ii)]	3
Total number of above grade T-D transfer stations surveyed in the calendar year [98.236(q)(3)(i)]	42
Number of meter/regulator runs at above grade T-D transfer stations surveyed in the calendar year, CountMR,y [98.236(q)(3)(ii)]	51
Average time meter/regulator runs surveyed in calendar year were operational, Average of calendar year Tw,y (hours) [98.236(q)(3)(iii)]	8760
Number of above grade T-D transfer stations surveyed in current leak survey cycle [98.236(q)(3)(iv)]	81
	102

Number of meter/regulator runs at above grade T-D transfer stations surveyed in current leak survey cycle, Sum of CountMR,y [98.236(q)(3)(v)]	
Average time that meter/regulator runs surveyed in the current leak survey cycle were operational, Average of current survey Tw,y (hours) [98.236(q)(3)(vi)]	8760
Meter/regulator run CO2 emission factor based on all surveyed T-D transfer stations in current leak cycle, Average of current survey EFS,MR,i (standard cubic feet per operational hour of all meter/regulator runs) [98.236(q)(3)(vii)]	0
Meter/regulator run CH4 emission factor based on all surveyed T-D transfer stations in current leak cycle, Average of current survey EFS,MR,i (standard cubic feet per operational hour of all meter/regulator runs) [98.236(q)(3)(viii)]	0
Does the facility perform equipment leak surveys across a multiple year leak survey cycle (Yes/No) [98.236(q)(3)(ix)]	Yes
Total number of meter/regulator runs at above grade T-D station facilities, CountMR [98.236(q)(3)(ix)(A)]	57
Average estimated time that each meter/regulator run at above grade T-D transfer stations was operational in the calendar year, Tw,avg [98.236(q)(3)(ix)(B)]	8760
Annual CO2 emissions from all above grade T-D transfer stations combined (mt CO2) [98.236(q)(3)(ix)(C)]	0
Annual CH4 emissions from all above grade T-D transfer stations combined (mt CH4) [98.236(q)(3)(ix)(D)]	0
Number of above grade T-D transfer stations at the facility [98.236(r)(2)(i)]	45
Number of above grade metering-regulating stations that are not T-D transfer stations [98.236(r)(2)(ii)]	194
Total number of meter/regulator runs at above grade metering-regulating stations that are not above grade T-D transfer stations, CountMR [98.236(r)(2)(iii)]	210
Average estimated time that each meter/regulator run at above grade metering-regulating stations that are not above grade T-D transfer stations was operational in the calendar year, Tw,avg (hour) [98.236(r)(2)(iv)]	8760
Annual CO2 emissions from above grade metering-regulating stations that are not above grade T-D transfer stations [98.236(r)(2)(v)(A)]	0
Annual CH4 emissions from above grade metering-regulating stations that are not above grade T-D transfer stations [98.236(r)(2)(v)(B)]	0
Calculation method [98.236(r)(3)(i)]	

GasProcessingEmissionsFactorsRowDetails:

Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Open-ended Line
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Pressure Relief Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Meter
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	

CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor Components, Gas Service - Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor Components, Gas Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor Components, Gas Service - Open-ended Line
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor components, Gas Service - Pressure Relief Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor components, Gas Service - Meter
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	

CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	

GasTransmissionCompressionEmissionFactorsRowDetails:

Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Open-ended Line
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Pressure Relief Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Compressor Components, Gas Service - Meter
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	

CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor Components, Gas Service - Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor Components, Gas Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor Components, Gas Service - Open-ended Line
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor components, Gas Service - Pressure Relief Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Non-Compressor components, Gas Service - Meter
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	

CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	

UndergroundStorageEmissionsFactorsRowDetails:

Component Type [98.236(q)(2)(i)]	Storage Station, Gas Service - Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Storage Station, Gas Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Storage Station, Gas Service - Open-ended Line
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Storage Station, Gas Service - Pressure Relief Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	Storage Station, Gas Service - Meter
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	

Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	

LngStorageEmissionsFactorsRowDetails:

Component Type [98.236(q)(2)(i)]	LNG Storage, LNG Service - Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	LNG Storage, LNG Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	LNG Storage, LNG Service - Pump Seal
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	LNG Storage, LNG Service - Other
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	

ImportExportEmissionsFactorsRowDetails:

Component Type [98.236(q)(2)(i)]	LNG Terminal, LNG Service - Valve

Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	LNG Terminal, LNG Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	LNG Terminal, LNG Service - Pump Seal
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	
Component Type [98.236(q)(2)(i)]	LNG Terminal, LNG Service - Other
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	

GasDistributionEmissionsFactorsRowDetails:

Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Connector
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	0
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0

Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Block Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	0
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0
Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Control Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	0
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0
Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Pressure Relief Valve
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	0
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0
Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Orifice Meter
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	0
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0
Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Regulator
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
	0

CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0
Component Type [98.236(q)(2)(i)]	Transmission-Distribution Transfer Station Components, Gas Service - Open-ended line
Total number of surveyed component type identified as leaking, xp [98.236(q)(2)(ii)]	0
Average time the surveyed components are assumed to be leaking and operational, Tp,z [98.236(q)(2)(iii)]	0
CO2 Emissions (surveyed components identified as leaking only) (mt CO2) [98.236(q)(2)(iv)]	0
CH4 Emissions (surveyed components identified as leaking only) (mt CH4) [98.236(q)(2)(v)]	0

GasEstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Storage wellheads, Gas Service - Valves
Total number of emission source type, Counte [98.236(r)(1)(ii)]	
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Storage wellheads, Gas Service - Connector
Total number of emission source type, Counte [98.236(r)(1)(ii)]	
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Storage wellheads, Gas Service - Open-ended line
Total number of emission source type, Counte [98.236(r)(1)(ii)]	
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Storage wellheads, Gas Service - Pressure Relief Valve
Total number of emission source type, Counte [98.236(r)(1)(ii)]	

Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	

LngStorageEstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233(r)(1)]	LNG Storage Compressor, Gas Service - Vapor Recovery Compressor
Total number of emission source type, Counte [98.236(r)(1)(ii)]	
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	

LngImportExportEstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233(r)(1)]	LNG Terminals Compressor, Gas Service - Vapor Recovery Compressor
Total number of emission source type, Counte [98.236(r)(1)(ii)]	
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	

GasDistributionTDEstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233(r)(1)]	Below Grade T-D Station, Gas Service, Inlet Pressure > 300 psig
Total number of emission source type, Counte [98.236(r)(1)(ii)]	0
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	0
Emission Source Type (Eq. W-32A) [98.232] [98.233(r)(1)]	Below Grade T-D Station, Gas Service, Inlet Pressure 100 to 300 psig
Total number of emission source type, Counte [98.236(r)(1)(ii)]	15
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0

CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	0.5
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Below Grade T-D Station, Gas Service, Inlet Pressure < 100 psig
Total number of emission source type, Counte [98.236(r)(1)(ii)]	0
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	0

GasDistributionMREstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Below Grade M-R Station, Gas Service, Inlet Pressure > 300 psig
Total number of emission source type, Counte [98.236(r)(1)(ii)]	0
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	0
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Below Grade M-R Station, Gas Service, Inlet Pressure 100 to 300 psig
Total number of emission source type, Counte [98.236(r)(1)(ii)]	37
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	1.2
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Below Grade M-R Station, Gas Service, Inlet Pressure < 100 psig
Total number of emission source type, Counte [98.236(r)(1)(ii)]	32
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	0.5

MainGasDistributionEstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Mains, Gas Service - Unprotected Steel
Total number of emission source type, Counte [98.236(r)(1)(ii)]	248
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760

CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	15.8
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	524.2
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Mains, Gas Service - Protected Steel
Total number of emission source type, Counte [98.236(r)(1)(ii)]	785
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	1.4
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	46.2
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Mains, Gas Service - Plastic
Total number of emission source type, Counte [98.236(r)(1)(ii)]	8125
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	46.5
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	1544.2
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Mains, Gas Service - Cast Iron
Total number of emission source type, Counte [98.236(r)(1)(ii)]	0
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	0
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	0

ServicesGasDistributionEstimatingEmissionsRowDetails:

Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Services, Gas Service - Unprotected Steel
Total number of emission source type, Counte [98.236(r)(1)(ii)]	18236
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	17.6
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	582.8
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Services, Gas Service - Protected Steel
Total number of emission source type, Counte [98.236(r)(1)(ii)]	6026
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r) (1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0.6
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	20.3

Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Services, Gas Service - Plastic
Total number of emission source type, Counte [98.236(r)(1)(ii)]	384425
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	1.9
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	64.7
Emission Source Type (Eq. W-32A) [98.232] [98.233 (r)(1)]	Distribution Services, Gas Service - Copper
Total number of emission source type, Counte [98.236(r)(1)(ii)]	681
Average estimated time that the emission source type was operational in the calendar year, Te [98.236(r)(1)(iii)]	8760
CO2 Emissions (mt CO2) [98.236(r)(1)(iv)]	0.1
CH4 Emissions (mt CH4) [98.236(r)(1)(v)]	3.4

MajorGasEquipmentTypeRowDetails:

Major Equipment Type [98.236(r)(3)(ii)(A)]	Wellhead
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Separators
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Meters/piping
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Compressors
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	In-line heaters
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	

Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Dehydrators
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	

MajorOilEquipmentTypeRowDetails:

Major Equipment Type [98.236(r)(3)(ii)(A)]	Wellhead
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Separators
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Heater-treater
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	
Major Equipment Type [98.236(r)(3)(ii)(A)]	Header
Equipment type present at facility? [98.236(r)(3)(ii)(A)]	
Geographic Location (according to Table W-1D) [98.236(r)(3)(ii)(A)]	
Count of Major Equipment Type [98.236(r)(3)(ii)(B)]	

OffshoreEmissionsDetails:

mt CO2	0.0
mt CH4 (mt CO2e)	
mt N2O (mt CO2e)	
Total Emissions (mt CO2e)	
mt CH4	0.00
mt N2O	0.000
Were BAMM used for any parameters to calculate GHG emissions? [98.3(c)(7)]	
Provide a brief description of the BAMM used, parameter measured, and time period. [98.3(c)(7)]	
Were missing data procedures used for any parameters to calculate GHG emissions? [98.235]	

OffshoreEmissionsSourcesRowDetails:

Emission Source [98.236(s)]	Amine Unit
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - Light Smoke - No Pilot Fuel-flaring
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - Light Smoke - Pilot Fuel - pilot
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - Light Smoke - Pilot Fuel-flaring
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - Medium Smoke - No Pilot Fuel - flaring
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - Medium Smoke - Pilot Fuel - flaring
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	

mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - Medium Smoke - Pilot Fuel - pilot
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - No Smoke - No Pilot Fuel - flaring
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - No Smoke - Pilot Fuel - flaring
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Combustion Flares - No Smoke - Pilot Fuel - pilot
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal dry - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal dry - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	

mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal dry - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal dry - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal dry - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal dry - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal wet - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal wet - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	

mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal wet - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal wet - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal wet - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor centrifugal wet - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor reciprocating - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor reciprocating - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	

mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor reciprocating - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor reciprocating - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor reciprocating - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Compressor reciprocating - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Connectors - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Connectors - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	

Emission Source [98.236(s)]	Fugitives - Connectors - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Connectors - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Connectors - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Connectors - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Flanges - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Flanges - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Flanges - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	

mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Flanges - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Flanges - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Flanges - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Open-Ended Lines - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Open-Ended Lines - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Open-Ended Lines - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	

Emission Source [98.236(s)]	Fugitives - Open-Ended Lines - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Open-Ended Lines - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Open-Ended Lines - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Other Equipment - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Other Equipment - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Other Equipment - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	

	Fugitives - Other Equipment - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Other Equipment - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Other Equipment - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Pumps - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Pumps - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Pumps - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Pumps - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	

mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Pumps - oil/water
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Pumps - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Valves - gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Valves - NG liq
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Valves - heavy oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Valves - light oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Valves - oil/water

mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Fugitives - Valves - oil/water/gas
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Glycol Dehydrator Unit
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Losses from Flashing
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Mud Degassing - oil-based muds
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Mud Degassing - water-based muds
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Mud Degassing - synthetic-based muds
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	

mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Pneumatic Pump
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Pressure/Level Controllers
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Storage Tank Operations - crude oil
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Storage Tank Operations - condensate
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	
Emission Source [98.236(s)]	Cold Vent
mt CO2 [98.236(s)(1)]	
mt CH4 (mt CO2e) [98.236(b)]	
mt N2O (mt CO2e) [98.236(b)]	
mt CH4 [98.236(s)(2)]	
mt N2O [98.236(s)(3)]	
Total Emissions for Source (mt CO2e)	

Subpart NN: Suppliers of Natural Gas and Natural Gas Liquids

Gas Information Details

Gas Name	Gas Quantity	Own Result?

Carbon Dioxide	3604324.4 (Metric Tons)	

Name	Value	Times Substituted
AnnualVolumeGasReceived	88289850 (Mscf)	0
Industry Standard for Volume: ANSI standard		
Other Industry Standard for Volume:		

Name	Value	Times Substituted
AnnualVolumeGasStored	702670 (Mscf)	0

Name	Value	Times Substituted
AnnualVolumeLNGforDelivery	109969 (Mscf)	0

Name	Value	Times Substituted
AnnualVolumeGasfromStorageforDelivery	0 (Mscf)	0

Name	Value	Times Substituted
AnnualVolumeGasDeliveredtoOtherLDC/Pipe	0 (Mscf)	0

Name	Value	Times Substituted
AnnualVolumeGasBypassedCityGate	0 (Mscf)	0

Name	Value	Own Result?
NN1CO2MassTotal	4806460.6 (Metric Tons)	N

Name	Value	Own Result?
NN3CO2MassTotal	0 (Metric Tons)	N

Name	Value	Own Result?
NN4CO2MassTotal	1169893.3 (Metric Tons)	N

Name	Value	Own Result?
NN5aCO2MassTotal	32242.9 (Metric Tons)	N

Name	Value	Own Result?
NN5bCO2MassTotal	0 (Metric Tons)	N

NN1 Equation Details:

Name	Value	Times Substituted
DevelopedHHV	1.026 (MMBtu/Mscf)	

Name	Value	Times Substituted
DevelopedEF	53.06 (kg CO2/MMBtu)	

Industry Standard for HHV: Other Industry Standard for HHV:

Industry Standard for EF: Other Industry Standard for EF:

NN3 Equation Details:

Name	Value	Times Substituted
DevelopedEF	0.0544 (MT CO2/Mscf)	

Industry Standard for EF:

NN4 Equation Details:

Name	Value	Times Substituted
DevelopedEF	0.0544 (MT CO2/Mscf)	

Industry Standard for EF:

NN5a Equation Details:

Name	Value	Times Substituted
DevelopedEF	0.0544 (MT CO2/Mscf)	

Industry Standard for EF:

NN5b Equation Details:

Name	Value	Times Substituted
DevelopedEF	0.0544 (MT CO2/Mscf)	

Industry Standard for EF:

Large End-User Details

Name: Malt O Meal
Address: 705 5th St, Northfield, MN, 55057
Meter Number: 711058, 10011686
EIA Number:
Total quantity of natural gas reported is the total quantity delivered to: Large end-user's facility

Name	Value
AnnualVolumeGasDeliveredtoMeter	662491 (Mscf)

Name: St Paul Park Refining Co
Address: 360 3rd Ave, St Paul Park, MN, 55071
Meter Number: 10007438, 711401, 712496
EIA Number:
Total quantity of natural gas reported is the total quantity delivered to: Large end-user's facility

Name	Value
AnnualVolumeGasDeliveredtoMeter	5146373 (Mscf)

Name: Waldorf Corporation/Rock-Tenn
Address: 2241 Wabash Ave, St. Paul, MN, 55114
Meter Number: 477095
EIA Number:
Total quantity of natural gas reported is the total quantity delivered to: Specific meter located at the facility

Name	Value
AnnualVolumeGasDeliveredtoMeter	2222005 (Mscf)

Name: American Crystal Sugar
Address: 2500 11th St , Moorhead, MN, 56560
Meter Number: 684836
EIA Number:
Total quantity of natural gas reported is the total quantity delivered to: Specific meter located at the facility

Name	Value
AnnualVolumeGasDeliveredtoMeter	489318 (Mscf)

Name: High Bridge Combined Cycle Plant
Address: 155 Randolph Ave, St. Paul, MN, 55102
Meter Number: 925955, 684727
EIA Number: 1912
Total quantity of natural gas reported is the total quantity delivered to: Large end-user's facility

Name	Value
AnnualVolumeGasDeliveredtoMeter	12985205 (Mscf)

NG Delivery Details
Name: Residential consumers

Name	Value
VolumeofNaturalGas	33008429 (Mscf)

Name: Commercial consumers

Name	Value
VolumeofNaturalGas	18755418 (Mscf)

Name: Industrial consumers

Name	Value
VolumeofNaturalGas	23289580 (Mscf)

Name: Electricity generating facilities

Name	Value
VolumeofNaturalGas	14435896 (Mscf)

CERTIFICATE OF SERVICE

I, Carl Cronin, hereby certify that I have this day served copies of the foregoing document on the attached list of persons.

xx by depositing a true and correct copy thereof, properly enveloped with postage paid in the United States mail at Minneapolis, Minnesota

xx electronic filing

DOCKET NO. G002/M-16-206
MISCELLANEOUS NATURAL GAS SERVICE LIST

Dated this 1st day of March 2017

/s/
_____
Carl Cronin

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_16-206_M-16-206
Christopher	Anderson	canderson@allete.com	Minnesota Power	30 W Superior St Duluth, MN 558022191	Electronic Service	No	OFF_SL_16-206_M-16-206
Alison C	Archer	alison.c.archer@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 5 Minneapolis, MN 55401	Electronic Service	No	OFF_SL_16-206_M-16-206
James J.	Bertrand	james.bertrand@stinson.com	Stinson Leonard Street LLP	150 South Fifth Street, Suite 2300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Carl	Cronin	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	OFF_SL_16-206_M-16-206
Jeffrey A.	Daugherty	jeffrey.daugherty@centerpointenergy.com	CenterPoint Energy	800 LaSalle Ave Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Ian	Dobson	ian.dobson@ag.state.mn.us	Office of the Attorney General-RUD	Antitrust and Utilities Division 445 Minnesota Street, 1400 BRM Tower St. Paul, MN 55101	Electronic Service	No	OFF_SL_16-206_M-16-206
Emma	Fazio	emma.fazio@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_16-206_M-16-206
Todd J.	Guerrero	todd.guerrero@kutakrock.com	Kutak Rock LLP	Suite 1750 220 South Sixth Street Minneapolis, MN 554021425	Electronic Service	No	OFF_SL_16-206_M-16-206

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Sandra	Hofstetter	sHofstetter@mnchamber.com	MN Chamber of Commerce	7261 County Road H Fremont, WI 54940-9317	Electronic Service	No	OFF_SL_16-206_M-16-206
Michael	Hoppe	il23@mtn.org	Local Union 23, I.B.E.W.	932 Payne Avenue St. Paul, MN 55130	Electronic Service	No	OFF_SL_16-206_M-16-206
Alan	Jenkins	aj@jenkinsatlaw.com	Jenkins at Law	2265 Roswell Road Suite 100 Marietta, GA 30062	Electronic Service	No	OFF_SL_16-206_M-16-206
Richard	Johnson	Rick.Johnson@lawmoss.com	Moss & Barnett	150 S. 5th Street Suite 1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Mark J.	Kaufman	mkaufman@ibewlocal949.org	IBEW Local Union 949	12908 Nicollet Avenue South Burnsville, MN 55337	Electronic Service	No	OFF_SL_16-206_M-16-206
Thomas	Koehler	TGK@IBEW160.org	Local Union #160, IBEW	2909 Anthony Ln St Anthony Village, MN 55418-3238	Electronic Service	No	OFF_SL_16-206_M-16-206
Michael	Krikava	mkrikava@briggs.com	Briggs And Morgan, P.A.	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	OFF_SL_16-206_M-16-206
John	Lindell	john.lindell@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_16-206_M-16-206
Pam	Marshall	pam@energycents.org	Energy CENTS Coalition	823 7th St E St. Paul, MN 55106	Electronic Service	No	OFF_SL_16-206_M-16-206

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
David	Niles	david.niles@avantenergy.com	Minnesota Municipal Power Agency	220 South Sixth Street Suite 1300 Minneapolis, Minnesota 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750 St. Paul, MN 55101	Electronic Service	No	OFF_SL_16-206_M-16-206
Ken	Smith	ken.smith@districtenergy.com	District Energy St. Paul Inc.	76 W Kellogg Blvd St. Paul, MN 55102	Electronic Service	No	OFF_SL_16-206_M-16-206
Ron	Spangler, Jr.	rlspangler@otpco.com	Otter Tail Power Company	215 So. Cascade St. PO Box 496 Fergus Falls, MN 565380496	Electronic Service	No	OFF_SL_16-206_M-16-206
Byron E.	Starns	byron.starns@stinson.com	Stinson Leonard Street LLP	150 South 5th Street Suite 2300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
James M.	Strommen	jstrommen@kennedy-graven.com	Kennedy & Graven, Chartered	470 U.S. Bank Plaza 200 South Sixth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-206_M-16-206
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_16-206_M-16-206
Lisa	Veith	lisa.veith@ci.stpaul.mn.us	City of St. Paul	400 City Hall and Courthouse 15 West Kellogg Blvd. St. Paul, MN 55102	Electronic Service	No	OFF_SL_16-206_M-16-206

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_16-206_M-16-206

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
Carl	Cronin	Regulatory.records@xcelenergy.com	Xcel Energy	414 Nicollet Mall FL 7 Minneapolis, MN 554011993	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
Jeffrey A.	Daugherty	jeffrey.daugherty@centerpointenergy.com	CenterPoint Energy	800 LaSalle Ave Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
Ian	Dobson	ian.dobson@ag.state.mn.us	Office of the Attorney General-RUD	Antitrust and Utilities Division 445 Minnesota Street, 1400 BRM Tower St. Paul, MN 55101	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
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_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
Todd J.	Guerrero	todd.guerrero@kutakrock.com	Kutak Rock LLP	Suite 1750 220 South Sixth Street Minneapolis, MN 554021425	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
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Richard	Johnson	Rick.Johnson@lawmoss.com	Moss & Barnett	150 S. 5th Street Suite 1200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
Michael	Krikava	mkrikava@briggs.com	Briggs And Morgan, P.A.	2200 IDS Center 80 S 8th St Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
John	Lindell	john.lindell@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
Andrew	Moratzka	andrew.moratzka@stoel.com	Stoel Rives LLP	33 South Sixth St Ste 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
David	Niles	david.niles@avantenergy.com	Minnesota Municipal Power Agency	220 South Sixth Street Suite 1300 Minneapolis, Minnesota 55402	Electronic Service	No	GEN_SL_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas
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_Northern States Power Company dba Xcel Energy-Gas_Xcel Miscl Gas