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October 31, 2014

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, MN 55101-2147

Re: In the Matter of the Petition of Minnesota Energy Resources Corporation-
Consolidated for Approval of a Change in Demand Entitlement

Docket No. G011/M-14-661

Dear Dr. Haar:

In accordance with Minnesota Rule 7825.2910, subpart 2, please find enclosed Minnesota Energy Resources Corporation's (MERC) updated demand entitlement information as identified in its August 1, 2014 request filed in this docket. MERC is filing both Excel and PDF versions of the attachments.

Pursuant to Minnesota Rule 7825.2910, subpart 3, a Notice of Availability was sent on August 1, 2014 to all intervenors in the Company's previous two rate cases.

Please contact me at 612-340-2881 if you have any questions regarding the information in this filing. Thank you for your attention to this matter.

Sincerely yours,

/s/ Michael J. Ahern

Michael J. Ahern

cc: Service List

August 1, 2014

To: Service List

RE: Minnesota Energy Resources Corporation-Consolidated Petition for Approval of Change in Demand Entitlement

Notice of Availability

Please take notice that Minnesota Energy Resources Corporation has filed a petition with the Minnesota Public Utilities Commission for approval of a change in demand entitlement for its Northern Natural Gas transmission system.

To obtain copies, or if you have any questions, please contact:

Amber Lee
Minnesota Energy Resources Corporation
2665 145th Street West
Rosemount, MN 55065
(651) 322-8965

Please note that this filing is also available through the eDockets system maintained by the Minnesota Department of Commerce and the Minnesota Public Utilities Commission. You can access this document by going to eDockets through the websites of the Department of Commerce or the Public Utilities Commission or going to the eDockets homepage at:

<https://www.edockets.state.mn.us/EFiling/home.jsp>

Once on the eDockets homepage, this document can be accessed through the Search Documents link and by entering the date of the filing.

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	Chair
David C. Boyd	Commissioner
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
Betsy Wergin	Commissioner

In the Matter of the Petition of Minnesota
Energy Resources Corporation-Consolidated
for Approval of a Change in Demand
Entitlement

Docket No. G011/14-661

REVISED FILING UPON CHANGE IN DEMAND

On August 1, 2014, pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation (MERC or the Company), petitioned the Minnesota Public Utilities Commission (Commission) for approval of changes in demand entitlements for MERC-Consolidated's customers. MERC requested that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2014. MERC further stated that it would provide an update to the petition.

This filing includes the following

- Notice of Availability.
- One paragraph summary of the filing in accordance with Minn. R. 7829.1300, subp. 1.
- Revised Petition for Change in Demand with Attachments.
- Affidavit of Service and Service List.

The following information is provided in accordance with Minn. R. 7829.1300:

1. Summary of Filing

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

2. Service

Pursuant to Minn. R. 7829.1300, subp. 2, MERC has served a copy of this filing on the Department of Commerce and the Office of the Attorney General — Residential Utilities Division. The summary of the filing has been served on all parties on the attached service list. Additionally, pursuant to Minn. R. 7825.2910, subp. 3, a Notice of Availability was sent to all intervenors in the Company's previous two rate cases along with the August 1, 2014 filing.

3. General Filing Information

A. Name, Address, and Telephone Number of the Utility

Minnesota Energy Resources
Corporation 2665 145th Street West
Rosemount, MN 55068-0455
(651) 322-8901

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

Michael J. Ahern
Dorsey & Whitney LLP
50 S. Sixth Street, Suite 1500
Minneapolis, MN 55402-
1498 (612) 340-2881

C. Date of the Filing and Proposed Effective Date

Date of filing: October 31, 2014
Originally Proposed Effective Date: November 1, 2014

D. Statute Controlling Schedule for Processing the Filing

Minnesota Statutes and related rules do not provide an explicit time frame for action by the Commission. Under Minn. R. 7829.1400, initial comments are due within 30 days of filing, with reply comments due 10 days thereafter.

E. Utility Employee Responsible for the Filing

Amber S. Lee
2665 145th Street West
Rosemount, MN 55068
(651) 322-8965

If additional information is required, please contact Amber S. Lee at (651) 322-8965, Shawn Gillespie at (402) 614-0076, or Michael J. Ahern at (612) 340-2881.

DATED: October 31, 2014

Respectfully Submitted,
DORSEY & WHITNEY
LLP

By: /s/ Michael J. Ahern
Michael J. Ahern
Suite 1500, 50 South Sixth
Street Minneapolis, MN 55402-

Attorney for Minnesota
Energy Resources
Corporation

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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SUMMARY OF REVISED FILING

On August 1, 2014, pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation (MERC or the Company), petitioned the Minnesota Public Utilities Commission (Commission) for approval of changes in demand entitlements for MERC-Consolidated's customers. MERC requested that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2014. MERC further stated that it would provide an update to the petition, and this filing is that update.

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	Chair
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Docket No. G011/14-661

REVISED PETITION FOR CHANGE IN DEMAND

I. INTRODUCTION

Pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation - Consolidated (MERC or the Company), a division of Integrys Energy Group, Inc. (TEG), hereby petitions the Minnesota Public Utilities Commission (Commission) to approve changes in demand entitlements for MERC-Consolidated customers. MERC requests that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2014.

II. DISCUSSION

A. MERC's Consolidated Design Day Requirements

MERC's 2014-2015 Consolidated design day requirements decreased 1,342 Dth (or approximately 2.68 percent) from 50,048 Dth to 48,706 Dth.

**Table 1: MERC's Proposed Consolidated Reserve Margins
For the 2014-2015 Heating Season
Consolidated (GLGT, VGT & Centra)**

	Reserve Margin 2014-2015 Heating Season	Reserve Margin 2013-2014 Heating Season	Change
NNG Zone E-F	5.65%	5.82%	-0.17%

As shown in Table 1 and Attachment 3, MERC's proposed system wide reserve margin for Consolidated for the 2014-2015 heating season is positive.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day requirement for Consolidated-Centra is 7,129 Dth as calculated in Attachment 1, page 2 of 3.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day capacity for Consolidated-Centra is 9,500 Mcf as calculated in Attachment 4, page 2 of 2.

The difference between the total Design Day requirement and total Design Day capacity results in an approximate 33.26% positive reserve margin.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day requirement for Consolidated-GLGT is 25,720 Dth as calculated in Attachment 1, page 2 of 3.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day capacity for Consolidated-GLGT is 26,368 Mcf as calculated in Attachment 4, Page 2 of 3. The difference between the total Design Day requirement and total Design Day capacity results in an approximate 2.52% positive reserve margin.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day requirement for Consolidated-VGT is 15,858 Dth as calculated in Attachment 1, page 2 of 3.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day capacity for Consolidated-VGT is 15,591 Mcf as calculated in Attachment 4, page 2 of 3.

The difference between the total Design Day requirement and total Design Day capacity results in a 1.68% negative reserve margin.

B. Forecast Methodology for MERC Demand Entitlement Nov. 1, 2014

Peakday

Purpose

Gather data and perform analysis used in the “Petition for Approval of Change in Demand Entitlement” for Minnesota Energy Resources Corporation (MERC) to be sent to the Minnesota Public Utilities Commission, otherwise known as the “MERC Demand Entitlement Filings”.

Background

MERC is served by four pipelines:

1. Centra - Centra pipeline
2. GLGT - Great Lakes Gas Transmission pipeline
3. VGT - Viking Gas Transmission system
4. NNG- Northern Natural Gas pipeline

Two Demand Entitlement Filings are prepared (one for each PGA):

- A. All customers served off Centra, GLGT & VGT = MERC Consolidated
- B. All customers served off NNG = NNG

Weather data is obtained from eight weather stations:

International Falls, Bemidji, Cloquet, Fargo, Minneapolis, Rochester, Worthington and Ortonville.

For analytical purposes, data is subdivided, analyzed and regressed by the following demand areas:

	Pipeline	PGA	Weather Station(s)
1	Centra	Consolidated	International Falls
2	GLGT	Consolidated	Bemidji & Cloquet
3	VGT	Consolidated	Fargo
4	NNG – All except Ortonville	NNG	Minneapolis, Rochester, Cloquet & Worthington
5	NNG – Ortonville Only	NNG	Ortonville

Analytical Approach

Summary

1. Obtain daily weather data for each weather station
2. Obtain daily total throughput volumes by pipeline
3. Perform total throughput peak day regressions. In response to comments from the DOC (Minnesota Department of Commerce):

- a. Review and potentially change the regression methodology to mitigate the impact of autocorrelation.
 - b. Provide a reasonable explanation whenever we choose to use a regression model that does not have an intercept.
4. Subtract interruptible, transport, and joint interruptible expected peak day load volumes based on monthly billing data
 5. Add back Daily Firm Capacity (DFC) customer selections
 6. Apply sales forecast growth rates

Detail

The Peak Day Forecasting Team (the Team) followed a data-driven approach for the Peak Day Forecast. Since the forecast is for a peak day, the best daily data available is required to provide the best estimate. Theoretically, the peak day regression should be performed using daily net firm load by pipeline and weather station. A review of the data available indicated that the two best daily data sources are the daily weather data by weather station and the daily throughput data by Town Border Station (TBS) and pipeline meter. (Some pipeline meters are dedicated to a TBS, and some are dedicated to individual customers.)

Most of the interruptible, transportation, and joint interruptible data available is from monthly billing record excerpts provided by ADS/Vertex, an external vendor that has been providing billing services to MERC.

The Team followed an approach generally consistent with the one used last year that would:

- Make the best use of the best available data; and
- Isolate the effects the monthly billing cycle data has on the Peak Day forecast so that the new process can be easily updated as better data is available.

The Peak Day Process consisted of:

- I. Data Preparation
- II. Regression Generation of Net Daily Metered Volumes
- III. Volume Risk Adjustments
- IV. Adjusting the Regression Results to a Firm peak day estimate

I. The **Data Preparation** Steps consisted of:

1. Identify the coldest Adjusted Heating Degree Day (AHDD) in the last 20 years for each weather station.
2. Determine the most recent three years of December through February daily total metered throughput for each of the demand areas by weather station.
3. Subtract the daily pipeline meter readings for all non-firm customers with daily pipeline meter readings available for all three December through February years from the total throughput for each demand area and weather station. Use the resulting net daily metered volumes for regressions. Examples of non-firm customer meter readings subtracted from the demand area total daily throughputs are paper mills, direct-connects,

taconites, and off-system end users. (see “Adjusting the Regression Results to a Firm Peak Day Estimate” below)

4. Determine how to map the monthly billing data to the demand areas.

Each daily weather station data file was searched to find the coldest Adjusted Heating Degree Day (AHDD65) in the last 20 years. This 1-in-20 approach is consistent with prior years. The results are provided in the following table:

<u>Station</u>	<u>Date</u>	<u>Avg. Temp</u>	<u>Avg. Wind</u>	<u>HDD65</u>	<u>AHDD65</u>
Bemidji	2/1/1996	-34	8	99	107
Cloquet	2/2/1996	-31	7	96	103
Fargo	1/18/1996	-16	34	81	109
International Falls	2/1/1996	-34	8	99	107
Minneapolis	2/2/1996	-25	8	90	97
Rochester	2/2/1996	-27	10	92	101
Worthington	1/18/1996	-8	32	73	96
Ortonville	1/14/2009	-21	11	86	96

The daily throughput data was provided by pipeline and meter, with each meter on each pipeline mapped to one of the weather stations shown in the above chart. As noted above, some of the meters represented a TBS. Some meters were dedicated to a customer who is not a firm service customer. For example, certain transportation, interruptible, direct-connect, and taconite customers have their own meter, but are not counted as firm service customers.

In a more nearly ideal world, the Team would have also had daily telemetered data from each interruptible, transportation, and joint interruptible customer mapped to each of the demand areas and related weather stations. This was the case for a handful of paper mills, direct-connects, taconites, and off-system end users. The rest of the interruptible, transportation, and joint interruptible data was available based on monthly billing cycle data that introduces billing lag, meter read lag (not all meters were read every month resulted in billing cycle estimates and reversals), and other potential errors into their volumes.

Similar to the process used the prior year, the Team generated regressions of the daily throughput data available less the known daily meter readings for non-firm customers and adjusted those regressions for the estimated peak day impact of the other non-firm customers who do not have daily readings. This approach was used because it introduced much less error into the data and regressions than trying to guess how to allocate monthly billing cycle data to daily when the load factors and relative temperature sensitivity of the non-daily-metered customers was not known. Using only the daily metered data for the regressions makes the best use of the best data available and provides insights into the total daily metered load that could be active on a peak day even if supply access at the non-firm pipeline meters were shut off.

II. The Regression Generation of Net Daily Metered Volumes consisted of:

For each of the Demand Areas:

1. Gather the net daily metered volumes and weather station data including AHDD65¹.
2. If more than one weather station is represented in a given demand area, weight each weather station's AHDD65 by the total December through February metered volumes attributable to that weather station.
3. Add indicator variables for weekend days and months. Day variables are used to isolate load that changes by day of the week, such as commercial or industrial customers who may change their consumption on weekends when they run fewer shifts. Month indicator variables are used to isolate load that changes based on winter month, such as businesses that are open extra hours in December and resume normal operating hours in January.
4. Perform ordinary least squares linear regressions for the 3-year time frame using the AHDD65 weather variable and the significant indicator variables.
5. In response to comments from the DOC (Minnesota Department of Commerce), review and potentially change the regression methodology to mitigate the impact of autocorrelation. See section below on autocorrelation.
6. In response to comments from the DOC, provide a reasonable explanation whenever we choose to use a regression model that does not have an intercept.
7. Summarize the Baseload and Use/AHDD65 from each regression.
8. Calculate a point estimate from each regression based on the baseload value plus the Use/AHDD65 coefficient times the coldest AHDD65 in 20 years (volume weighted if using more than one weather station in a single Demand Area).

Autocorrelation Review

In regression analysis using time series data, autocorrelation of the errors is a problem. Autocorrelation of the errors, which themselves are unobserved, can generally be detected because it produces autocorrelation in the observable residuals. (Errors are also known as "error terms" in econometrics.) Autocorrelation violates the ordinary least squares (OLS) assumption that the error terms are uncorrelated. While it does not bias the OLS coefficient estimates, the standard errors tend to be underestimated (and the t-scores overestimated) when the autocorrelations of the errors at low lags are positive. The traditional test for the presence of first-order autocorrelation is the Durbin–Watson statistic or, if the explanatory variables include a lagged dependent variable, Durbin's h statistic. To correct for this used we used the MetrixND software package to employ an AR(1) regression which then showed that the Durbin –Watson statistics are all either close to 2 or above. The AR (1) is similar to that of the Cochrane-Orcutt method to correct for autocorrelation.

¹ Temperature and weather data was obtained from Weather Bank/DTN via TherMaxx then converted to HDD65 and AHDD65 in an Excel spreadsheet by MERC – Gas Supply. Temperature and wind data is 24-hour average based on the 9am to 9am gas day.

III. Volume Risk Adjustments

Volume risk adjustments were incorporated into the forecast to provide a confidence level that the daily metered load under design conditions would not exceed the daily metered regression estimate. An appropriate volume risk adjustment was determined for each regression group by multiplying the standard error of each regression analysis (sigma) by a factor needed to attain a desired confidence level. The desired confidence level chosen was 97.5%.

IV. Adjusting the Regression Results to a Firm Peak Day Estimate consisted of:

A. Subtract interruptible, transport, and joint interruptible expected peak day load volumes based on monthly billing data

In order to determine firm peak day load, volumes contained in the daily pipeline meter readings for interruptible, joint interruptible and transportation customers needed to be isolated and removed. While it would have been ideal to have daily billing data for all customers, most of the interruptible, transportation, and joint interruptible data was, in most cases, only available from monthly billing records². An unfortunate, but unavoidable consequence was that this data was based on monthly billing cycles that introduce billing lag, meter read lag (not all meters were read every month resulted in billing cycle estimates and reversals), and other potential errors into their volumes.

A database of volumes billed for all customers from the prior winter was obtained. The database contained detail by customer class³, calendar month, (service) area, city, location, zip code and responsibility center. The billing database was provided by ADS/Vertex, an outside firm that has been providing billing services to MERC. Sales and Revenue Forecasting had previously adjusted the billing data to properly fit the appropriate calendar month of consumption by apportioning billed volumes, i.e. for a bill covering February 15 to March 15, volumes were split evenly between February and March.

Volumes for the interruptible, transportation and joint interruptible customer classes (INTER, TRANS and JINTER classes) needed to be mapped to the appropriate regression demand area, and were then summed. This billing data included consumption that was billed, but not included in the daily metered volumes for several large specific customers (paper mills, direct-connects, taconites, and off-system end users), and therefore needed to be removed from the gross interruptible, transportation and joint interruptible totals. Such customers were identified,

² Individual daily volumes were available for a handful of paper mills, direct-connects, taconites, and off-system end users.

³ Transportation, Interruptible, Joint Interruptible, Residential, Large Commercial & Industrial and Small Commercial & Industrial.

mapped to the demand areas, summed and subtracted from the interruptible, transportation and joint interruptible customer classes totals. The following peak demand estimation method based on the highest monthly total from the prior winter was then used to calculate the amount to subtract from the results of the data regressions for each demand area:

The MERC tariff General Rules, Regulations, Terms, and Conditions Section 1.N “Maximum Daily Quantity (MDQ)” on Original Sheet No. 8.04:

N. Maximum Daily Quantity (MDQ):

The amount calculated by dividing the volumes consumed by a particular customer during the highest historical peak month of usage for that customer by twenty (20).

Company will estimate a peak month for new customers. A Maximum Daily Quantity may also be established through direct measurement or other means (i.e. estimating the peak day requirements after installation of new processing equipment or more energy efficient heating systems) if approved by [the] Company.

B. Add back Daily Firm Capacity (DFC) customer selections

While interruptible, joint interruptible and transportation customer volumes were removed (as described above), in order to determine firm peak day load, daily firm capacity selections needed to be added back. The Sales and Revenue Forecasting department provided historical monthly DFC data for the “joint interruptible” customers from the prior winter that showed the volume that each customer has selected to receive as firm service from MERC each month. Based on the direction from MERC Gas Supply, the Small Volume Joint Firm / Interruptible customers who were relying on MERC to provide peak day firm supply were identified and their daily firm capacity volumes were summed by month for each demand area. The total volumes were then added back to the adjusted regression results.

C. Apply Sales Forecast Growth Rates

The throughput volumes used in the data regressions were from the last three winters and needed to be adjusted to properly forecast the next year. The Revenue Forecasting Department provided a growth rate for each demand area, which were then applied to the adjusted regression results.

Exhibit 1
Pipeline Regression Notes

A. Interruptible, Transportation and Joint Interruptible

GLGT Paper Mills = Blandon in Bemidji, and Sappi and USG in Cloquet

VGT Lamb Weston.

NNG Taconites / Direct Connects =

- CCI EMPIRE IND DEL PT 2 TILDEN
- CCI NORTSHORE
- UNITED TACONITE (was EVELETH TACONITE)
- HIBBING TACONITE CO.
- U.S. STEEL
- NATIONAL STEEL PELLET
- COTTAGE GROVE TBS LS POWER
- INLAND STEEL
- HANNA MINING

NNG OSEU (End Users) =

- ASSOCIATED MILK PRODUCTS, INC.
- CORRECTIONAL CTR
- KEMPS LLC
- KERRY BIO-SCIENCE
- LAKESIDE
- MILK SPECIALTIES
- LAND OF LAKES
- PRO-CORN
- SWIFT
- SENECA FOODS-ROCHERSTER
- ENGINEERED POLYMERS
- SANDSTONE FEDERAL CORRECTIONAL INSTITUTE
- Glenville #1
- Agra Resources(Exol)
- Halcon Corporation
- Engineered Polymers
- Foremost Farms USA – Preston
- REG ALBERT LEA, LLC
- Zinpro North Branch

B. Daily Firm Capacity

PNG-VGT

- DETROIT LAKES MIDDLE SCHOOL
- ROSSMAN SCHOOL

PNG-GLGT

- AMERIPRIDE
- NORTHLAND APTS
- NW TECH COLLEGE - BEMIDJI

PNG-NNG

- HENDRICKS HOSPITAL
- GLASSTITE INC

Daily Design Day Estimate to Actual Comparison

In the 2007 demand entitlement dockets, MERC agreed to include a daily estimate utilizing the design day model which is calculated in Attachment 11. The daily estimate is compared to actual consumption. The actual volumes are total through-put which includes interruptible and transportation volumes that are located behind MERC citygates. This does not include any transportation volumes that are directly connected with any interstate pipeline(s). The Design Day model only calculates firm volumes. MERC does not forecast on a daily/monthly basis utilizing the Design Day model. The Design Day model is utilized to calculate the theoretical peak day. The calculated base load natural gas usage at zero heating degree days is 6,734 Dth which includes interruptible and transportation volumes. Since daily volume consumption is not available for all interruptible and transportation customers, MERC is not able to determine an exact number to deduct from the 6,734 Dth to determine the firm base load natural gas consumption at zero (0) HDD.

Average Customer Counts

In the 2007 demand entitlement dockets, MERC agreed to include average customer counts which is provided in Attachment 12.

C. MERC's Specific Consolidated Proposed Demand-Related Changes

There are two types of demand entitlement changes. The first type is design day deliverability, which, in this case, increases the amount of firm transportation and storage capacity actually available to MERC's Consolidated customers during winter peak periods. The second type does not affect design day deliverability levels, but alters the capacity portfolio and the PGA costs recovered from customers.

1. Design Day Deliverability Changes

On GLGT there is no planned change in winter capacity. However, due a contract extension of a seasonal contract, GLGT had to change the contract number from FT0155 to FT17891. The contract change has no impact on contracted volume or demand cost.

In the August 1, 2014 petition, MERC anticipated purchasing 1,500 Dth firm winter (December 2014 through February 2015) capacity from VGT, however, VGT has no firm capacity to sell. This filing reflects the decrease of 1,500 Dth capacity (see Table 4).

On Centra there is no planned change in winter capacity.

Table 4

Capacity Entitlement	Propose Change Increase / (Decrease)
GLGT FT0016	0 Dth/Day
GLGT FT0155 (12)	-3600 Dth/Day
GLGT FT0155 (5)	-3638 Dth/Day
GLGT FT15782	0 Dth/Day
GLGT FT17891 (12)	3600 Dth/Day
GLGT FT17891 (5)	3638 Dth/Day
VGT AF0012	0 Dth/Day
VGT AF0014	0 Dth/Day
VGT AF0102	0 Dth/Day
VGT AF0203	-1500 Dth/Day
Centra FT	-1500 Dth/Day

Total Overall Change

2. Other Demand Entitlement Changes

MERC has AECO Storage, to deliver the supply from storage to MERC-Consolidated markets, MERC plans to enter into an AECO/Emerson swap. MERC sells gas at the storage point (AECO) to a supplier and buys an equivalent volume at Emerson/Spruce, which MERC then transports to its Consolidated customers. The swap substituted the need to contract for firm transport on TransCanada Pipeline (TCPL) to transport the gas from AECO to Emerson/Spruce. There is no planned change in volume from previous year. Once MERC has revised Design Day numbers this may change and will be revised in the November 1, 2014 filing. Per Docket No. G-007/M-07-1402-05 dated August 6th, 2014, storage demand and balancing charges will be allocated through the commodity charge effective November 1, 2014.

D. Financial Option Units and Premiums

- i. MERC is entering into New York Mercantile Exchange (NYMEX) financial Call Options for the upcoming 2014/2015 winter (November through March). MERC will be making purchases through October 2014. The Call Option contracts are projected for the entire 2014/2015 winter. Please see Attachment 5.
- ii. Total premium costs to date entered into the financial Call Options on behalf of MERC's Consolidated firm customers amounted to \$320,916 for the 2014/2015 winter. Please see Attachment 8.

- iii. MERC will be entering into 122 contracts (10,000/contract) or 1,220,000. Total premium per contract to date is approximately \$0.2630. Please see Attachment 5.
- iv. Please see Attachment 5 for the various contract dates.
- v. Please see Attachment 5 for the various contract prices.
- vi. MERC will be entering into 76 futures contracts (10,000/contract) or 760,000. Please see Attachment 5.
- vii. MERC believes a diversified portfolio approach towards hedging is in the best interest of MERC's firm customers. MERC implemented a 40% fixed price (storage and futures contracts), 30% financial call options and 30% market based prices, assuming normal weather. A dollar-cost-averaging approach is utilized in purchasing the hedging portfolio. Although this hedging strategy will most likely not provide the lowest priced supply, it does meet MERC's stated objectives of providing reliable and reasonably priced natural gas and mitigates natural gas price volatility. Please see Attachment 10, pages 1 through 2.

E. Gas Supply.

The Consolidate 2014-2015 Winter Portfolio Plans - Minnesota Energy Resources Corporation for GLGT, VGT and Centra gas supply purchases for the Hedging Plans is in Attachment 10 pages 1 and 2. This Attachment includes the projected sales number by month for the November 2014 through March 2015 period as well as the planned physical fixed price, financial call options and storage and/or exchange volumes by month.

F. Price Volatility

MERC's hedging strategy as described in section 2.(D).(vii.) provides the opportunity to ensure MERC customers are seventy percent (70%) hedged assuming normal winter volumes. The 70% hedged is accomplished by 40% of normal winter volumes hedged by a fixed price, which is comprised of storage and futures contracts. MERC is projecting the weighted average cost of gas (WACOG) for futures contracts of natural gas to be approximately \$4.14. Please see Attachment 13, page 1 of 3. MERC is projecting the storage WACOG on AECO Storage to be approximately \$4.09. This is an estimate based upon the purchases through July. Please see Attachment 13, page 2 of 3. The remaining 30% of the 70% is hedged by financial call options. MERC purchased call options at an average strike price of \$4.31, which means if NYMEX contract(s) settle above that price, the options are exercised and MERC customers' gas cost is capped at the average strike price. Please see Attachment 13, page 3 of 3. Since financial options are paper only MERC purchases physical index supply to back the financial call options. MERC projects the gas costs to be approximately \$4.56 for 70% of normal winter volumes assuming that the NYMEX prices are above the average strike price plus the physical index basis spread. If the NYMEX prices are below the average strike price, the average natural gas cost for 70% of the normal winter volumes will be lower. The remaining 30% of normal winter volumes are purchased at index or market prices. All numbers reflected are natural gas costs only and do not include any transportation, storage, hedge premium or margin costs.

G. PGA Cost Recovery

MERC proposes to begin recovering the costs associated with the change in demand-related costs in its monthly PGA effective November 1, 2014. Rate impacts associated with this change can be found on Attachment 4, pages 1 through 3, and on page 1 of Attachment 7.

H. Impacts of Telemetry

Based on the requirement that all interruptible and transportation customers on MERC's system must have telemetry, some customers have switched from interruptible to firm service. MERC's design day analysis takes these switches into account. Any switching of additional customers that occurred before the date of this filing would be sufficiently within MERC's design day limits.

MINNESOTA ENERGY RESOURCES - Consolidated

DESIGN-DAY DEMAND SUMMARY NOVEMBER 1, 2014

Design Day Requirement	48,706
Total Peak Day Entitlement	51,459
Firm Peak Day Actual Sendout -Non Coincidental (Jan. 5)	38,906
Firm Annual Throughput - Minnesota	4,807,824
No. of Firm Customers	34,397
Department Load Factor Calculation	33.86%

MINNESOTA ENERGY RESOURCES - Consolidated

**MINNESOTA DESIGN DAY REQUIREMENTS
NOVEMBER 1, 2014
HDD**

Pipeline Group	2013/14 Customer Count	1/20 Design DDD	Regression Factors		Regression Total Footnote 1	Regression Adjustment Footnote 2	1/20 Requirements Regression Load Footnote 3	2008/09 Customer Growth	Total
			Intercept	Slope					
VGT									
Peak	10,461	109	1,573	140	21,322	5,559	15,763	0.6%	15,858
Off Peak	10,461	57	1,573	140	13,074	3,584	9,490	0.6%	9,547
GLGT									
Peak	18,256	106	5,087	233	34,818	9,251	25,567	0.6%	25,720
Off Peak	18,256	57	5,087	233	22,672	5,892	16,780	0.6%	16,881
Centra									
Peak	5,680	107	1,724	79	11,572	4,486	7,086	0.6%	7,129
Off Peak	5,680	57	1,724	79	7,329	2,894	4,435	0.6%	4,462
Total Consolidated									
Peak	34,397	107	8,384	452	67,712	19,296	48,416	0.6%	48,706
Off Peak	34,397	57	8,384	452	43,075	12,370	30,705	0.6%	30,889

Footnote 1: Regression Total is based on total through-put data.

Footnote 2: Regression Adjustment subtracts out Interruptible, Transportation and Joint Interruptible volumes and adds Firm Joint volumes.

Footnote 3: Total equals Regression Total minus Regression Adjustment.

**Dual Supplied

MINNESOTA ENERGY RESOURCES - Consolidated**DESIGN-DAY DEMAND PER CUSTOMER****NOVEMBER 1, 2014**

<u>Heating Season</u>	<u>No. of Firm Customers</u>	<u>Design Day Requirements</u>	<u>MMBtus /Customer /Day</u>
14/15	34,397	48,706	1.42
13/14	34,007	50,048	1.47
12/13	33,630	52,289	1.55
11/12	33,384	50,366	1.51
10/11	33,399	50,779	1.52
09/10	34,053	53,931	1.58
08/09	32,632	59,654	1.83
07/08	32,454	57,202	1.76

MINNESOTA ENERGY RESOURCES - Consolidated

SUMMER/WINTER USAGE - Mcf
PROJECTED 12 MONTHS ENDING JUNE 2014
Consolidated

<u>Class</u>	<u>Summer Apr-Oct</u>	<u>Winter Nov-Mar</u>	<u>Total</u>
GS	1,331,975	3,450,566	4,782,541
SVI	0	0	0
SVJ	11,634	13,649	25,283
LVI	0	0	0
LVJ	0	0	0
SLV	0	0	0
IS	<u>358,718</u>	<u>537,399</u>	<u>896,117</u>
Total	<u>1,702,327</u>	<u>4,001,614</u>	<u>5,703,941</u>

MINNESOTA ENERGY RESOURCES - Consolidated
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ENTITLEMENT LEVELS

PROPOSED TO BE EFFECTIVE NOVEMBER 1, 2014

<u>Type of Capacity or Entitlement</u>		<u>Current Amount Mcf or MMBtu</u>	<u>Proposed Change Mcf or MMBtu</u>	<u>Proposed Amount Mcf or MMBtu</u>
FT Western Zone	FT0016	10,130	0	10,130
FT Western Zone (12)	FT0155 (12)	3,600	(3,600)	0
FT Western Zone (5)	FT0155 (5)	3,638	(3,638)	0
FT Western Zone	FT15782	9,000	0	9,000
FT Western Zone (12)	FT17891 (12)	0	3,600	3,600
FT Western Zone (5)	FT17891 (5)	0	3,638	3,638
FT-A ZONE 1 - 1	AF0012	12,493	0	12,493
FT-A ZONE 1 - 1	AF0209	1,098		1,098
FT-A ZONE 1 - 1	AF0102	2,000	0	2,000
FA-A ZONE 1 - 1	AF0203	1,500	(1,500)	0
CENTRA FT-1		9,500	0	9,500
Total Entitlement		52,959	(1,500)	51,459
Forecasted Design Day-Adjusted		50,048	(1,342)	48,706
Capacity Surplus/Shortage		2,911	(158)	2,753
Reserve Margin		5.82%		5.65%

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

RATE IMPACT OF THE PROPOSED DEMAND CHANGE (Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)
NOVEMBER 1, 2014

All costs in \$/Dth	Last Base Cost of Gas G011/MR-13-732* Jan. 14	Demand Change G011-12-1193 Jul 13	Last Demand Change G011-13-670 Nov. 13	Most Recent PGA Effective Oct. 1, 2014	Current Proposal Effective Nov. 1, 2014	Result of Proposed Change				
						Change from Last Rate Case	Change from Last Demand Change	Change from Last PGA %	Change from Last PGA \$	
1) General Service Residential Avg. Annual Use:						93	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	11.34%	15.17%	\$0.6481	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-1.21%	-5.11%	(\$0.0439)	
Commodity Margin	\$2.2290	\$1.9754	\$1.9754	\$2.2290	\$2.2290	0.00%	0.00%	0.00%	\$0.0000	
Total Cost of Gas	\$7.5373	\$6.7415	\$6.6466	\$7.3586	\$7.9628	5.65%	6.31%	8.21%	\$0.6042	
Avg Annual Cost	\$700.97	\$626.96	\$618.13	\$684.35	\$740.54	5.65%	6.31%	8.21%	\$56.19	
Effect of proposed commodity change on average annual bills:									\$60.27	
Effect of proposed demand change on average annual bills:									(\$4.08)	
2) Large General Service: Avg. Annual Use:						5,383	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	27.82%	15.17%	\$0.6481	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-11.21%	-5.11%	(\$0.0439)	
Commodity Margin	\$2.2290	\$1.6868	\$1.6868	\$2.2290	\$2.2290	0.00%	32.14%	0.00%	\$0.0000	
Total Cost of Gas	\$7.5373	\$6.4529	\$6.3580	\$7.3586	\$7.9628	5.65%	23.40%	8.21%	\$0.6042	
Avg Annual Cost	\$40,573.29	\$34,735.96	\$34,225.11	\$39,611.34	\$42,863.79	5.65%	23.40%	8.21%	\$3,252.44	
Effect of proposed commodity change on average annual bills:									\$3,488.72	
Effect of proposed demand change on average annual bills:									(\$236.28)	
3) SV Interruptible Service: Avg. Annual Use:						6,699	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	27.82%	15.17%	\$0.6481	
Commodity Margin	\$1.2014	\$1.0647	\$1.0647	\$1.2014	\$1.2014	0.00%	12.84%	0.00%	\$0.0000	
Total Cost of Gas	\$5.6839	\$4.9132	\$4.8391	\$5.4724	\$6.1205	7.68%	24.57%	11.84%	\$0.6481	
Avg Annual Cost	\$38,076.45	\$32,913.53	\$32,417.13	\$36,659.61	\$41,001.23	7.68%	24.57%	11.84%	\$4,341.62	
Effect of proposed commodity change on average annual bills:									\$4,341.62	
4) LV Interruptible Service: Avg. Annual Use:						42,000	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	27.82%	15.17%	\$0.6481	
Commodity Margin	\$0.4026	\$0.3568	\$0.3568	\$0.4026	\$0.4026	0.00%	12.84%	0.00%	\$0.0000	
Total Cost of Gas	\$4.8851	\$4.2053	\$4.1312	\$4.6736	\$5.3217	8.94%	26.55%	13.87%	\$0.6481	
Avg Annual Cost	\$205,174.20	\$176,622.60	\$173,510.40	\$196,291.20	\$223,511.40	8.94%	26.55%	13.87%	\$27,220.20	
Effect of proposed commodity change on average annual bills:									\$27,220.20	

Note: Average Annual Average based on PNG Annual Automatic Adjustment Report in Docket No. E,G999/AA-12-756

*As approved in Docket No. G007,011/MR-10-978; with implementation consolidated PGA rates on 7/1/13 in Docket No. G007,011/MR-10-977

**Per Docket No. G-007/M-07-1402-05 dated August 6th, 2014, storage demand charges will be allocated through the commodity charge effective 11/1/2014.

MINNESOTA ENERGY RESOURCES - CONSOLIDATED
(Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)

DEMAND									
Contract Type		Season	Monthly Entitlement		Rate (\$/Dth)	Contract Costs	Rate Case Sales (therms)	Cost/Ccf	
			(Dth)	Months					
Viking (VGT)									
FT-A ZONE 1 - 1	AF0012	Annual	12,493	12	4.2085	\$ 630,921	45,118,157		\$0.01398
FT-A ZONE 1 - 1	AF0209	Winter	1,098	3	4.2085	\$ 13,863	45,118,157		\$0.00031
FT-A ZONE 1 - 1	AF0102	Annual	2,000	12	4.2085	\$ 101,003	45,118,157		\$0.00224
FA-A ZONE 1 - 1	AF0203	Dec-Feb	0	3	4.3977	\$ -	45,118,157		\$0.00000
VGT Demand						\$ 745,787	45,118,157		\$0.01653
Great Lakes (GLGT)									
FT Western Zone	FT0016	Annual	10,130	12	\$3.8490	\$ 467,886	45,118,157		\$0.01037
FT Western Zone (12)	FT0155 (12)	Annual	0	12	\$3.8490	\$ -	45,118,157		\$0.00000
FT Western Zone (5)	FT0155 (5)	Winter	0	5	\$3.8490	\$ -	45,118,157		\$0.00000
FT Western Zone	FT15782	Annual	9,000	12	\$3.8490	\$ 415,693	45,118,157		\$0.00921
FT Western Zone (12)	FT17891 (12)	Annual	3,600	12	\$3.8490	\$ 166,277	45,118,157		\$0.00369
FT Western Zone (5)	FT17891 (5)	Winter	3,638	5	\$3.8490	\$ 70,013	45,118,157		\$0.00155
GLGT Demand						\$ 1,119,869	45,118,157		\$0.02482
Centra									
CENTRA TRANSMISSION (\$Cdn/103M3)					\$445.7690				
Conversion (103M3 x Rate(C\$ 103M3)		Annual	9,500	12	\$12.6275	\$ 1,439,535	45,118,157		\$0.03191
CENTRA MINNESOTA PIPELINES		Annual	9,500	12	\$3.2510	\$ 370,614	45,118,157		\$0.00821
Centra Demand						\$ 1,810,149	45,118,157		\$0.04012
AECO									
Niska Storage (AECO)		Annual	947,820	1	\$0.6225	\$ -			
AECO/Emerson Swap		Annual	940,428	1	\$0.9025	\$ -		0	
AECO Demand						\$ -	0		0
NMU DEMAND - \$/Ccf						\$ 3,675,805			\$0.08147
For Joint Rate Demand						45,118,157	Annual Firm Sales in therms		
			Units	Months	Annual				
			Dth's		Dth's				
Viking (VGT)									
FT-A ZONE 1 - 1			12,493	12	149,916				
FT-A ZONE 1 - 1			1,098	3	3,294				
FT-A ZONE 1 - 1			2,000	12	24,000				
FA-A ZONE 1 - 1			0	3	-				
Great Lakes (GLGT)									
FT Western Zone			10,130	12	121,560				
FT Western Zone (12)			3,600	12	43,200				
FT Western Zone (5)			3,638	5	18,190				
FT Western Zone			9,000	12	108,000				
Centra									
CENTRA TRANSMISSION									
Conversion (103M3 x Rate(C\$ 103M3)			9,500	12	114,000				
CENTRA MINNESOTA PIPELINES			9,500	12	114,000				
Total Demand Cost						\$ 3,675,805			
Total Demand Weighted Vol in Mcf						5,821,600			
Total Joint Demand Rate \$/Mcf							\$0.63141		

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

November 1, 2013

(Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)

PRESENT AVERAGE COST OF GAS COMMODITY

EFFECTIVE: 01-Oct-14

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	Cost/therm	REFERENCE	Effective
VGT								
GAS COST	\$4.54060							
FUEL 0.00%	\$0.00000						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
COMMODITY TRANSPORTATION	\$0.01270						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
GRI	\$0.00000						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
ACA	\$0.00120						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
VGT Commodity	\$4.55450	1,933,108	\$115,421	\$89,580	\$9,009,339	\$0.16762	VGT Commodity	
GLGT								
GAS COST	\$4.54060							
FUEL 0.579%	\$0.02644						5 Revised Sheet 4 Contract	Jun 1, 1997
COMMODITY TRANSPORTATION	\$0.00394						18th Revised Sheet No. 7	Jun. 1, 2004
GRI	\$0.00000							Oct. 1, 2005
ACA	\$0.00120							
GLGT Commodity	\$4.57218	2,436,860	\$145,498	\$0	\$11,287,259	\$0.21000	GLGT Commodity	
CENTRA								
CENTRA TRANSMISSION (\$Cdn/103M3)	1.062						Sheet 1 (N.E.B.)	
Conversion	\$0.02687							
GAS COSTS	\$4.54060							
CUSTOMS FEE	\$0.00040							
CENTRA Commodity	\$4.56787	1,004,857	\$59,997	\$54,000	\$4,704,048	\$0.08752	Centra Commodity	
Consolidated WACOG w/Premium & Balancing		5,374,824	\$320,916	\$143,580	\$25,000,646	\$0.46514		
		Total Annual Sales in therms	53,748,240					
						\$0.02677		
						\$0.49191	Total Consolidated WACOG-\$/therm	

Balancing Service		Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs
Pipeline	Description	Annual	7,465	12	\$1.0000	\$89,580
VGT	Balancing Agreement					
GLGT	---		0	0	\$0.0000	\$0
Centra	Union Balancing	Annual	4,453	12	\$1.0106	\$54,000

Storage Service		Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs	Annual Sales (therms)	Rate (\$/therm)
Niska Storage (AEEO)	Annual	947,820	1	\$	0.62250	\$590,018	53,748,240	\$0.01098
AEEO/Emerson Swap	Annual	940,428	1	\$	0.90250	\$848,736	53,748,240	\$0.01579
						\$1,438,754	53,748,240	\$0.02677

Total Commodity Cost: \$0.49191

* Per Docket No. G-007/M-07-1402-05 dated August 6th, 2014, storage demand charges will be allocated through the commodity charge effective 11/01/2014.

MINNESOTA ENERGY RESOURCES - PNG-NNG

Financial Options Heating Season 2014-2015

Units - Gas Daily Peaker Packages (Physical)

<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Daily Total</u>	<u>Term Total</u>
<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>		
N/A		N/A		N/A		N/A		N/A			

Premium - Gas Daily Peaker (Monthly Cost)

<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Total</u>	
<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>
N/A		N/A		N/A		N/A		N/A			

Units - Futures (Daily Volume)

	<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Daily Total</u>	<u>Term Total</u>
	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>		
1	06/25/14	948	06/16/14	209	06/11/14	99	06/30/14	871	06/20/14	370	2,496	73,813
2	07/25/14	1,034	06/16/14	417	06/11/14	691	07/30/14	1,016	06/20/14	370	3,528	105,300
3	08/22/14	1,034	07/16/14	835	07/10/14	197	08/28/14	435	06/20/14	370	2,872	86,685
4	09/24/14	1,034	08/13/14	835	07/10/14	889	08/28/14	580	06/20/14	370	3,708	112,176
5	10/01/14	948	09/11/14	626	08/07/14	987	09/29/14	871	07/21/14	1,478	4,911	148,681
6			10/09/14	626	09/04/14	987	10/23/14	871	08/18/14	74	2,558	76,691
7					10/08/14	987			08/18/14	1,331	2,318	71,862
8									09/18/14	1,405	1,405	43,542
9									10/20/14	1,331	1,331	41,250
10											-	-
Total		<u>5,000</u>		<u>3,548</u>		<u>4,839</u>		<u>4,643</u>		<u>7,097</u>	<u>25,127</u>	<u>760,000</u>
		<u>150,000</u>		<u>110,000</u>		<u>150,000</u>		<u>130,000</u>		<u>220,000</u>		<u>760,000</u>

Units - Call Options (Daily Volume)

	<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Daily Total</u>	<u>Term Total</u>
	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>	<u>Contract Date</u>	<u>Daily Volume</u>		
1	06/13/14	1,082	06/27/14	1,613	06/23/14	1,811	06/18/14	1,844	06/10/14	1,484	7,834	236,232
2	07/14/14	1,082	07/28/14	1,677	07/24/14	1,871	07/18/14	1,844	07/08/14	1,548	8,023	242,103
3	08/11/14	1,082	08/26/14	1,677	08/20/14	1,871	08/15/14	1,844	08/05/14	1,548	8,023	242,103
4	09/09/14	1,210	09/26/14	1,677	09/22/14	1,871	09/16/14	1,844	09/02/14	1,548	8,150	245,923
5	10/06/14	1,210	10/22/14	1,742	10/21/14	1,931	10/10/14	1,910	10/07/14	1,613	8,406	253,638
6												
7												
Total		<u>5,667</u>		<u>8,387</u>		<u>9,355</u>		<u>9,286</u>		<u>7,742</u>	<u>40,436</u>	<u>1,220,000</u>
		<u>170,000</u>		<u>260,000</u>		<u>290,000</u>		<u>260,000</u>		<u>240,000</u>		<u>1,220,000</u>

Premium - Call Option (Monthly Cost)

	<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Total</u>	
	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>	<u>Option Premium</u>	<u>Premium Cost</u>
1	\$ 0.2380	\$ 7,728	\$ 0.3100	\$15,500	\$ 0.3450	\$19,365	\$ 0.3750	\$19,362	\$ 0.3960	\$ 18,216	\$ 0.3394	\$ 80,171
2	\$ 0.2220	\$ 7,209	\$ 0.2230	\$11,596	\$ 0.2370	\$13,746	\$ 0.3050	\$15,748	\$ 0.4110	\$ 19,728	\$ 0.2810	\$ 68,026
3	\$ 0.1350	\$ 4,384	\$ 0.2010	\$10,452	\$ 0.2420	\$14,036	\$ 0.2640	\$13,631	\$ 0.3030	\$ 14,544	\$ 0.2356	\$ 57,046
4	\$ 0.0880	\$ 3,194	\$ 0.1660	\$8,632	\$ 0.2160	\$12,528	\$ 0.3350	\$17,296	\$ 0.2940	\$ 14,112	\$ 0.2267	\$ 55,762
5	\$ 0.0780	\$ 2,831	\$ 0.1640	\$8,856	\$ 0.2080	\$12,453	\$ 0.2650	\$14,171	\$ 0.4320	\$ 21,600	\$ 0.2362	\$ 59,911
6												
7												
Total	<u>\$ 0.1491</u>	<u>\$ 25,345</u>	<u>\$ 0.2117</u>	<u>\$ 55,036</u>	<u>\$ 0.2487</u>	<u>\$ 72,128</u>	<u>\$ 0.3085</u>	<u>\$ 80,207</u>	<u>\$ 0.3675</u>	<u>\$ 88,200</u>	<u>\$ 0.2630</u>	<u>\$ 320,916</u>
		<u>\$ 132,690</u>		<u>\$ 275,180</u>		<u>\$ 385,510</u>		<u>\$ 434,970</u>		<u>\$ 441,000</u>		<u>\$ 1,669,350</u>

Units - Collar Floor (put)

No Puts were purchased.

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

	M-11- Consolidated GS	M-12- Consolidated GS	M-13- Consolidated GS	M-14- Consolidated GS	Proposed Change
Viking Gas Transmission (VGT)					
FT-A ZONE 1 - 1	12,493	12,493	12,493	12,493	0
FT-A ZONE 1 - 1	1,098	1,098	1,098	1,098	0
FT-A ZONE 1 - 1	2,000	2,000	2,000	2,000	0
FA-A ZONE 1 - 1	0	0	1,500	0	-1,500
Wadena Delivered GDD Option	0	3500	0	0	0
Great Lakes Gas Transmission (GLGT)					
FT Western Zone	10,130	10,130	10,130	10,130	0
FT Western Zone (12)	3,600	3,600	3,600	0	-3,600
FT Western Zone (5)	3,638	3,638	3,638	0	-3,638
FT Western Zone	9,000	9,000	9,000	9,000	0
FT Western Zone (12)	0	0	0	3,600	3,600
FT Western Zone (5)	0	0	0	3,638	3,638
Centra Transmission Holding/Centra Minnesota Pipelines (CTHI/CPMI)					
Centra FT-1	9,858	9,500	9,500	9,500	0
Total VGT Transportation	15,591	19,091	17,091	15,591	-1,500
Total GLGT Transportation	26,368	26,368	26,368	26,368	0
Total CTHI/CPMI Transportation	9,858	9,500	9,500	9,500	0
Total Transportation	51,817	54,959	52,959	51,459	-1,500
Total Seasonal Transportation	6,736	6,736	6,736	6,736	0
Total Seasonal Transportation %	13.00%	12.26%	12.72%	13.09%	0.37%
<u>Other Entitlements not included in Peak Day Deliverability</u>					
AECO Storage	947,820	947,820	947,820	947,820	0
AECO/Emerson Swap	947,823	947,823	947,823	940,428	-7,395

MINNESOTA ENERGY RESOURCES - Consolidated

Rate Impacts (Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)

Consolidated

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
General Service-Residential									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-9.15%	-5.11%	(\$0.0439)
Margin	\$2.2290	\$1.9754	\$1.9754	\$2.2290	\$2.2290	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$7.5373	\$6.7415	\$6.6466	\$7.3586	\$7.9628	5.65%	19.80%	8.21%	\$0.6042
Average Annual Use	90	90	90	90	90				
Average Annual Cost of Gas*	\$678.36	\$606.74	\$598.19	\$662.27	\$716.65	5.65%	19.80%	8.21%	\$54.38

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
Large General Service									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-9.15%	-5.11%	(\$0.0439)
Margin	\$2.2290	\$1.6868	\$1.6868	\$2.2290	\$2.2290	0.00%	32.14%	0.00%	\$0.0000
Total Cost of Gas	\$7.5373	\$6.4529	\$6.3580	\$7.3586	\$7.9628	5.65%	25.24%	8.21%	\$0.6042
Average Annual Use	4,932	4,932	4,932	4,932	4,932				
Average Annual Cost of Gas*	\$37,173.96	\$31,825.70	\$31,357.66	\$36,292.62	\$39,272.56	5.65%	25.24%	8.21%	\$2,979.95

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
SV Interruptible Service									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Commodity Margin	\$1.2014	\$1.0647	\$1.0647	\$1.2014	\$1.2014	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$5.6839	\$4.9132	\$4.8391	\$5.4724	\$6.1205	7.68%	26.48%	11.84%	\$0.6481
Average Annual Use	6,068	6,068	6,068	6,068	6,068				
Average Annual Cost of Gas*	\$34,489.91	\$29,813.30	\$29,363.66	\$33,206.52	\$37,139.19	7.68%	26.48%	11.84%	\$3,932.67

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
LV Interruptible Service									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Commodity Margin	\$0.4026	\$0.3568	\$0.3568	\$0.4026	\$0.4026	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$4.8851	\$4.2053	\$4.1312	\$4.6736	\$5.3217	8.94%	28.82%	13.87%	\$0.6481
Average Annual Use	40,821	40,821	40,821	40,821	40,821				
Average Annual Cost of Gas*	\$199,414.67	\$171,664.55	\$168,639.72	\$190,781.03	\$217,237.12	8.94%	28.82%	13.87%	\$26,456.09

	Commodity Change \$/Mcf	Commodity Change %	Demand Change \$/Mcf	Demand Change %	Total Change \$/Mcf	Total Change %	Average Annual Change
November Change Summary							
General Service	\$0.6481	15.17%	(\$0.0439)	-5.11%	\$0.6042	8.21%	\$54.38
Large General Service	\$0.6481	15.17%	(\$0.0439)	-5.11%	\$0.6042	8.21%	\$2,979.95
SV Interruptible Service	\$0.6481	15.17%			\$0.6481	11.84%	\$3,932.67
LV Interruptible Service	\$0.6481	15.17%			\$0.6481	13.87%	\$26,456.09

* Average Annual Bill amount does not include customer charges.

** Commodity includes Upstream costs.

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Change in Costs due to November,1 2014 Change in Entitlement Levels and Related Demand Costs

Attachment 8

	Consolidated					Oct. 2014 Total Annual Cost	Nov. 2014 Total Annual Cost	Total Annual Cost Change
	Oct. 2014 Entitlements	Nov. 2014 Entitlements	Entitlement Change	Nov. 2014 Rate	Months			
Costs Assigned in Demand Charge								
<u>Viking Pipeline</u>								
FT-A ZONE 1 - 1	12,493	12,493	0	\$ 4.2085	12	\$510,212	\$630,921	\$120,709
FT-A ZONE 1 - 1	1,098	1,098	0	\$ 4.2085	3	\$11,211	\$13,863	\$2,652
FT-A ZONE 1 - 1	2,000	2,000	0	\$ 4.2085	12	\$81,680	\$101,003	\$19,323
FA-A ZONE 1 - 1	1,500	0	-1,500	\$ 4.3977	3	\$16,669	\$0	-\$16,669
<u>GLGTPipeline</u>								
FT Western Zone	10,130	10,130	0	\$ 3.8490	12	\$467,886	\$467,886	\$0
FT Western Zone (12)	3,600	0	-3,600	\$ 3.8490	12	\$166,277	\$0	-\$166,277
FT Western Zone (5)	3,638	0	-3,638	\$ 3.8490	5	\$70,013	\$0	-\$70,013
FT Western Zone	9,000	9,000	0	\$ 3.8490	12	\$415,693	\$415,693	\$0
FT Western Zone (12)	0	3,600	3,600	\$ 3.8490	12	\$0	\$166,277	\$166,277
FT Western Zone (5)	0	3,638	3,638	\$ 3.8490	5	\$0	\$70,013	\$70,013
<u>CENTRA Pipeline</u>								
CENTRA TRANSMISSION	9,500	9,500	0	\$ 12.6275	12	\$826,161	\$1,439,535	\$613,374
CENTRA MINNESOTA PIPELINES	9,500	9,500	0	\$ 3.2510	12	\$202,692	\$370,614	\$167,922
Total Costs Assigned to Demand Charge						\$2,768,494	\$3,675,805	\$907,311
Costs Assigned in Commodity Charge								
<u>Niska Storage (AECO)</u>								
Niska Storage (AECO)	947,820	947,820	0	\$ 0.6225	1	\$688,362	\$590,018	-\$98,344
AECO/Emerson Swap	947,823	940,428	-7,395	\$ 0.9025	1	\$417,042	\$848,736	\$431,694
<u>Balancing</u>								
VGT Balancing Agreement	7,465	7,465	0	\$ 1.0000	12	\$89,580	\$89,580	\$0
Union Balancing	4,500	4,453	-47	\$ 1.0106	12	\$54,000	\$54,000	\$0
<u>Call Options Premium</u>								
						\$295,511	\$320,916	\$25,405
Total Costs Assigned to Commodity Charge						\$1,544,495	\$1,903,250	\$358,755

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

GLGT

update formula

	1/20	HDD	1/20	Customer	
	Design Day HDD Regression Intercept	Slope	Regression Load	Growth	Total
Peak	106	5,087	233	25,567	25,720
Off Peak	57	5,087	233	16,780	16,881

VGT

	1/20	HDD	1/20	Customer	
	Design Day HDD Regression Intercept	Slope	Regression Load	Growth	Total
Peak	109	1,573	140	15,763	15,858
Off Peak	57	1,573	140	9,490	9,547

Centra

	1/20	HDD	1/20	Customer	
	Design Day HDD Regression Intercept	Slope	Regression Load	Growth	Total
Peak	107	1,724	79	7,086	7,129
Off Peak	57	1,724	79	4,435	4,462

Consolidated

	1/20	HDD	1/20	Customer	
	Design Day HDD Regression Intercept	Slope	Regression Load	Growth	Total
Peak	107	8,384	452	48,416	48,706
Off Peak	57	8,384	452	30,705	30,889

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

14/15 Winter Portfolio Plan - GLGT/VGT/Centra Hedging Plan

10,000 Contract Size

REVISED:

System	Purchase Month	Nov-14		Dec-14		Jan-15		Feb-15		Mar-15		Total		Percent of Requirements
		Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	
MN Requirements			569,086		848,644		950,643		849,068		784,176		4,001,617	4,001,617
GLGT -MN			18,970		27,376		30,666		784,176		25,296		26,501	
70%			398,360		594,051		665,450		594,348		548,923		2,801,132	
40%			227,634		339,458		380,257		339,627		313,670		1,600,647	
			<u>85,304</u>		<u>231,769</u>		<u>231,769</u>		<u>209,339</u>		<u>96,374</u>		<u>854,555</u>	
			142,330		107,689		148,488		130,288		217,296		746,092	
30%			398,360		594,051		665,450		594,348		548,923		2,801,132	
Contracts	Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	
	May-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-14	3	30,000	3	30,000	3	30,000	3	30,000	5	50,000	17	170,000	
	Jul-14	3	30,000	2	20,000	3	30,000	3	30,000	5	50,000	16	160,000	
	Aug-14	3	30,000	2	20,000	3	30,000	3	30,000	4	40,000	15	150,000	
	Sep-14	3	30,000	2	20,000	3	30,000	2	20,000	4	40,000	14	140,000	
	Oct-14	3	30,000	2	20,000	3	30,000	2	20,000	4	40,000	14	140,000	
	Total	15	150,000	11	110,000	15	150,000	13	130,000	22	220,000	76	760,000	18.99%
Call Options	Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	
	May-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-14	3	30,000	5	50,000	5	50,000	5	50,000	4	40,000	22	220,000	
	Jul-14	3	30,000	5	50,000	6	60,000	5	50,000	5	50,000	24	240,000	
	Aug-14	3	30,000	5	50,000	6	60,000	5	50,000	5	50,000	24	240,000	
	Sep-14	4	40,000	5	50,000	6	60,000	5	50,000	5	50,000	25	250,000	
	Oct-14	4	40,000	6	60,000	6	60,000	6	60,000	5	50,000	27	270,000	
	Total	17	170,000	26	260,000	29	290,000	26	260,000	24	240,000	122	1,220,000	30.49%
Collars	Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Aug-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Sep-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Oct-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Index (back financial)	May-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jul-14	2,666	79,980	2,984	92,504	3,549	110,019	3,483	97,524	3,709	114,979	16,391	495,006	
	Aug-14	2,667	80,010	2,984	92,504	3,549	110,019	3,482	97,496	3,710	115,010	16,392	495,039	
	Sep-14	2,667	80,010	2,984	92,504	3,548	109,988	3,482	97,496	3,710	115,010	16,391	495,008	
	Oct-14	2,667	80,010	2,984	92,504	3,548	109,988	3,482	97,496	3,710	115,010	16,391	495,008	
	Total		320,010		370,016		440,014		390,012		460,009		1,980,061	49.48%
Physical Hedges			0		0		0		0		0		0	
Storage			85,304		231,769		231,769		209,339		96,374		854,555	21.36%
Prepaid Obl			0		0		0		0		0		0	0.00%
			71.22%		70.91%		70.67%		70.59%		70.95%		70.84%	
Term Index	Aug-14	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
	Sep-14	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
	Oct-14	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Total NNG MN													760,000	18.99%
Contracts													760,000	18.99%
Call Options													1,220,000	30.49%
Costing Collar													0	0.00%
Storage													854,555	21.36%
Prepaid Obl													0	0.00%
Term Index													0	0.00%
Month/Daily													1,167,062	29.16%
Total													4,001,617	100.00%

NOTE:

MINNESOTA ENERGY RESOURCES - CON

Daily Total Throughput Data - July 1, 2012 through June 30, 2013

Base	6,734
Variable	495

Date	28.53% Bemidji Adjusted HDD	13.34% Cloquet Adjusted HDD	35.13% Fargo Adjusted HDD	23.00% Intl. Falls Adjusted HDD	100.00% Weighted Adjusted HDD	Actual Total Through- Put *	Estimated Through- Put **
7/1/13	0	4	0	0	1	6,011	7,006
7/2/13	0	2	0	0	0	4,381	6,869
7/3/13	0	0	0	0	0	5,300	6,734
7/4/13	0	0	0	0	0	4,381	6,734
7/5/13	0	0	0	0	0	3,946	6,734
7/6/13	0	5	0	0	1	4,158	7,091
7/7/13	0	1	0	0	0	5,357	6,802
7/8/13	0	1	0	0	0	5,141	6,803
7/9/13	0	0	0	1	0	6,275	6,856
7/10/13	0	0	0	1	0	7,115	6,852
7/11/13	0	0	0	0	0	6,217	6,734
7/12/13	0	0	0	0	0	5,545	6,734
7/13/13	0	0	0	0	0	3,886	6,734
7/14/13	0	0	0	0	0	4,739	6,734
7/15/13	0	0	0	0	0	6,144	6,734
7/16/13	0	0	0	0	0	5,589	6,734
7/17/13	0	0	0	0	0	5,325	6,734
7/18/13	0	0	0	3	1	5,628	7,110
7/19/13	4	4	0	10	4	5,241	8,786
7/20/13	0	6	0	7	3	4,173	8,007
7/21/13	3	0	1	4	2	5,837	7,911
7/22/13	7	4	2	6	5	6,425	9,122
7/23/13	4	5	0	7	4	5,362	8,499
7/24/13	0	0	0	6	1	6,584	7,444
7/25/13	12	11	6	14	10	7,186	11,802
7/26/13	13	17	6	13	11	7,188	12,174
7/27/13	9	9	4	7	7	5,316	10,200
7/28/13	6	6	0	8	4	5,750	8,961
7/29/13	0	0	0	1	0	6,235	6,852
7/30/13	0	0	0	2	1	6,858	6,982
7/31/13	1	0	0	3	1	7,271	7,250
8/1/13	4	3	0	5	3	6,929	8,160
8/2/13	7	6	0	8	5	5,465	9,158
8/3/13	11	6	1	10	7	3,976	9,976
8/4/13	3	1	0	5	2	4,788	7,835
8/5/13	6	1	0	8	4	7,248	8,640
8/6/13	8	5	3	12	7	7,356	10,155
8/7/13	8	3	0	14	6	8,133	9,656
8/8/13	9	8	5	11	8	12,868	10,608
8/9/13	5	2	3	8	5	6,501	9,062
8/10/13	2	3	0	4	2	4,660	7,701
8/11/13	6	5	0	7	4	4,969	8,819
8/12/13	9	8	3	10	7	6,847	10,319
8/13/13	8	7	3	10	7	6,235	10,068
8/14/13	5	3	0	7	4	6,994	8,480
8/15/13	0	0	0	3	1	5,092	7,089
8/16/13	0	0	0	0	0	3,341	6,734
8/17/13	0	0	0	0	0	4,313	6,734
8/18/13	0	0	0	0	0	6,977	6,734
8/19/13	0	0	0	0	0	6,438	6,734
8/20/13	0	0	0	0	0	5,292	6,734
8/21/13	3	0	0	5	2	6,443	7,755
8/22/13	1	1	0	4	1	6,419	7,422
8/23/13	0	0	0	0	0	5,926	6,734
8/24/13	0	0	0	0	0	4,323	6,734
8/25/13	0	0	0	0	0	6,370	6,734
8/26/13	0	0	0	0	0	6,521	6,734
8/27/13	0	0	0	0	0	5,083	6,734
8/28/13	0	0	0	0	0	6,453	6,734
8/29/13	0	0	0	0	0	5,795	6,734
8/30/13	0	0	0	0	0	5,685	6,734
8/31/13	6	2	4	9	5	4,918	9,438
9/1/13	9	11	6	10	9	5,537	11,008
9/2/13	4	7	0	5	3	6,901	8,426
9/3/13	7	6	0	10	5	7,703	9,358
9/4/13	5	7	0	9	5	8,306	9,014
9/5/13	0	0	0	0	0	7,405	6,734
9/6/13	0	0	0	2	0	6,100	6,975
9/7/13	4	5	0	6	3	5,095	8,417
9/8/13	0	3	0	3	1	6,468	7,288
9/9/13	0	0	0	4	1	7,888	7,208
9/10/13	2	1	0	3	1	7,663	7,472
9/11/13	12	12	4	12	9	7,875	11,217
9/12/13	12	15	3	11	9	8,237	11,262
9/13/13	6	10	7	3	6	6,859	9,765
9/14/13	18	20	10	20	16	6,638	14,582
9/15/13	17	18	8	19	14	8,321	13,747
9/16/13	15	13	6	12	11	8,979	11,966

MERC

9/17/13	3	5	0	3	2	8,918	7,905
9/18/13	2	1	0	0	1	8,276	7,105
9/19/13	16	11	12	15	14	8,798	13,532
9/20/13	18	15	13	22	17	9,540	14,912
9/21/13	11	16	0	19	10	7,645	11,533
9/22/13	0	9	0	5	2	6,490	7,914
9/23/13	4	6	0	4	3	7,369	8,207
9/24/13	8	8	0	5	4	7,629	8,948
9/25/13	0	7	0	3	2	6,835	7,608
9/26/13	0	1	9	0	3	5,478	8,321
9/27/13	17	8	10	10	12	6,622	12,555
9/28/13	9	9	4	11	8	7,585	10,503
9/29/13	0	0	2	0	1	8,746	7,103
9/30/13	8	6	7	8	7	11,161	10,288
10/1/13	17	8	12	19	14	17,019	13,798
10/2/13	19	13	17	19	17	14,945	15,281
10/3/13	16	16	22	15	18	14,299	15,561
10/4/13	21	21	18	21	20	9,646	16,588
10/5/13	17	18	15	20	17	15,050	15,257
10/6/13	19	17	14	20	17	16,508	15,183
10/7/13	9	8	4	11	7	17,333	10,430
10/8/13	10	2	7	10	8	15,472	10,741
10/9/13	7	5	2	6	5	14,115	9,118
10/10/13	3	3	5	2	4	5,788	8,531
10/11/13	24	11	21	14	19	7,424	16,023
10/12/13	22	21	19	24	21	11,391	17,327
10/13/13	22	23	19	27	22	13,302	17,777
10/14/13	28	23	30	27	28	17,369	20,384
10/15/13	24	21	21	26	23	18,956	18,217
10/16/13	30	26	28	29	29	14,762	20,883
10/17/13	31	24	27	31	29	20,624	20,898
10/18/13	32	29	29	29	30	16,620	21,536
10/19/13	34	34	32	32	33	18,165	22,986
10/20/13	41	38	31	35	36	22,017	24,411
10/21/13	34	36	32	33	33	26,146	23,289
10/22/13	38	36	32	36	35	22,745	24,051
10/23/13	35	33	30	34	33	24,223	22,991
10/24/13	30	29	24	29	28	23,626	20,376
10/25/13	33	28	30	31	31	19,449	21,929
10/26/13	32	28	27	31	29	19,794	21,301
10/27/13	41	34	38	38	38	22,243	25,698
10/28/13	39	37	37	39	38	25,716	25,604
10/29/13	31	30	28	37	31	23,822	22,149
10/30/13	28	24	27	26	27	20,345	19,970
10/31/13	35	26	29	27	30	20,588	21,561
11/1/13	36	31	28	30	31	25,224	22,158
11/2/13	29	30	20	31	27	24,891	19,866
11/3/13	23	22	21	24	22	16,533	17,767
11/4/13	33	30	34	30	32	20,437	22,695
11/5/13	46	34	38	38	40	29,474	26,426
11/6/13	44	39	36	39	39	26,128	26,101
11/7/13	42	41	34	41	39	25,732	25,941
11/8/13	36	36	29	37	34	19,144	23,443
11/9/13	41	36	39	35	38	19,823	25,667
11/10/13	47	41	44	46	45	21,927	29,007
11/11/13	63	56	57	56	58	26,751	35,488
11/12/13	49	47	42	47	46	25,266	29,392
11/13/13	29	32	23	32	28	22,436	20,466
11/14/13	30	28	33	34	32	18,749	22,508
11/15/13	29	25	28	29	28	22,140	20,580
11/16/13	28	23	26	25	26	15,077	19,663
11/17/13	44	36	41	40	41	24,293	26,904
11/18/13	49	46	40	46	44	26,137	28,760
11/19/13	36	37	32	37	35	26,381	23,968
11/20/13	38	30	51	36	41	23,799	27,032
11/21/13	60	50	61	56	58	32,842	35,474
11/22/13	67	54	64	60	62	38,212	37,657
11/23/13	65	63	64	65	65	35,311	38,676
11/24/13	45	49	41	47	45	25,006	28,833
11/25/13	51	47	45	52	49	26,521	30,928
11/26/13	60	60	57	60	59	35,812	35,833
11/27/13	56	53	52	54	54	32,112	33,336
11/28/13	62	59	53	59	58	33,109	35,433
11/29/13	49	48	41	50	46	28,178	29,688
11/30/13	45	36	44	41	43	26,866	27,833
12/1/13	51	43	44	50	47	28,649	30,088
12/2/13	45	39	43	45	43	31,197	28,266
12/3/13	48	41	46	50	47	34,717	29,865
12/4/13	63	52	67	58	62	39,551	37,373
12/5/13	79	73	80	73	77	46,144	45,004
12/6/13	87	82	82	82	83	49,692	48,025
12/7/13	87	81	83	85	84	49,879	48,492
12/8/13	76	73	74	78	75	48,555	44,089
12/9/13	83	77	76	85	80	54,545	46,489
12/10/13	83	80	77	83	80	55,031	46,523
12/11/13	81	80	78	85	81	55,503	46,682
12/12/13	68	67	64	80	69	48,378	40,955
12/13/13	74	69	70	78	73	50,474	42,911
12/14/13	82	75	76	83	79	46,969	46,002

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12/15/13	80	79	70	80	76	44,862	44,593
12/16/13	57	58	52	59	56	41,647	34,320
12/17/13	68	59	56	72	64	44,087	38,193
12/18/13	60	58	61	64	61	39,525	37,034
12/19/13	76	61	78	72	74	45,264	43,352
12/20/13	69	57	72	64	67	44,262	40,043
12/21/13	66	54	80	65	69	43,252	40,905
12/22/13	82	70	87	79	81	47,388	47,063
12/23/13	85	79	82	86	83	49,625	47,976
12/24/13	69	71	61	73	67	38,272	40,053
12/25/13	60	58	52	75	61	35,433	36,717
12/26/13	51	57	45	63	53	33,336	32,790
12/27/13	37	39	33	39	37	27,660	24,847
12/28/13	68	63	74	75	71	39,449	41,818
12/29/13	85	86	79	93	85	46,465	48,770
12/30/13	82	79	79	88	82	45,019	47,293
12/31/13	89	86	86	92	88	45,162	50,235
1/1/14	87	83	82	92	86	53,405	49,283
1/2/14	87	79	82	87	84	57,376	48,519
1/3/14	62	62	61	64	62	47,061	37,477
1/4/14	87	79	82	87	84	54,615	48,464
1/5/14	99	91	97	97	97	56,481	54,525
1/6/14	95	95	87	96	92	56,328	52,424
1/7/14	89	82	79	86	84	56,998	48,254
1/8/14	77	78	76	80	78	55,825	45,112
1/9/14	55	61	54	54	55	43,540	33,882
1/10/14	49	44	47	43	46	32,547	29,537
1/11/14	44	45	43	46	44	30,889	28,702
1/12/14	39	39	43	38	40	28,725	26,458
1/13/14	54	49	51	65	55	40,421	33,889
1/14/14	74	67	68	65	69	42,138	40,782
1/15/14	60	56	55	55	57	38,119	34,726
1/16/14	81	67	81	77	78	46,836	45,411
1/17/14	71	62	64	72	68	41,581	40,303
1/18/14	55	51	51	63	55	32,566	33,827
1/19/14	58	55	53	67	58	34,676	35,336
1/20/14	87	82	82	86	84	51,663	48,492
1/21/14	82	79	76	81	79	48,955	45,983
1/22/14	90	88	90	94	91	55,438	51,600
1/23/14	74	78	70	75	73	48,597	42,881
1/24/14	66	61	57	65	62	40,694	37,291
1/25/14	73	70	65	76	71	42,558	41,700
1/26/14	91	84	84	88	87	46,733	49,830
1/27/14	94	89	85	92	90	51,779	51,158
1/28/14	87	83	79	87	84	50,800	48,124
1/29/14	63	65	60	65	63	41,792	37,745
1/30/14	83	76	80	84	81	50,030	46,964
1/31/14	73	73	70	74	72	46,743	42,480
2/1/14	73	71	70	81	73	46,885	43,106
2/2/14	70	67	63	73	68	44,672	40,340
2/3/14	75	64	68	67	69	46,251	40,987
2/4/14	77	72	75	81	76	48,696	44,561
2/5/14	83	76	77	84	80	50,627	46,332
2/6/14	80	75	72	78	76	48,781	44,318
2/7/14	80	76	74	77	77	47,440	44,644
2/8/14	78	67	77	75	75	47,578	43,966
2/9/14	81	77	78	84	80	54,632	46,514
2/10/14	79	78	78	80	79	57,640	45,695
2/11/14	69	69	66	70	68	50,581	40,530
2/12/14	65	55	61	68	63	47,498	37,818
2/13/14	70	64	76	75	72	50,355	42,562
2/14/14	71	67	68	68	69	45,790	40,803
2/15/14	67	63	65	73	67	42,358	40,036
2/16/14	66	63	65	68	65	40,685	39,121
2/17/14	48	46	42	48	46	38,768	29,371
2/18/14	41	37	42	40	41	34,318	26,877
2/19/14	43	33	38	42	40	32,502	26,382
2/20/14	57	52	62	50	56	42,056	34,615
2/21/14	75	68	69	70	71	48,067	41,799
2/22/14	72	66	66	68	68	44,642	40,442
2/23/14	78	66	71	71	72	44,498	42,393
2/24/14	79	73	76	77	77	52,294	44,722
2/25/14	82	78	76	80	79	56,306	45,948
2/26/14	89	82	78	91	84	56,924	48,529
2/27/14	81	77	83	84	82	51,194	47,229
2/28/14	82	73	78	81	79	50,248	46,004
3/1/14	92	86	87	92	90	53,440	51,132
3/2/14	85	81	75	86	81	52,114	46,912
3/3/14	72	69	65	72	69	49,633	40,895
3/4/14	64	61	61	69	64	41,856	38,346
3/5/14	58	59	56	58	57	36,651	35,113
3/6/14	44	48	45	40	44	33,091	28,539
3/7/14	64	50	60	66	61	37,366	37,011
3/8/14	54	49	50	54	52	34,113	32,433
3/9/14	33	36	29	32	32	24,817	22,453
3/10/14	33	24	28	32	30	19,620	21,591
3/11/14	55	46	46	59	51	34,883	32,149
3/12/14	37	50	38	46	41	36,611	27,053
3/13/14	33	32	28	32	31	26,818	22,042

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3/14/14	58	45	52	56	54	35,184	33,451
3/15/14	60	59	58	71	62	34,498	37,189
3/16/14	42	46	37	48	42	33,648	27,673
3/17/14	36	42	33	42	37	28,323	25,169
3/18/14	37	41	39	39	39	28,935	25,874
3/19/14	45	46	35	43	41	30,160	26,986
3/20/14	35	33	37	34	35	23,991	24,136
3/21/14	63	54	61	59	60	36,705	36,522
3/22/14	68	64	57	76	66	36,011	39,164
3/23/14	59	60	47	73	58	38,828	35,472
3/24/14	62	59	53	63	59	37,122	35,748
3/25/14	57	59	42	65	54	37,690	33,416
3/26/14	42	40	35	44	40	28,968	26,372
3/27/14	52	45	49	54	51	30,311	31,754
3/28/14	45	46	37	55	45	27,741	28,889
3/29/14	29	32	29	29	29	19,669	21,227
3/30/14	23	24	30	28	27	21,922	19,941
3/31/14	46	45	57	54	51	27,952	32,159
4/1/14	48	46	48	50	48	32,356	30,557
4/2/14	36	36	33	37	35	24,744	24,300
4/3/14	36	39	37	36	37	25,344	24,926
4/4/14	30	36	24	33	30	21,579	21,430
4/5/14	25	23	22	25	24	15,937	18,497
4/6/14	27	26	24	26	26	15,239	19,437
4/7/14	28	30	25	32	28	19,611	20,746
4/8/14	13	24	8	21	15	18,463	13,988
4/9/14	26	25	21	32	25	15,941	19,344
4/10/14	27	20	19	31	24	16,571	18,644
4/11/14	29	31	19	31	26	15,635	19,635
4/12/14	45	35	41	41	41	16,909	27,205
4/13/14	50	47	47	51	49	25,792	30,879
4/14/14	51	46	43	50	47	33,191	30,211
4/15/14	39	44	36	42	39	27,016	26,194
4/16/14	38	36	35	38	37	28,051	25,010
4/17/14	35	39	26	37	33	22,596	23,048
4/18/14	17	28	12	20	17	18,386	15,353
4/19/14	17	19	13	21	17	13,832	14,977
4/20/14	29	19	20	27	24	9,726	18,715
4/21/14	28	24	20	27	25	20,467	18,882
4/22/14	27	27	24	27	26	21,359	19,458
4/23/14	32	33	21	32	28	23,689	20,712
4/24/14	32	31	22	29	27	24,394	20,319
4/25/14	30	32	24	28	28	21,654	20,483
4/26/14	34	38	29	31	32	17,489	22,466
4/27/14	32	34	28	27	30	22,876	21,492
4/28/14	25	31	22	26	25	29,467	19,259
4/29/14	31	31	30	30	30	25,289	21,774
4/30/14	25	26	21	31	25	22,500	19,156
5/1/14	23	25	13	27	21	17,736	16,991
5/2/14	32	24	24	30	28	13,385	20,445
5/3/14	30	24	27	30	28	15,416	20,610
5/4/14	23	25	16	27	22	13,315	17,520
5/5/14	21	28	11	26	19	14,645	16,372
5/6/14	13	21	12	14	14	14,806	13,752
5/7/14	22	22	22	22	22	12,930	17,725
5/8/14	22	26	16	30	22	15,826	17,790
5/9/14	17	14	14	16	15	15,187	14,338
5/10/14	5	12	13	12	10	7,650	11,899
5/11/14	23	27	26	22	24	7,322	18,731
5/12/14	27	20	26	26	25	16,449	19,338
5/13/14	31	23	29	29	29	15,841	20,939
5/14/14	30	26	23	25	26	18,232	19,367
5/15/14	28	22	19	24	23	17,252	18,132
5/16/14	19	21	12	20	17	13,233	15,062
5/17/14	11	6	8	12	9	6,481	11,339
5/18/14	13	16	7	8	10	6,301	11,798
5/19/14	6	5	4	4	5	11,639	9,142
5/20/14	18	13	10	17	14	8,888	13,737
5/21/14	12	12	9	14	12	12,870	12,433
5/22/14	7	9	0	8	5	9,100	9,354
5/23/14	0	1	0	0	0	5,927	6,805
5/24/14	0	0	0	0	0	1,744	6,734
5/25/14	0	0	0	0	0	3,718	6,734
5/26/14	0	11	0	0	1	5,939	7,447
5/27/14	0	11	0	0	1	7,965	7,434
5/28/14	0	4	0	0	1	7,111	7,006
5/29/14	0	5	0	0	1	7,319	7,081
5/30/14	0	5	0	0	1	5,619	7,077
5/31/14	0	2	0	0	0	4,276	6,870
6/1/14	7	2	6	10	6	6,089	9,928
6/2/14	4	2	2	5	3	11,685	8,462
6/3/14	4	5	0	4	3	13,270	8,137
6/4/14	1	9	0	1	2	13,033	7,623
6/5/14	5	0	8	3	5	10,291	9,217
6/6/14	12	11	3	10	8	10,314	10,795
6/7/14	11	11	5	11	9	6,748	11,214
6/8/14	4	7	0	4	3	6,736	8,283
6/9/14	1	8	0	4	2	11,678	7,917
6/10/14	8	7	5	6	6	12,057	9,802

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6/11/14	13	18	5	20	12	13,088	12,760
6/12/14	10	9	3	14	8	12,037	10,818
6/13/14	9	15	2	11	8	8,225	10,706
6/14/14	6	7	0	12	5	5,563	9,337
6/15/14	3	0	0	2	1	6,961	7,427
6/16/14	0	0	0	3	1	12,374	7,099
6/17/14	0	6	0	0	1	11,821	7,114
6/18/14	6	13	0	1	4	12,254	8,517
6/19/14	2	15	0	0	3	9,125	8,035
6/20/14	0	6	0	0	1	5,836	7,146
6/21/14	0	9	0	0	1	3,434	7,346
6/22/14	0	0	0	0	0	5,223	6,734
6/23/14	1	13	0	7	4	7,314	8,492
6/24/14	7	14	0	7	6	8,691	9,547
6/25/14	1	11	0	4	3	7,654	8,083
6/26/14	0	9	0	0	1	6,272	7,299
6/27/14	0	0	0	0	0	4,465	6,734
6/28/14	0	0	0	0	0	2,916	6,734
6/29/14	0	0	0	0	0	5,432	6,734
6/30/14	7	1	4	9	6	5,355	9,554
Totals	12,070	11,522	10,880	12,320	11,636	8,286,815	8,217,921

* Volumes include interruptible and transportation volumes except for transportation volumes that are not located behind MERC citygates.

** Design Model numbers are used to calculate firm volumes only

MINNESOTA ENERGY RESOURCES - Consolidated

Customer Counts by PGAC Class - July 1, 2013 through June 30, 2014

Rate Class	Tariff Rate Designation	Jul-13 Average Customers	Aug-13 Average Customers	Sep-13 Average Customers	Oct-13 Average Customers	Nov-13 Average Customers	Dec-13 Average Customers	Jan-14 Average Customers	Feb-14 Average Customers	Mar-14 Average Customers	Apr-14 Average Customers	May-14 Average Customers	Jun-14 Average Customers	Annual Average Customers
GS- Residential (w/ Heat)	3H801/3HS01	28,294	28,073	27,904	28,147	27,844	28,934	29,653	28,595	28,375	28,589	28,564	28,778	28,479
GS-Residential (w/o Heat)	3R801/3RS02	9	11	10	10	9	12	12	11	10	11	11	11	11
GS-C&I <1,500 therms/yr (Small)	3C805 / 3CS05 3I805 / 3IS05 3C806 / 3CS06	2,681	2,608	2,577	2,598	2,560	2,654	2,735	2,648	2,610	2,615	2,612	2,639	2,628
GS-C&I >1,500 therms/yr (Large)	3C810 / 3CS10 3I810 / 3IS10 3C812 / 3CS12 3IS12	2,566	2,513	2,445	2,482	2,460	2,521	2,605	2,516	2,487	2,508	2,505	2,521	2,511
Small Volume Interruptible (SVI)	3D820 / 3DS20 3J820 / 3JS20 3DS22	74	79	75	76	74	73	76	79	78	77	76	74	76
Small Volume Interruptible w/Joint (SVJ)	3DS30 / 3C830	5	5	5	5	5	5	5	5	5	5	5	5	5
Large Volume Interruptible (LVI)	3D840 / 3DS40 3J840 / 3JS40 3D842	7	7	8	8	7	7	7	7	7	7	7	7	7
Large Volume Interruptible w/Joint (LVJ)	3D850 / 3J850	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		33,636	33,296	33,024	33,326	32,959	34,206	35,093	33,861	33,572	33,812	33,780	34,035	33,717

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Projected Storage Cost - November 2014 through March 2015

Month/ Year	K#118657 NNG Storage	Storage K#125915 NNG Storage	Storage K#125916 NNG Storage	Total NNG Storage	Projected Storage NNG WACOG	K#118657 NNG Storage Cost	K#125915 NNG Storage Cost	K#125916 NNG Storage Cost	Total NNG Storage Cost	AECO Storage GLGT/VGT Centra Emerson	AECO Storage GLGT/VGT Centra Emerson WACOG	AECO Storage GLGT/VGT Centra Emerson Cost
Nov-14	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 1,962,895	\$ 63,057	\$ 273,248	\$ 2,299,200	85,304	\$ 4.0841	\$ 348,390
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4,932,401	\$ 158,451	\$ 686,622	\$ 5,777,475	231,769	\$ 4.0841	\$ 946,568
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4,932,401	\$ 158,451	\$ 686,622	\$ 5,777,475	231,769	\$ 4.0841	\$ 946,568
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4,932,401	\$ 158,451	\$ 686,622	\$ 5,777,475	209,339	\$ 4.0841	\$ 854,961
Mar-15	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 1,962,895	\$ 63,057	\$ 273,248	\$ 2,299,200	96,374	\$ 4.0841	\$ 393,601
Total	4,342,470	139,500	604,500	5,086,470	\$ 4.3116	\$18,722,994	\$ 601,468	\$ 2,606,362	\$21,930,824	854,555	\$ 4.0841	\$ 3,490,088

Month/ Year	NNG Storage Volume	NNG Indexes Price	NNG Indexes Cost	AECO Storage Volume	Emerson LDS + Basis	Emerson LDS + Cost
Nov-14	533,259	\$ 3.5925	\$ 1,915,733	85,304	\$ 3.7210	\$ 317,416
Dec-14	1,339,984	\$ 3.9085	\$ 5,237,327	231,769	\$ 4.2170	\$ 977,370
Jan-15	1,339,984	\$ 4.1645	\$ 5,580,363	231,769	\$ 4.3830	\$ 1,015,844
Feb-15	1,339,984	\$ 4.1605	\$ 5,575,003	209,339	\$ 4.3390	\$ 908,322
Mar-15	533,259	\$ 3.8485	\$ 2,052,247	96,374	\$ 4.4120	\$ 425,202
Total	5,086,470	\$ 4.0029	\$20,360,674	854,555	\$ 4.2644	\$ 3,644,154

Max NNG Storage (Storage plan withdrawals through Apr 14)	5,086,470	5,469,321	09/30/14 Storage Balance - NNG	4,361,819	79.75%	4,056,493
Max AECO Storage	854,555	947,820	09/30/14 Storage Balance - AECO	851,535	89.84%	767,744
						81.20%

Month/ Year	K#118657 NNG Storage	Storage K#125344 LS Power	Storage K#125345 LS Power	Total NNG Storage	Projected K#118657 NNG WACOG	Projected K#125915 NNG WACOG	Projected K#125916 NNG WACOG	WACOG NNG PNG Cost	Projected NNG Indexes Price	Projected NNG Index Cost	Additional Storage (Savings)/ Cost
Nov-14	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 2,299,200	\$ 3.5925	\$ 1,915,733	\$ 383,467
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 5,777,475	\$ 3.9085	\$ 5,237,327	\$ 540,148
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 5,777,475	\$ 4.1645	\$ 5,580,363	\$ 197,112
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 5,777,475	\$ 4.1605	\$ 5,575,003	\$ 202,472
Mar-15	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 2,299,200	\$ 3.8485	\$ 2,052,247	\$ 246,952
Total	4,342,470	139,500	604,500	5,086,470	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$21,930,824	\$ 4.0029	\$20,360,674	\$ 1,570,150

\$ 4.3116 \$ (0.2690) \$ 1,570,150

Month/ Year	AECO Storage	AECO Storage Other WACOG	Total AECO Cost	Projected Emerson Index Price	Projected Emerson Index Cost	Additional Storage (Savings)/ Cost
Nov-14	85,304	\$ 4.0841	\$ 348,390	\$ 3.7210	\$ 317,416	\$ 30,974
Dec-14	231,769	\$ 4.0841	\$ 946,568	\$ 4.2170	\$ 977,370	\$ (30,802)
Jan-15	231,769	\$ 4.0841	\$ 946,568	\$ 4.3830	\$1,015,844	\$ (69,276)
Feb-15	209,339	\$ 4.0841	\$ 854,961	\$ 4.3390	\$ 908,322	\$ (53,361)
Mar-15	96,374	\$ 4.0841	\$ 393,601	\$ 4.4120	\$ 425,202	\$ (31,601)
Total	854,555	\$ 4.0841	\$ 3,490,088	\$ 4.2644	\$3,644,154	\$ (154,066)

\$ 3.2341 \$ (0.8488) \$ (154,066)

AFFIDAVIT OF SERVICE

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

Bradley W. Hammer hereby certifies that on the 31st day of October, 2014, on behalf of Minnesota Energy Resources Corporation (MERC) he electronically filed a true and correct copy of MERC's Revised Petition for Change in Demand on www.edockets.state.mn.us. Said documents were also served via U.S. mail and electronic service as designated on the attached service list.

/s/ Bradley W. Hammer
Bradley W. Hammer

Subscribed and sworn to before me
this 31st day of October, 2014.

/s/ Alice Jaworski
Notary Public, State of Minnesota

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Michael	Ahern	ahern.michael@dorsey.com	Dorsey & Whitney, LLP	50 S 6th St Ste 1500 Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_14-661_M-14-661
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_14-661_M-14-661
Michael	Bradley	mike.bradley@lawmoss.com	Moss & Barnett	150 S. 5th Street, #1200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-661_M-14-661
Seth	DeMerritt	ssdemerritt@integrysgroup.com	Integrys Business Support	700 North Adams P.O. Box 19001 Green Bay, WI 543079001	Electronic Service	No	OFF_SL_14-661_M-14-661
Ian	Dobson	ian.dobson@ag.state.mn.us	Office of the Attorney General-RUD	Antitrust and Utilities Division 445 Minnesota Street, BRM Tower St. Paul, MN 55101	Electronic Service 1400	Yes	OFF_SL_14-661_M-14-661
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Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_14-661_M-14-661
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Linda	Jensen	linda.s.jensen@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota Street St. Paul, MN 551012134	Electronic Service	No	OFF_SL_14-661_M-14-661

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John	Lindell	agorud.ecf@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_14-661_M-14-661
Eric	Lipman	eric.lipman@state.mn.us	Office of Administrative Hearings	PO Box 64620 St. Paul, MN 551640620	Electronic Service	Yes	OFF_SL_14-661_M-14-661
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Brian	Meloy	brian.meloy@stinsonleonard.com	Stinson, Leonard, Street LLP	150 S 5th St Ste 2300 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_14-661_M-14-661
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Barbara	Nick	banick@integrysgroup.com	Minnesota Energy Resources Corporation	2665 145th Street PO Box 455 Rosemount, MN 55068-0455	Electronic Service	No	OFF_SL_14-661_M-14-661
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Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	Ste 122 9100 W Bloomington Frwy Bloomington, MN 55431	Electronic Service	Yes	OFF_SL_14-661_M-14-661
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James P.	Zakoura	Jim@smizak-law.com	Smithyman & Zakoura Chartered	750 Commerce Plaza II 7400 West 110th Street Overland Park, KS 662102362	Electronic Service	No	OFF_SL_14-661_M-14-661

MINNESOTA ENERGY RESOURCES - Consolidated**DESIGN-DAY DEMAND SUMMARY****NOVEMBER 1, 2014**

Design Day Requirement	48,706
Total Peak Day Entitlement	51,459
Firm Peak Day Actual Sendout -Non Coincidental (Jan. 5)	38,906
Firm Annual Throughput - Minnesota	4,807,824
No. of Firm Customers	34,397
Department Load Factor Calculation	33.86%

MINNESOTA ENERGY RESOURCES - Consolidated

MINNESOTA DESIGN DAY REQUIREMENTS

#REF!
HDD

Pipeline Group	2013/14 Customer Count	1/20 Design DDD	Regression Factors		Regression Total Footnote 1	Regression Adjustment Footnote 2	1/20 Requirements Regression Load Footnote 3	2008/09 Customer Growth	Total
			Intercept	Slope					

VGT

Peak	10,461	109	1,573	140	21,322	5,559	15,763	0.6%	15,858
Off Peak	10,461	57	1,573	140	13,074	3,584	9,490	0.6%	9,547

GLGT

Peak	18,256	106	5,087	233	34,818	9,251	25,567	0.6%	25,720
Off Peak	18,256	57	5,087	233	22,672	5,892	16,780	0.6%	16,881

Centra

Peak	5,680	107	1,724	79	11,572	4,486	7,086	0.6%	7,129
Off Peak	5,680	57	1,724	79	7,329	2,894	4,435	0.6%	4,462

Total Consolidated

Peak	34,397	107	8,384	452	67,712	19,296	48,416	0.6%	48,706
Off Peak	34,397	57	8,384	452	43,075	12,370	30,705	0.6%	30,889

Footnote 1: Regression Total is based on total through-put data.

Footnote 2: Regression Adjustment subtracts out Interruptible, Transportation and Joint Interruptible volumes and adds Firm Joint volumes.

Footnote 3: Total equals Regression Total minus Regression Adjustment.

**Dual Supplied

#REF!**DESIGN-DAY DEMAND PER CUSTOMER****#REF!**

<u>Heating Season</u>	<u>No. of Firm Customers</u>	<u>Design Day Requirements</u>	<u>MMBtus /Customer /Day</u>
14/15	#REF!	48,706	#REF!
13/14	34,007	50,048	1.47
12/13	33,630	52,289	1.55
11/12	33,384	50,366	1.51
10/11	33,399	50,779	1.52
09/10	34,053	53,931	1.58
08/09	32,632	59,654	1.83
07/08	32,454	57,202	1.76

MINNESOTA ENERGY RESOURCES - Consolidated

SUMMER/WINTER USAGE - Mcf
PROJECTED 12 MONTHS ENDING JUNE 2014
Consolidated

<u>Class</u>	<u>Summer Apr-Oct</u>	<u>Winter Nov-Mar</u>	<u>Total</u>
GS	1,331,975	3,450,566	4,782,541
SVI	0	0	0
SVJ	11,634	13,649	25,283
LVI	0	0	0
LVJ	0	0	0
SLV	0	0	0
IS	<u>358,718</u>	<u>537,399</u>	<u>896,117</u>
Total	<u>1,702,327</u>	<u>4,001,614</u>	<u>5,703,941</u>

#REF!
ENTITLEMENT LEVELS
PROPOSED TO BE EFFECTIVE NOVEMBER 1, 2014

<u>Type of Capacity or Entitlement</u>		<u>Current Amount Mcf or MMBtu</u>	<u>Proposed Change Mcf or MMBtu</u>	<u>Proposed Amount Mcf or MMBtu</u>
FT Western Zone	FT0016	10,130	0	10,130
FT Western Zone (12)	FT0155 (12)	3,600	(3,600)	0
FT Western Zone (5)	FT0155 (5)	3,638	(3,638)	0
FT Western Zone	FT15782	9,000	0	9,000
FT Western Zone (12)	FT17891 (12)	0	3,600	3,600
FT Western Zone (5)	FT17891 (5)	0	3,638	3,638
FT-A ZONE 1 - 1	AF0012	12,493	0	12,493
FT-A ZONE 1 - 1	AF0209	1,098		1,098
FT-A ZONE 1 - 1	AF0102	2,000	0	2,000
FA-A ZONE 1 - 1	AF0203	1,500	(1,500)	0
CENTRA FT-1		9,500	0	9,500
Total Entitlement		<u>52,959</u>	<u>(1,500)</u>	<u>51,459</u>
Forecasted Design Day-Adjusted		50,048	#REF!	#REF!
Capacity Surplus/Shortage		2,911	#REF!	#REF!
Reserve Margin		5.82%		#REF!

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

RATE IMPACT OF THE PROPOSED DEMAND CHANGE (Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)
NOVEMBER 1, 2014

All costs in \$/Dth	Last Base Cost of Gas G011/ MR-13-732* Jan. 14	Demand Change G011- 12-1193 Jul 13	Last Demand Change G011- 13-670 Nov. 13	Most Recent PGA Effective Oct. 1, 2014	Current Proposal Effective Nov. 1,2014	Result of Proposed Change			
						Change from Last Rate Case	Change from Last Demand Change	Change from Last PGA %	Change from Last PGA \$
1) General Service Residential Avg. Annual Use:						93 Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	11.34%	15.17%	\$0.6481
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-1.21%	-5.11%	(\$0.0439)
Commodity Margin	\$2.2290	\$1.9754	\$1.9754	\$2.2290	\$2.2290	0.00%	0.00%	0.00%	\$0.0000
Total Cost of Gas	\$7.5373	\$6.7415	\$6.6466	\$7.3586	\$7.9628	5.65%	6.31%	8.21%	\$0.6042
Avg Annual Cost	\$700.97	\$626.96	\$618.13	\$684.35	\$740.54	5.65%	6.31%	8.21%	\$56.19
Effect of proposed commodity change on average annual bills:									\$60.27
Effect of proposed demand change on average annual bills:									(\$4.08)
2) Large General Service: Avg. Annual Use:						5,383 Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	27.82%	15.17%	\$0.6481
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-11.21%	-5.11%	(\$0.0439)
Commodity Margin	\$2.2290	\$1.6868	\$1.6868	\$2.2290	\$2.2290	0.00%	32.14%	0.00%	\$0.0000
Total Cost of Gas	\$7.5373	\$6.4529	\$6.3580	\$7.3586	\$7.9628	5.65%	23.40%	8.21%	\$0.6042
Avg Annual Cost	\$40,573.29	\$34,735.96	\$34,225.11	\$39,611.34	\$42,863.79	5.65%	23.40%	8.21%	\$3,252.44
Effect of proposed commodity change on average annual bills:									\$3,488.72
Effect of proposed demand change on average annual bills:									(\$236.28)
3) SV Interruptible Service: Avg. Annual Use:						6,699 Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	27.82%	15.17%	\$0.6481
Commodity Margin	\$1.2014	\$1.0647	\$1.0647	\$1.2014	\$1.2014	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$5.6839	\$4.9132	\$4.8391	\$5.4724	\$6.1205	7.68%	24.57%	11.84%	\$0.6481
Avg Annual Cost	\$38,076.45	\$32,913.53	\$32,417.13	\$36,659.61	\$41,001.23	7.68%	24.57%	11.84%	\$4,341.62
Effect of proposed commodity change on average annual bills:									\$4,341.62
4) LV Interruptible Service: Avg. Annual Use:						42,000 Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	27.82%	15.17%	\$0.6481
Commodity Margin	\$0.4026	\$0.3568	\$0.3568	\$0.4026	\$0.4026	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$4.8851	\$4.2053	\$4.1312	\$4.6736	\$5.3217	8.94%	26.55%	13.87%	\$0.6481
Avg Annual Cost	\$205,174.20	\$176,622.60	\$173,510.40	\$196,291.20	\$223,511.40	8.94%	26.55%	13.87%	\$27,220.20
Effect of proposed commodity change on average annual bills:									\$27,220.20

Note: Average Annual Average based on PNG Annual Automatic Adjustment Report in Docket No. E,G999/AA-12-756

*As approved in Docket No. G007,011/MR-10-978; with implementation consolidated PGA rates on 7/1/13 in Docket No. G007,011/MR-10-977

**Per Docket No. G-007/M-07-1402-05 dated August 6th, 2014, storage demand charges will be allocated through the commodity charge effective 11/1/2014.

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

(Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)

DEMAND									
Contract Type		Season	Monthly Entitlement		Rate (\$/Dth)	Contract Costs	Rate Case Sales (therms)	Cost/Ccf	
			(Dth)	Months					
Viking (VGT)									
FT-A ZONE 1 - 1	AF0012	Annual	12,493	12	4.2085	\$ 630,921	45,118,157		\$0.01398
FT-A ZONE 1 - 1	AF0209	Winter	1,098	3	4.2085	\$ 13,863	45,118,157		\$0.00031
FT-A ZONE 1 - 1	AF0102	Annual	2,000	12	4.2085	\$ 101,003	45,118,157		\$0.00224
FA-A ZONE 1 - 1	AF0203	Dec-Feb	0	3	4.3977	\$ -	45,118,157		\$0.00000
VGT Demand						\$ 745,787	45,118,157		\$0.01653
Great Lakes (GLGT)									
FT Western Zone	FT0016	Annual	10,130	12	\$3.8490	\$ 467,886	45,118,157		\$0.01037
FT Western Zone (12)	FT0155 (12)	Annual	0	12	\$3.8490	\$ -	45,118,157		\$0.00000
FT Western Zone (5)	FT0155 (5)	Winter	0	5	\$3.8490	\$ -	45,118,157		\$0.00000
FT Western Zone	FT15782	Annual	9,000	12	\$3.8490	\$ 415,693	45,118,157		\$0.00921
FT Western Zone (12)	FT17891 (12)	Annual	3,600	12	\$3.8490	\$ 166,277	45,118,157		\$0.00369
FT Western Zone (5)	FT17891 (5)	Winter	3,638	5	\$3.8490	\$ 70,013	45,118,157		\$0.00155
GLGT Demand						\$ 1,119,869	45,118,157		\$0.02482
Centra									
CENTRA TRANSMISSION	(\$Cdn/103M3)				\$445.7690				
Conversion (103M3 x Rate(C\$ 103M3)		Annual	9,500	12	\$12.6275	\$ 1,439,535	45,118,157		\$0.03191
CENTRA MINNESOTA PIPELINES		Annual	9,500	12	\$3.2510	\$ 370,614	45,118,157		\$0.00821
Centra Demand						\$ 1,810,149	45,118,157		\$0.04012
AECO									
Niska Storage (AECO)		Annual	947,820	1	\$0.6225	\$ -			
AECO/Emerson Swap		Annual	940,428	1	\$0.9025	\$ -		0	
AECO Demand						\$ -	0		
NMU DEMAND - \$/Ccf						\$ 3,675,805			\$0.08147
For Joint Rate Demand						45,118,157	Annual Firm Sales in therms		
			Units		Annual				
			Dth's	Months	Dth's				
Viking (VGT)									
FT-A ZONE 1 - 1			12,493	12	149,916				
FT-A ZONE 1 - 1			1,098	3	3,294				
FT-A ZONE 1 - 1			2,000	12	24,000				
FA-A ZONE 1 - 1			0	3	-				
Great Lakes (GLGT)									
FT Western Zone			10,130	12	121,560				
FT Western Zone (12)			3,600	12	43,200				
FT Western Zone (5)			3,638	5	18,190				
FT Western Zone			9,000	12	108,000				
Centra									
CENTRA TRANSMISSION									
Conversion (103M3 x Rate(C\$ 103M3)			9,500	12	114,000				
CENTRA MINNESOTA PIPELINES			9,500	12	114,000				
Total Demand Cost						\$ 3,675,805			
Total Demand Weighted Vol in Mcf							5,821,600		
Total Joint Demand Rate \$/Mcf									\$0.63141

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

November 1, 2013

(Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)

PRESENT AVERAGE COST OF GAS COMMODITY

EFFECTIVE: 01-Oct-14

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	Cost/therm	REFERENCE	Effective
VGT								
GAS COST	\$4.54060							
FUEL 0.00%	\$0.00000						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
COMMODITY TRANSPORTATION	\$0.01270						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
GRI	\$0.00000						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
ACA	\$0.00120						Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
VGT Commodity	\$4.55450	1,933,108	\$115,421	\$89,580	\$9,009,339	\$0.16762	VGT Commodity	
GLGT								
GAS COST	\$4.54060							
FUEL 0.579%	\$0.02644						5 Revised Sheet 4	Jun 1, 1997
COMMODITY TRANSPORTATION	\$0.00394						Contract	Jun. 1, 2004
GRI	\$0.00000						18th Revised Sheet No. 7	Oct. 1, 2005
ACA	\$0.00120							
GLGT Commodity	\$4.57218	2,436,860	\$145,498	\$0	\$11,287,259	\$0.21000	GLGT Commodity	
CENTRA								
CENTRA TRANSMISSION (\$Cdn/103M3)	1.062						Sheet 1 (N.E.B.)	
Conversion	\$0.02687							
GAS COSTS	\$4.54060							
CUSTOMS FEE	\$0.00040							
CENTRA Commodity	\$4.56787	1,004,857	\$59,997	\$54,000	\$4,704,048	\$0.08752	Centra Commodity	
Consolidated WACOG w/Premium & Balancing		5,374,824	\$320,916	\$143,580	\$25,000,646	\$0.46514		
Total Annual Sales in therms		53,748,240						
Storage Services						\$0.02677		
						\$0.49191	Total Consolidated WACOG-\$/therm	

Balancing Service						
Pipeline	Description	Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs
VGT	Balancing Agreement	Annual	7,465	12	\$1.0000	\$89,580
GLGT	---		0	0	\$0.0000	\$0
Centra	Union Balancing	Annual	4,453	12	\$1.0106	\$54,000

Storage Service							
	Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs	Annual Sales (therms)	Rate (\$/therm)
Niska Storage (AECO)	Annual	947,820	1	\$ 0.62250	\$590,018	53,748,240	\$0.01098
AECO/Emerson Swap	Annual	940,428	1	\$ 0.90250	\$848,736	53,748,240	\$0.01579
					\$1,438,754	53,748,240	\$0.02677

Total Commodity Cost: \$0.49191

* Per Docket No. G-007/M-07-1402-05 dated August 6th, 2014, storage demand charges will be allocated through the commodity charge effective 11/01/2014.

MINNESOTA ENERGY RESOURCES - PNG-NNG

Financial Options Heating Season 2014-2015

Units - Gas Daily Peaker Packages (Physical)

<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>			
<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Daily</u>	<u>Term</u>
<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Total</u>	<u>Total</u>
N/A		N/A		N/A		N/A		N/A			

Premium - Gas Daily Peaker (Monthly Cost)

<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Total</u>	
<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>
<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>
N/A		N/A		N/A		N/A		N/A		N/A	

Units - Futures (Daily Volume)

	<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>			
	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Daily</u>	<u>Term</u>
	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Total</u>	<u>Total</u>
1	06/25/14	948	06/16/14	209	06/11/14	99	06/30/14	871	06/20/14	370	2,496	73,813
2	07/25/14	1,034	06/16/14	417	06/11/14	691	07/30/14	1,016	06/20/14	370	3,528	105,300
3	08/22/14	1,034	07/16/14	835	07/10/14	197	08/28/14	435	06/20/14	370	2,872	86,685
4	09/24/14	1,034	08/13/14	835	07/10/14	889	08/28/14	580	06/20/14	370	3,708	112,176
5	10/01/14	948	09/11/14	626	08/07/14	987	09/29/14	871	07/21/14	1,478	4,911	148,681
6			10/09/14	626	09/04/14	987	10/23/14	871	08/18/14	74	2,558	76,691
7					10/08/14	987			08/18/14	1,331	2,318	71,862
8									09/18/14	1,405	1,405	43,542
9									10/20/14	1,331	1,331	41,250
10											-	-
Total		<u>5,000</u>		<u>3,548</u>		<u>4,839</u>		<u>4,643</u>		<u>7,097</u>	<u>25,127</u>	<u>760,000</u>
		<u>150,000</u>		<u>110,000</u>		<u>150,000</u>		<u>130,000</u>		<u>220,000</u>		<u>760,000</u>

Units - Call Options (Daily Volume)

	<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>			
	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Contract</u>	<u>Daily</u>	<u>Daily</u>	<u>Term</u>
	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Total</u>	<u>Total</u>
1	06/13/14	1,082	06/27/14	1,613	06/23/14	1,811	06/18/14	1,844	06/10/14	1,484	7,834	236,232
2	07/14/14	1,082	07/28/14	1,677	07/24/14	1,871	07/18/14	1,844	07/08/14	1,548	8,023	242,103
3	08/11/14	1,082	08/26/14	1,677	08/20/14	1,871	08/15/14	1,844	08/05/14	1,548	8,023	242,103
4	09/09/14	1,210	09/26/14	1,677	09/22/14	1,871	09/16/14	1,844	09/02/14	1,548	8,150	245,923
5	10/06/14	1,210	10/22/14	1,742	10/21/14	1,931	10/10/14	1,910	10/07/14	1,613	8,406	253,638
6												
7												
Total		<u>5,667</u>		<u>8,387</u>		<u>9,355</u>		<u>9,286</u>		<u>7,742</u>	<u>40,436</u>	<u>1,220,000</u>
		<u>170,000</u>		<u>260,000</u>		<u>290,000</u>		<u>260,000</u>		<u>240,000</u>		<u>1,220,000</u>

Premium - Call Option (Monthly Cost)

	<u>November</u>		<u>December</u>		<u>January</u>		<u>February</u>		<u>March</u>		<u>Total</u>	
	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>	<u>Option</u>	<u>Premium</u>
	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>	<u>Premium</u>	<u>Cost</u>
1	\$ 0.2380	\$ 7,728	\$ 0.3100	\$ 15,500	\$ 0.3450	\$ 19,365	\$ 0.3750	\$ 19,362	\$ 0.3960	\$ 18,216	\$ 0.3394	\$ 80,171
2	\$ 0.2220	\$ 7,209	\$ 0.2230	\$ 11,596	\$ 0.2370	\$ 13,746	\$ 0.3050	\$ 15,748	\$ 0.4110	\$ 19,728	\$ 0.2810	\$ 68,026
3	\$ 0.1350	\$ 4,384	\$ 0.2010	\$ 10,452	\$ 0.2420	\$ 14,036	\$ 0.2640	\$ 13,631	\$ 0.3030	\$ 14,544	\$ 0.2356	\$ 57,046
4	\$ 0.0880	\$ 3,194	\$ 0.1660	\$ 8,632	\$ 0.2160	\$ 12,528	\$ 0.3350	\$ 17,296	\$ 0.2940	\$ 14,112	\$ 0.2267	\$ 55,762
5	\$ 0.0780	\$ 2,831	\$ 0.1640	\$ 8,856	\$ 0.2080	\$ 12,453	\$ 0.2650	\$ 14,171	\$ 0.4320	\$ 21,600	\$ 0.2362	\$ 59,911
6												
7												
Total	<u>\$ 0.1491</u>	<u>\$ 25,345</u>	<u>\$ 0.2117</u>	<u>\$ 55,036</u>	<u>\$ 0.2487</u>	<u>\$ 72,128</u>	<u>\$ 0.3085</u>	<u>\$ 80,207</u>	<u>\$ 0.3675</u>	<u>\$ 88,200</u>	<u>\$ 0.2630</u>	<u>\$ 320,916</u>
		<u>\$ 132,690</u>		<u>\$ 275,180</u>		<u>\$ 385,510</u>		<u>\$ 434,970</u>		<u>\$ 441,000</u>		<u>\$ 1,669,350</u>

Units - Collar Floor (put)

No Puts were purchased.

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

	M-11- Consolidated GS	M-12- Consolidated GS	M-13- Consolidated GS	M-14- Consolidated GS	Proposed Change
Viking Gas Transmission (VGT)					
FT-A ZONE 1 - 1	12,493	12,493	12,493	12,493	0
FT-A ZONE 1 - 1	1,098	1,098	1,098	1,098	0
FT-A ZONE 1 - 1	2,000	2,000	2,000	2,000	0
FA-A ZONE 1 - 1	0	0	1,500	0	-1,500
Wadena Delivered GDD Option	0	3500	0	0	0
Great Lakes Gas Transmission (GLGT)					
FT Western Zone	10,130	10,130	10,130	10,130	0
FT Western Zone (12)	3,600	3,600	3,600	0	-3,600
FT Western Zone (5)	3,638	3,638	3,638	0	-3,638
FT Western Zone	9,000	9,000	9,000	9,000	0
FT Western Zone (12)	0	0	0	3,600	3,600
FT Western Zone (5)	0	0	0	3,638	3,638
Centra Transmission Holding/Centra Minnesota Pipelines (CTHI/CPMI)					
Centra FT-1	9,858	9,500	9,500	9,500	0
Total VGT Transportation	15,591	19,091	17,091	15,591	-1,500
Total GLGT Transportation	26,368	26,368	26,368	26,368	0
Total CTHI/CPMI Transportation	9,858	9,500	9,500	9,500	0
Total Transportation	51,817	54,959	52,959	51,459	-1,500
Total Seasonal Transportation	6,736	6,736	6,736	6,736	0
Total Seasonal Transportation %	13.00%	12.26%	12.72%	13.09%	0.37%
<u>Other Entitlements not included in Peak Day Deliverability</u>					
AECO Storage	947,820	947,820	947,820	947,820	0
AECO/Emerson Swap	947,823	947,823	947,823	940,428	-7,395

MINNESOTA ENERGY RESOURCES - Consolidated

Rate Impacts (Illustrates FDD storage contract costs shifted from Demand costs to Commodity costs)

Consolidated

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
General Service-Residential									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-9.15%	-5.11%	(\$0.0439)
Margin	\$2.2290	\$1.9754	\$1.9754	\$2.2290	\$2.2290	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$7.5373	\$6.7415	\$6.6466	\$7.3586	\$7.9628	5.65%	19.80%	8.21%	\$0.6042
Average Annual Use	90	90	90	90	90				
Average Annual Cost of Gas*	\$678.36	\$606.74	\$598.19	\$662.27	\$716.65	5.65%	19.80%	8.21%	\$54.38

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
Large General Service									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8147	-1.34%	-9.15%	-5.11%	(\$0.0439)
Margin	\$2.2290	\$1.6868	\$1.6868	\$2.2290	\$2.2290	0.00%	32.14%	0.00%	\$0.0000
Total Cost of Gas	\$7.5373	\$6.4529	\$6.3580	\$7.3586	\$7.9628	5.65%	25.24%	8.21%	\$0.6042
Average Annual Use	4,932	4,932	4,932	4,932	4,932				
Average Annual Cost of Gas*	\$37,173.96	\$31,825.70	\$31,357.66	\$36,292.62	\$39,272.56	5.65%	25.24%	8.21%	\$2,979.95

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
SV Interruptible Service									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Commodity Margin	\$1.2014	\$1.0647	\$1.0647	\$1.2014	\$1.2014	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$5.6839	\$4.9132	\$4.8391	\$5.4724	\$6.1205	7.68%	26.48%	11.84%	\$0.6481
Average Annual Use	6,068	6,068	6,068	6,068	6,068				
Average Annual Cost of Gas*	\$34,489.91	\$29,813.30	\$29,363.66	\$33,206.52	\$37,139.19	7.68%	26.48%	11.84%	\$3,932.67

	Base Cost of Gas Change MR13-732	Demand Change Jul'13	Last Demand Change Nov'13	Most Recent PGA Oct'14	Nov. 1, 2014 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	\$ Change From Last PGA
LV Interruptible Service									
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.2710	\$4.9191	9.74%	30.33%	15.17%	\$0.6481
Commodity Margin	\$0.4026	\$0.3568	\$0.3568	\$0.4026	\$0.4026	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$4.8851	\$4.2053	\$4.1312	\$4.6736	\$5.3217	8.94%	28.82%	13.87%	\$0.6481
Average Annual Use	40,821	40,821	40,821	40,821	40,821				
Average Annual Cost of Gas*	\$199,414.67	\$171,664.55	\$168,639.72	\$190,781.03	\$217,237.12	8.94%	28.82%	13.87%	\$26,456.09

November Change Summary	Commodity Change \$/Mcf	Commodity Change %	Demand Change \$/Mcf	Demand Change %	Total Change \$/Mcf	Total Change %	Average Annual Change
General Service	\$0.6481	15.17%	(\$0.0439)	-5.11%	\$0.6042	8.21%	\$54.38
Large General Service	\$0.6481	15.17%	(\$0.0439)	-5.11%	\$0.6042	8.21%	\$2,979.95
SV Interruptible Service	\$0.6481	15.17%			\$0.6481	11.84%	\$3,932.67
LV Interruptible Service	\$0.6481	15.17%			\$0.6481	13.87%	\$26,456.09

* Average Annual Bill amount does not include customer charges.

** Commodity includes Upstream costs.

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Change in Costs due to November, 1 2014 Change in Entitlement Levels and Related Demand Costs

Attachment 8

	Oct. 2014 Entitlements	Nov. 2014 Entitlements	Consolidated			Oct. 2014 Total Annual Cost	Nov. 2014 Total Annual Cost	Total Annual Cost Change
			Entitlement Change	Nov. 2014 Rate	Months			
Costs Assigned in Demand Charge								
<u>Viking Pipeline</u>								
FT-A ZONE 1 - 1	12,493	12,493	0	\$ 4.2085	12	\$510,212	\$630,921	\$120,709
FT-A ZONE 1 - 1	1,098	1,098	0	\$ 4.2085	3	\$11,211	\$13,863	\$2,652
FT-A ZONE 1 - 1	2,000	2,000	0	\$ 4.2085	12	\$81,680	\$101,003	\$19,323
FA-A ZONE 1 - 1	1,500	0	-1,500	\$ 4.3977	3	\$16,669	\$0	-\$16,669
<u>GLGTPipeline</u>								
FT Western Zone	10,130	10,130	0	\$ 3.8490	12	\$467,886	\$467,886	\$0
FT Western Zone (12)	3,600	0	-3,600	\$ 3.8490	12	\$166,277	\$0	-\$166,277
FT Western Zone (5)	3,638	0	-3,638	\$ 3.8490	5	\$70,013	\$0	-\$70,013
FT Western Zone	9,000	9,000	0	\$ 3.8490	12	\$415,693	\$415,693	\$0
FT Western Zone (12)	0	3,600	3,600	\$ 3.8490	12	\$0	\$166,277	\$166,277
FT Western Zone (5)	0	3,638	3,638	\$ 3.8490	5	\$0	\$70,013	\$70,013
<u>CENTRA Pipeline</u>								
CENTRA TRANSMISSION	9,500	9,500	0	\$ 12.6275	12	\$826,161	\$1,439,535	\$613,374
CENTRA MINNESOTA PIPELINES	9,500	9,500	0	\$ 3.2510	12	\$202,692	\$370,614	\$167,922
Total Costs Assigned to Demand Charge						\$2,768,494	\$3,675,805	\$907,311
Costs Assigned in Commodity Charge								
<u>Niska Storage (AECO)</u>								
Niska Storage (AECO)	947,820	947,820	0	\$ 0.6225	1	\$688,362	\$590,018	-\$98,344
AECO/Emerson Swap	947,823	940,428	-7,395	\$ 0.9025	1	\$417,042	\$848,736	\$431,694
<u>Balancing</u>								
VGT Balancing Agreement	7,465	7,465	0	\$ 1.0000	12	\$89,580	\$89,580	\$0
Union Balancing	4,500	4,453	-47	\$ 1.0106	12	\$54,000	\$54,000	\$0
<u>Call Options Premium</u>								
Total Costs Assigned to Commodity Charge						\$295,511	\$320,916	\$25,405
						\$1,544,495	\$1,903,250	\$358,755

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

GLGT

update formula

	1/20 Design Day	HDD Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Total
Peak	106	5,087	233	25,567	0.60%	25,720
Off Peak	57	5,087	233	16,780	0.60%	16,881

VGT

	1/20 Design Day	HDD Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Total
Peak	109	1,573	140	15,763	0.60%	15,858
Off Peak	57	1,573	140	9,490	0.60%	9,547

Centra

	1/20 Design Day	HDD Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Total
Peak	107	1,724	79	7,086	0.60%	7,129
Off Peak	57	1,724	79	4,435	0.60%	4,462

Consolidated

	1/20 Design Day	HDD Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Total
Peak	107	8,384	452	48,416	0.60%	48,706
Off Peak	57	8,384	452	30,705	0.60%	30,889

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

14/15 Winter Portfolio Plan - GLGT/VGT/Centra Hedging Plan

10,000 Contract Size

REVISED:

System	Purchase Month	Nov-14		Dec-14		Jan-15		Feb-15		Mar-15		Total		Percent of Requirements
		Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	Number Contracts	Contract Volume	
MN Requirements			569,086		848,644		950,643		849,068		784,176		4,001,617	4,001,617
GLGT -MN			18,970		27,376		30,666		784,176		25,296		26,501	
	70%		398,360		594,051		665,450		594,348		548,923		2,801,132	
	40%		227,634		339,458		380,257		339,627		313,670		1,600,647	
			<u>85,304</u>		<u>231,769</u>		<u>231,769</u>		<u>209,339</u>		<u>96,374</u>		<u>854,555</u>	
			142,330		107,689		148,488		130,288		217,296		746,092	
	30%		398,360		594,051		665,450		594,348		548,923		2,801,132	
Contracts	Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	
	May-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-14	3	30,000	3	30,000	3	30,000	3	30,000	5	50,000	17	170,000	
	Jul-14	3	30,000	2	20,000	3	30,000	3	30,000	5	50,000	16	160,000	
	Aug-14	3	30,000	2	20,000	3	30,000	3	30,000	4	40,000	15	150,000	
	Sep-14	3	30,000	2	20,000	3	30,000	2	20,000	4	40,000	14	140,000	
	Oct-14	3	30,000	2	20,000	3	30,000	2	20,000	4	40,000	14	140,000	
	Total	15	150,000	11	110,000	15	150,000	13	130,000	22	220,000	76	760,000	18.99%
Call Options	Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	
	May-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-14	3	30,000	5	50,000	5	50,000	5	50,000	4	40,000	22	220,000	
	Jul-14	3	30,000	5	50,000	6	60,000	5	50,000	5	50,000	24	240,000	
	Aug-14	3	30,000	5	50,000	6	60,000	5	50,000	5	50,000	24	240,000	
	Sep-14	4	40,000	5	50,000	6	60,000	5	50,000	5	50,000	25	250,000	
	Oct-14	4	40,000	6	60,000	6	60,000	6	60,000	5	50,000	27	270,000	
	Total	17	170,000	26	260,000	29	290,000	26	260,000	24	240,000	122	1,220,000	30.49%
Collars	Feb-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Mar-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Apr-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Aug-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Sep-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Oct-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Index (back financial)	May-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-14	0	0	0	0	0	0	0	0	0	0	0	0	
	Jul-14	2,666	79,980	2,984	92,504	3,549	110,019	3,483	97,524	3,709	114,979	16,391	495,006	
	Aug-14	2,667	80,010	2,984	92,504	3,549	110,019	3,482	97,496	3,710	115,010	16,392	495,039	
	Sep-14	2,667	80,010	2,984	92,504	3,548	109,988	3,482	97,496	3,710	115,010	16,391	495,008	
	Oct-14	2,667	80,010	2,984	92,504	3,548	109,988	3,482	97,496	3,710	115,010	16,391	495,008	
	Total		320,010		370,016		440,014		390,012		460,009		1,980,061	49.48%
Physical Hedges			0		0		0		0		0		0	
Storage			85,304		231,769		231,769		209,339		96,374		854,555	21.36%
Prepaid Obl			0		0		0		0		0		0	0.00%
			71.22%		70.91%		70.67%		70.59%		70.95%		70.84%	
Term Index	Aug-14	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
	Sep-14	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
	Oct-14	0	0	0	0	0	0	0	0	0	0	0	0	0.00%
Total NNG MN													760,000	18.99%
Contracts													1,220,000	30.49%
Call Options													0	0.00%
Costing Collar													854,555	21.36%
Storage													0	0.00%
Prepaid Obl													0	0.00%
Term Index													0	0.00%
Month/Daily													1,167,062	29.16%
Total													4,001,617	100.00%

NOTE:

MINNESOTA ENERGY RESOURCES - CON

Daily Total Throughput Data - July 1, 2012 through June 30, 2013

Base	6,734
Variable	495

Date	28.53% Bemidji Adjusted HDD	13.34% Cloquet Adjusted HDD	35.13% Fargo Adjusted HDD	23.00% Intl. Falls Adjusted HDD	100.00% Weighted Adjusted HDD	Actual Total Through- Put *	Estimated Through- Put **
7/1/13	0	4	0	0	1	6,011	7,006
7/2/13	0	2	0	0	0	4,381	6,869
7/3/13	0	0	0	0	0	5,300	6,734
7/4/13	0	0	0	0	0	4,381	6,734
7/5/13	0	0	0	0	0	3,946	6,734
7/6/13	0	5	0	0	1	4,158	7,091
7/7/13	0	1	0	0	0	5,357	6,802
7/8/13	0	1	0	0	0	5,141	6,803
7/9/13	0	0	0	1	0	6,275	6,856
7/10/13	0	0	0	1	0	7,115	6,852
7/11/13	0	0	0	0	0	6,217	6,734
7/12/13	0	0	0	0	0	5,545	6,734
7/13/13	0	0	0	0	0	3,886	6,734
7/14/13	0	0	0	0	0	4,739	6,734
7/15/13	0	0	0	0	0	6,144	6,734
7/16/13	0	0	0	0	0	5,589	6,734
7/17/13	0	0	0	0	0	5,325	6,734
7/18/13	0	0	0	3	1	5,628	7,110
7/19/13	4	4	0	10	4	5,241	8,786
7/20/13	0	6	0	7	3	4,173	8,007
7/21/13	3	0	1	4	2	5,837	7,911
7/22/13	7	4	2	6	5	6,425	9,122
7/23/13	4	5	0	7	4	5,362	8,499
7/24/13	0	0	0	6	1	6,584	7,444
7/25/13	12	11	6	14	10	7,186	11,802
7/26/13	13	17	6	13	11	7,188	12,174
7/27/13	9	9	4	7	7	5,316	10,200
7/28/13	6	6	0	8	4	5,750	8,961
7/29/13	0	0	0	1	0	6,235	6,852
7/30/13	0	0	0	2	1	6,858	6,982
7/31/13	1	0	0	3	1	7,271	7,250
8/1/13	4	3	0	5	3	6,929	8,160
8/2/13	7	6	0	8	5	5,465	9,158
8/3/13	11	6	1	10	7	3,976	9,976
8/4/13	3	1	0	5	2	4,788	7,835
8/5/13	6	1	0	8	4	7,248	8,640
8/6/13	8	5	3	12	7	7,356	10,155
8/7/13	8	3	0	14	6	8,133	9,656
8/8/13	9	8	5	11	8	12,868	10,608
8/9/13	5	2	3	8	5	6,501	9,062
8/10/13	2	3	0	4	2	4,660	7,701
8/11/13	6	5	0	7	4	4,969	8,819
8/12/13	9	8	3	10	7	6,847	10,319
8/13/13	8	7	3	10	7	6,235	10,068
8/14/13	5	3	0	7	4	6,994	8,480
8/15/13	0	0	0	3	1	5,092	7,089
8/16/13	0	0	0	0	0	3,341	6,734
8/17/13	0	0	0	0	0	4,313	6,734
8/18/13	0	0	0	0	0	6,977	6,734
8/19/13	0	0	0	0	0	6,438	6,734
8/20/13	0	0	0	0	0	5,292	6,734
8/21/13	3	0	0	5	2	6,443	7,755
8/22/13	1	1	0	4	1	6,419	7,422
8/23/13	0	0	0	0	0	5,926	6,734
8/24/13	0	0	0	0	0	4,323	6,734
8/25/13	0	0	0	0	0	6,370	6,734
8/26/13	0	0	0	0	0	6,521	6,734
8/27/13	0	0	0	0	0	5,083	6,734
8/28/13	0	0	0	0	0	6,453	6,734
8/29/13	0	0	0	0	0	5,795	6,734
8/30/13	0	0	0	0	0	5,685	6,734
8/31/13	6	2	4	9	5	4,918	9,438
9/1/13	9	11	6	10	9	5,537	11,008
9/2/13	4	7	0	5	3	6,901	8,426
9/3/13	7	6	0	10	5	7,703	9,358
9/4/13	5	7	0	9	5	8,306	9,014

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9/5/13	0	0	0	0	0	7,405	6,734
9/6/13	0	0	0	2	0	6,100	6,975
9/7/13	4	5	0	6	3	5,095	8,417
9/8/13	0	3	0	3	1	6,468	7,288
9/9/13	0	0	0	4	1	7,888	7,208
9/10/13	2	1	0	3	1	7,663	7,472
9/11/13	12	12	4	12	9	7,875	11,217
9/12/13	12	15	3	11	9	8,237	11,262
9/13/13	6	10	7	3	6	6,859	9,765
9/14/13	18	20	10	20	16	6,638	14,582
9/15/13	17	18	8	19	14	8,321	13,747
9/16/13	15	13	6	12	11	8,979	11,966
9/17/13	3	5	0	3	2	8,918	7,905
9/18/13	2	1	0	0	1	8,276	7,105
9/19/13	16	11	12	15	14	8,798	13,532
9/20/13	18	15	13	22	17	9,540	14,912
9/21/13	11	16	0	19	10	7,645	11,533
9/22/13	0	9	0	5	2	6,490	7,914
9/23/13	4	6	0	4	3	7,369	8,207
9/24/13	8	8	0	5	4	7,629	8,948
9/25/13	0	7	0	3	2	6,835	7,608
9/26/13	0	1	9	0	3	5,478	8,321
9/27/13	17	8	10	10	12	6,622	12,555
9/28/13	9	9	4	11	8	7,585	10,503
9/29/13	0	0	2	0	1	8,746	7,103
9/30/13	8	6	7	8	7	11,161	10,288
10/1/13	17	8	12	19	14	17,019	13,798
10/2/13	19	13	17	19	17	14,945	15,281
10/3/13	16	16	22	15	18	14,299	15,561
10/4/13	21	21	18	21	20	9,646	16,588
10/5/13	17	18	15	20	17	15,050	15,257
10/6/13	19	17	14	20	17	16,508	15,183
10/7/13	9	8	4	11	7	17,333	10,430
10/8/13	10	2	7	10	8	15,472	10,741
10/9/13	7	5	2	6	5	14,115	9,118
10/10/13	3	3	5	2	4	5,788	8,531
10/11/13	24	11	21	14	19	7,424	16,023
10/12/13	22	21	19	24	21	11,391	17,327
10/13/13	22	23	19	27	22	13,302	17,777
10/14/13	28	23	30	27	28	17,369	20,384
10/15/13	24	21	21	26	23	18,956	18,217
10/16/13	30	26	28	29	29	14,762	20,883
10/17/13	31	24	27	31	29	20,624	20,898
10/18/13	32	29	29	29	30	16,620	21,536
10/19/13	34	34	32	32	33	18,165	22,986
10/20/13	41	38	31	35	36	22,017	24,411
10/21/13	34	36	32	33	33	26,146	23,289
10/22/13	38	36	32	36	35	22,745	24,051
10/23/13	35	33	30	34	33	24,223	22,991
10/24/13	30	29	24	29	28	23,626	20,376
10/25/13	33	28	30	31	31	19,449	21,929
10/26/13	32	28	27	31	29	19,794	21,301
10/27/13	41	34	38	38	38	22,243	25,698
10/28/13	39	37	37	39	38	25,716	25,604
10/29/13	31	30	28	37	31	23,822	22,149
10/30/13	28	24	27	26	27	20,345	19,970
10/31/13	35	26	29	27	30	20,588	21,561
11/1/13	36	31	28	30	31	25,224	22,158
11/2/13	29	30	20	31	27	24,891	19,866
11/3/13	23	22	21	24	22	16,533	17,767
11/4/13	33	30	34	30	32	20,437	22,695
11/5/13	46	34	38	38	40	29,474	26,426
11/6/13	44	39	36	39	39	26,128	26,101
11/7/13	42	41	34	41	39	25,732	25,941
11/8/13	36	36	29	37	34	19,144	23,443
11/9/13	41	36	39	35	38	19,823	25,667
11/10/13	47	41	44	46	45	21,927	29,007
11/11/13	63	56	57	56	58	26,751	35,488
11/12/13	49	47	42	47	46	25,266	29,392
11/13/13	29	32	23	32	28	22,436	20,466
11/14/13	30	28	33	34	32	18,749	22,508
11/15/13	29	25	28	29	28	22,140	20,580
11/16/13	28	23	26	25	26	15,077	19,663
11/17/13	44	36	41	40	41	24,293	26,904
11/18/13	49	46	40	46	44	26,137	28,760
11/19/13	36	37	32	37	35	26,381	23,968
11/20/13	38	30	51	36	41	23,799	27,032

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11/21/13	60	50	61	56	58	32,842	35,474
11/22/13	67	54	64	60	62	38,212	37,657
11/23/13	65	63	64	65	65	35,311	38,676
11/24/13	45	49	41	47	45	25,006	28,833
11/25/13	51	47	45	52	49	26,521	30,928
11/26/13	60	60	57	60	59	35,812	35,833
11/27/13	56	53	52	54	54	32,112	33,336
11/28/13	62	59	53	59	58	33,109	35,433
11/29/13	49	48	41	50	46	28,178	29,688
11/30/13	45	36	44	41	43	26,866	27,833
12/1/13	51	43	44	50	47	28,649	30,088
12/2/13	45	39	43	45	43	31,197	28,266
12/3/13	48	41	46	50	47	34,717	29,865
12/4/13	63	52	67	58	62	39,551	37,373
12/5/13	79	73	80	73	77	46,144	45,004
12/6/13	87	82	82	82	83	49,692	48,025
12/7/13	87	81	83	85	84	49,879	48,492
12/8/13	76	73	74	78	75	48,555	44,089
12/9/13	83	77	76	85	80	54,545	46,489
12/10/13	83	80	77	83	80	55,031	46,523
12/11/13	81	80	78	85	81	55,503	46,682
12/12/13	68	67	64	80	69	48,378	40,955
12/13/13	74	69	70	78	73	50,474	42,911
12/14/13	82	75	76	83	79	46,969	46,002
12/15/13	80	79	70	80	76	44,862	44,593
12/16/13	57	58	52	59	56	41,647	34,320
12/17/13	68	59	56	72	64	44,087	38,193
12/18/13	60	58	61	64	61	39,525	37,034
12/19/13	76	61	78	72	74	45,264	43,352
12/20/13	69	57	72	64	67	44,262	40,043
12/21/13	66	54	80	65	69	43,252	40,905
12/22/13	82	70	87	79	81	47,388	47,063
12/23/13	85	79	82	86	83	49,625	47,976
12/24/13	69	71	61	73	67	38,272	40,053
12/25/13	60	58	52	75	61	35,433	36,717
12/26/13	51	57	45	63	53	33,336	32,790
12/27/13	37	39	33	39	37	27,660	24,847
12/28/13	68	63	74	75	71	39,449	41,818
12/29/13	85	86	79	93	85	46,465	48,770
12/30/13	82	79	79	88	82	45,019	47,293
12/31/13	89	86	86	92	88	45,162	50,235
1/1/14	87	83	82	92	86	53,405	49,283
1/2/14	87	79	82	87	84	57,376	48,519
1/3/14	62	62	61	64	62	47,061	37,477
1/4/14	87	79	82	87	84	54,615	48,464
1/5/14	99	91	97	97	97	56,481	54,525
1/6/14	95	95	87	96	92	56,328	52,424
1/7/14	89	82	79	86	84	56,998	48,254
1/8/14	77	78	76	80	78	55,825	45,112
1/9/14	55	61	54	54	55	43,540	33,882
1/10/14	49	44	47	43	46	32,547	29,537
1/11/14	44	45	43	46	44	30,889	28,702
1/12/14	39	39	43	38	40	28,725	26,458
1/13/14	54	49	51	65	55	40,421	33,889
1/14/14	74	67	68	65	69	42,138	40,782
1/15/14	60	56	55	55	57	38,119	34,726
1/16/14	81	67	81	77	78	46,836	45,411
1/17/14	71	62	64	72	68	41,581	40,303
1/18/14	55	51	51	63	55	32,566	33,827
1/19/14	58	55	53	67	58	34,676	35,336
1/20/14	87	82	82	86	84	51,663	48,492
1/21/14	82	79	76	81	79	48,955	45,983
1/22/14	90	88	90	94	91	55,438	51,600
1/23/14	74	78	70	75	73	48,597	42,881
1/24/14	66	61	57	65	62	40,694	37,291
1/25/14	73	70	65	76	71	42,558	41,700
1/26/14	91	84	84	88	87	46,733	49,830
1/27/14	94	89	85	92	90	51,779	51,158
1/28/14	87	83	79	87	84	50,800	48,124
1/29/14	63	65	60	65	63	41,792	37,745
1/30/14	83	76	80	84	81	50,030	46,964
1/31/14	73	73	70	74	72	46,743	42,480
2/1/14	73	71	70	81	73	46,885	43,106
2/2/14	70	67	63	73	68	44,672	40,340
2/3/14	75	64	68	67	69	46,251	40,987
2/4/14	77	72	75	81	76	48,696	44,561
2/5/14	83	76	77	84	80	50,627	46,332

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2/6/14	80	75	72	78	76	48,781	44,318
2/7/14	80	76	74	77	77	47,440	44,644
2/8/14	78	67	77	75	75	47,578	43,966
2/9/14	81	77	78	84	80	54,632	46,514
2/10/14	79	78	78	80	79	57,640	45,695
2/11/14	69	69	66	70	68	50,581	40,530
2/12/14	65	55	61	68	63	47,498	37,818
2/13/14	70	64	76	75	72	50,355	42,562
2/14/14	71	67	68	68	69	45,790	40,803
2/15/14	67	63	65	73	67	42,358	40,036
2/16/14	66	63	65	68	65	40,685	39,121
2/17/14	48	46	42	48	46	38,768	29,371
2/18/14	41	37	42	40	41	34,318	26,877
2/19/14	43	33	38	42	40	32,502	26,382
2/20/14	57	52	62	50	56	42,056	34,615
2/21/14	75	68	69	70	71	48,067	41,799
2/22/14	72	66	66	68	68	44,642	40,442
2/23/14	78	66	71	71	72	44,498	42,393
2/24/14	79	73	76	77	77	52,294	44,722
2/25/14	82	78	76	80	79	56,306	45,948
2/26/14	89	82	78	91	84	56,924	48,529
2/27/14	81	77	83	84	82	51,194	47,229
2/28/14	82	73	78	81	79	50,248	46,004
3/1/14	92	86	87	92	90	53,440	51,132
3/2/14	85	81	75	86	81	52,114	46,912
3/3/14	72	69	65	72	69	49,633	40,895
3/4/14	64	61	61	69	64	41,856	38,346
3/5/14	58	59	56	58	57	36,651	35,113
3/6/14	44	48	45	40	44	33,091	28,539
3/7/14	64	50	60	66	61	37,366	37,011
3/8/14	54	49	50	54	52	34,113	32,433
3/9/14	33	36	29	32	32	24,817	22,453
3/10/14	33	24	28	32	30	19,620	21,591
3/11/14	55	46	46	59	51	34,883	32,149
3/12/14	37	50	38	46	41	36,611	27,053
3/13/14	33	32	28	32	31	26,818	22,042
3/14/14	58	45	52	56	54	35,184	33,451
3/15/14	60	59	58	71	62	34,498	37,189
3/16/14	42	46	37	48	42	33,648	27,673
3/17/14	36	42	33	42	37	28,323	25,169
3/18/14	37	41	39	39	39	28,935	25,874
3/19/14	45	46	35	43	41	30,160	26,986
3/20/14	35	33	37	34	35	23,991	24,136
3/21/14	63	54	61	59	60	36,705	36,522
3/22/14	68	64	57	76	66	36,011	39,164
3/23/14	59	60	47	73	58	38,828	35,472
3/24/14	62	59	53	63	59	37,122	35,748
3/25/14	57	59	42	65	54	37,690	33,416
3/26/14	42	40	35	44	40	28,968	26,372
3/27/14	52	45	49	54	51	30,311	31,754
3/28/14	45	46	37	55	45	27,741	28,889
3/29/14	29	32	29	29	29	19,669	21,227
3/30/14	23	24	30	28	27	21,922	19,941
3/31/14	46	45	57	54	51	27,952	32,159
4/1/14	48	46	48	50	48	32,356	30,557
4/2/14	36	36	33	37	35	24,744	24,300
4/3/14	36	39	37	36	37	25,344	24,926
4/4/14	30	36	24	33	30	21,579	21,430
4/5/14	25	23	22	25	24	15,937	18,497
4/6/14	27	26	24	26	26	15,239	19,437
4/7/14	28	30	25	32	28	19,611	20,746
4/8/14	13	24	8	21	15	18,463	13,988
4/9/14	26	25	21	32	25	15,941	19,344
4/10/14	27	20	19	31	24	16,571	18,644
4/11/14	29	31	19	31	26	15,635	19,635
4/12/14	45	35	41	41	41	16,909	27,205
4/13/14	50	47	47	51	49	25,792	30,879
4/14/14	51	46	43	50	47	33,191	30,211
4/15/14	39	44	36	42	39	27,016	26,194
4/16/14	38	36	35	38	37	28,051	25,010
4/17/14	35	39	26	37	33	22,596	23,048
4/18/14	17	28	12	20	17	18,386	15,353
4/19/14	17	19	13	21	17	13,832	14,977
4/20/14	29	19	20	27	24	9,726	18,715
4/21/14	28	24	20	27	25	20,467	18,882
4/22/14	27	27	24	27	26	21,359	19,458
4/23/14	32	33	21	32	28	23,689	20,712

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4/24/14	32	31	22	29	27	24,394	20,319
4/25/14	30	32	24	28	28	21,654	20,483
4/26/14	34	38	29	31	32	17,489	22,466
4/27/14	32	34	28	27	30	22,876	21,492
4/28/14	25	31	22	26	25	29,467	19,259
4/29/14	31	31	30	30	30	25,289	21,774
4/30/14	25	26	21	31	25	22,500	19,156
5/1/14	23	25	13	27	21	17,736	16,991
5/2/14	32	24	24	30	28	13,385	20,445
5/3/14	30	24	27	30	28	15,416	20,610
5/4/14	23	25	16	27	22	13,315	17,520
5/5/14	21	28	11	26	19	14,645	16,372
5/6/14	13	21	12	14	14	14,806	13,752
5/7/14	22	22	22	22	22	12,930	17,725
5/8/14	22	26	16	30	22	15,826	17,790
5/9/14	17	14	14	16	15	15,187	14,338
5/10/14	5	12	13	12	10	7,650	11,899
5/11/14	23	27	26	22	24	7,322	18,731
5/12/14	27	20	26	26	25	16,449	19,338
5/13/14	31	23	29	29	29	15,841	20,939
5/14/14	30	26	23	25	26	18,232	19,367
5/15/14	28	22	19	24	23	17,252	18,132
5/16/14	19	21	12	20	17	13,233	15,062
5/17/14	11	6	8	12	9	6,481	11,339
5/18/14	13	16	7	8	10	6,301	11,798
5/19/14	6	5	4	4	5	11,639	9,142
5/20/14	18	13	10	17	14	8,888	13,737
5/21/14	12	12	9	14	12	12,870	12,433
5/22/14	7	9	0	8	5	9,100	9,354
5/23/14	0	1	0	0	0	5,927	6,805
5/24/14	0	0	0	0	0	1,744	6,734
5/25/14	0	0	0	0	0	3,718	6,734
5/26/14	0	11	0	0	1	5,939	7,447
5/27/14	0	11	0	0	1	7,965	7,434
5/28/14	0	4	0	0	1	7,111	7,006
5/29/14	0	5	0	0	1	7,319	7,081
5/30/14	0	5	0	0	1	5,619	7,077
5/31/14	0	2	0	0	0	4,276	6,870
6/1/14	7	2	6	10	6	6,089	9,928
6/2/14	4	2	2	5	3	11,685	8,462
6/3/14	4	5	0	4	3	13,270	8,137
6/4/14	1	9	0	1	2	13,033	7,623
6/5/14	5	0	8	3	5	10,291	9,217
6/6/14	12	11	3	10	8	10,314	10,795
6/7/14	11	11	5	11	9	6,748	11,214
6/8/14	4	7	0	4	3	6,736	8,283
6/9/14	1	8	0	4	2	11,678	7,917
6/10/14	8	7	5	6	6	12,057	9,802
6/11/14	13	18	5	20	12	13,088	12,760
6/12/14	10	9	3	14	8	12,037	10,818
6/13/14	9	15	2	11	8	8,225	10,706
6/14/14	6	7	0	12	5	5,563	9,337
6/15/14	3	0	0	2	1	6,961	7,427
6/16/14	0	0	0	3	1	12,374	7,099
6/17/14	0	6	0	0	1	11,821	7,114
6/18/14	6	13	0	1	4	12,254	8,517
6/19/14	2	15	0	0	3	9,125	8,035
6/20/14	0	6	0	0	1	5,836	7,146
6/21/14	0	9	0	0	1	3,434	7,346
6/22/14	0	0	0	0	0	5,223	6,734
6/23/14	1	13	0	7	4	7,314	8,492
6/24/14	7	14	0	7	6	8,691	9,547
6/25/14	1	11	0	4	3	7,654	8,083
6/26/14	0	9	0	0	1	6,272	7,299
6/27/14	0	0	0	0	0	4,465	6,734
6/28/14	0	0	0	0	0	2,916	6,734
6/29/14	0	0	0	0	0	5,432	6,734
6/30/14	7	1	4	9	6	5,355	9,554
Totals	12,070	11,522	10,880	12,320	11,636	8,286,815	8,217,921

* Volumes include interruptible and transportation volumes except for transportation volumes that are not located behind MERC citygates.

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** Design Model numbers are used to calculate firm volumes only

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MINNESOTA ENERGY RESOURCES - Consolidated

Customer Counts by PGAC Class - July 1, 2013 through June 30, 2014

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Projected Storage Cost - November 2014 through March 2015

Month/ Year	K#118657 NNG Storage	Storage K#125915 NNG Storage	Storage K#125916 NNG Storage	Total NNG Storage	Projected Storage NNG WACOG	K#118657 NNG Storage Cost	K#125915 NNG Storage Cost	K#125916 NNG Storage Cost	Total NNG Storage Cost	AECO Storage GLGT/VGT Centra Emerson	AECO Storage GLGT/VGT Centra Emerson WACOG	AECO Storage GLGT/VGT Centra Emerson Cost
Nov-14	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 1,962,895	\$ 63,057	\$ 273,248	\$ 2,299,200	85,304	\$ 4.0841	\$ 348,390
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4,932,401	\$ 158,451	\$ 686,622	\$ 5,777,475	231,769	\$ 4.0841	\$ 946,568
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4,932,401	\$ 158,451	\$ 686,622	\$ 5,777,475	231,769	\$ 4.0841	\$ 946,568
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4,932,401	\$ 158,451	\$ 686,622	\$ 5,777,475	209,339	\$ 4.0841	\$ 854,961
Mar-15	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 1,962,895	\$ 63,057	\$ 273,248	\$ 2,299,200	96,374	\$ 4.0841	\$ 393,601
Total	4,342,470	139,500	604,500	5,086,470	\$ 4.3116	\$ 18,722,994	\$ 601,468	\$ 2,606,362	\$ 21,930,824	854,555	\$ 4.0841	\$ 3,490,088

Month/ Year	NNG Storage Volume	NNG Indexes Price	NNG Indexes Cost	AECO Storage Volume	Emerson LDS + Basis	Emerson LDS + Cost
Nov-14	533,259	\$ 3.5925	\$ 1,915,733	85,304	\$ 3.7210	\$ 317,416
Dec-14	1,339,984	\$ 3.9085	\$ 5,237,327	231,769	\$ 4.2170	\$ 977,370
Jan-15	1,339,984	\$ 4.1645	\$ 5,580,363	231,769	\$ 4.3830	\$ 1,015,844
Feb-15	1,339,984	\$ 4.1605	\$ 5,575,003	209,339	\$ 4.3390	\$ 908,322
Mar-15	533,259	\$ 3.8485	\$ 2,052,247	96,374	\$ 4.4120	\$ 425,202
Total	5,086,470	\$ 4.0029	\$ 20,360,674	854,555	\$ 4.2644	\$ 3,644,154

Max NNG Storage (Storage plan withdrawals through Apr 14)	5,086,470	5,469,321	09/30/14 Storage Balance - NNG	4,361,819	79.75%	4,056,493
Max AECO Storage	854,555	947,820	09/30/14 Storage Balance - AECO	851,535	89.84%	767,744
						81.20%

Month/ Year	K#118657 NNG Storage	Storage K#125344 LS Power	Storage K#125345 LS Power	Total NNG Storage	Projected K#118657 NNG WACOG	Projected K#125915 NNG WACOG	Projected K#125916 NNG WACOG	WACOG NNG PNG Cost	Projected NNG Indexes Price	Projected NNG Index Cost	Additional Storage (Savings)/ Cost
Nov-14	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 2,299,200	\$ 3.5925	\$ 1,915,733	\$ 383,467
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 5,777,475	\$ 3.9085	\$ 5,237,327	\$ 540,148
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 5,777,475	\$ 4.1645	\$ 5,580,363	\$ 197,112
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 5,777,475	\$ 4.1605	\$ 5,575,003	\$ 202,472
Mar-15	455,259	14,625	63,375	533,259	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 2,299,200	\$ 3.8485	\$ 2,052,247	\$ 246,952
Total	4,342,470	139,500	604,500	5,086,470	\$ 4.3116	\$ 4.3116	\$ 4.3116	\$ 21,930,824	\$ 4.0029	\$ 20,360,674	\$ 1,570,150

\$ 4.3116 \$ (0.2690) \$ 1,570,150

Month/ Year	AECO Storage	AECO Storage Other WACOG	Total AECO Cost	Projected Emerson Index Price	Projected Emerson Index Cost	Additional Storage (Savings)/ Cost
Nov-14	85,304	\$ 4.0841	\$ 348,390	\$ 3.7210	\$ 317,416	\$ 30,974
Dec-14	231,769	\$ 4.0841	\$ 946,568	\$ 4.2170	\$ 977,370	\$ (30,802)
Jan-15	231,769	\$ 4.0841	\$ 946,568	\$ 4.3830	\$ 1,015,844	\$ (69,276)
Feb-15	209,339	\$ 4.0841	\$ 854,961	\$ 4.3390	\$ 908,322	\$ (53,361)
Mar-15	96,374	\$ 4.0841	\$ 393,601	\$ 4.4120	\$ 425,202	\$ (31,601)
Total	854,555	\$ 4.0841	\$ 3,490,088	\$ 4.2644	\$ 3,644,154	\$ (154,066)

\$ 3.2341 \$ (0.8488) \$ (154,066)

Call/Put Options WACOG

Contract = 10,000

Call/Put Options