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August 1, 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-\_\_\_\_

Dear Dr. Haar:

In accordance with Minnesota Rule 7825.2910, subpart 2, please find enclosed Minnesota Energy Resources Corporation's (MERC) request to change demand entitlement. Please note that any updated information will be provided with MERC's November 1, 2014 filing. MERC is also filing Excel and PDF versions of the attachments.

Pursuant to Minnesota Rule 7825.2910, subpart 3, a Notice of Availability has been sent 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-Consolidated has filed a petition with the Minnesota Public Utilities Commission for approval of a change in demand entitlement.

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

Amber Lee  
Minnesota Energy Resources Corporation  
2665 145<sup>th</sup> 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.

**ATTACHMENT 2**

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	)	Docket No. G011/M-14-___
Demand Entitlement	)	

**SUMMARY OF FILING**

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

STATE OF MINNESOTA  
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	Chair
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In the Matter of the Petition of	)	
Minnesota Energy Resources	)	
Corporation – Consolidated for	)	
Approval of a Change in	)	Docket No. G011/M-14-____
Demand Entitlement	)	

**FILING UPON CHANGE IN DEMAND**

Pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation- Consolidated (MERC or the Company), hereby petitions the Minnesota Public Utilities Commission (Commission) for approval of changes in demand entitlements for MERC-Consolidated's customers. MERC requests that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2013.

This filing includes the following attachments:

- Attachment 1:** Notice of Availability.
- Attachment 2:** One paragraph summary of the filing in accordance with Minn. R. 7829.1300, subp. 1.
- Attachment 3:** Petition for Change in Demand with Attachments.
- Attachment 4:** 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 attached.

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 has been sent to all intervenors in the Company's previous two rate cases.

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: August 1, 2014  
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 145<sup>th</sup> 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: August 1, 2014

Respectfully Submitted,  
DORSEY & WHITNEY LLP

By: /s/ Michael J. Ahern  
Michael J. Ahern  
Suite 1500, 50 South Sixth Street  
Minneapolis, MN 55402-1498  
Telephone: (612) 340-2600

Attorney for Minnesota Energy  
Resources Corporation

STATE OF MINNESOTA  
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	Chair
David C. Boyd	Commissioner
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
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In the Matter of the Petition of )  
Minnesota Energy Resources )  
Corporation – Consolidated for ) Docket No. G007/M-14-\_\_  
Approval of a Change in )  
Demand Entitlement )

**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) 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 is not changing from what was filed in the November 1, 2013 filing. The design day numbers are still in the process of being calculated and MERC will be filing revised Consolidated Design Day requirements in the November 1, 2014 filing.

**Table 1: MERC's Proposed Consolidated Reserve Margins  
For the 2013-2014 Heating Season  
Consolidated (GLGT, VGT & Centra)**

	Reserve Margin 2014-2015 Heating Season	Reserve Margin 2013-2014 Heating Season	Change
NNG Zone E-F	5.82%	5.82%	0.00%

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 7,740 Mcf as calculated in Attachment 1, page 2 of 3.

For the Demand Entitlement filing effective November 1, 2013, 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 a 22.74% positive reserve margin.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day requirement for Consolidated-GLGT is 24,906 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, age 2



of 6.<sup>1</sup> The difference between the total Design Day requirement and total Design Day capacity results in a 5.87% positive reserve margin.

For the Demand Entitlement filing effective November 1, 2014, the total Design Day requirement for Consolidated-VGT is 17,402 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 17,091 Mcf as calculated in Attachment 4, page 2 of 6.

The difference between the total Design Day requirement and total Design Day capacity results in a 1.79% negative reserve margin.

B. Forecast Methodology for MERC Demand Entitlement Nov. 1, 2012

**Peakday**

**Purpose**

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

**Background**

MERC was composed of two service areas:

1. PNG - Peoples Natural Gas
2. NMU - Northern Minnesota Utility

Which were served by four pipelines:

3. VGT - Viking Gas Transmission system (served both PNG and NMU)
  4. NNG- Northern Natural Gas pipeline (served both PNG and NMU)
  5. GLGT - Great Lakes Gas Transmission pipeline (served both PNG and NMU)
  6. Centra - Centra pipeline (served NMU)
-

Effective July 1, 2013, two Petitions for Change in Demand need to be filed (one for each PGA):

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

Before July 1, 2013, four Petitions for Change in Demand were filed (one for each PGA):

- C. PNG customers served off of VGT = PNG - VGT
- D. PNG customers served off of GLGT = PNG - GLGT
- E. PNG customers served off of NNG = PNG - NNG
- F. All NMU customers - served off NNG, GLGT, VGT & Centra = NMU

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:

	<b>Demand Area (Service Area / Pipeline)</b>	<b>PGAC</b>	<b>Weather Station(s)</b>
1	NMU-Centra	NMU	International Falls
2	NMU-GLGT *	NMU	Bemidji & Cloquet
3	NMU-NNG	NMU	Cloquet
4	NMU-VGT *	NMU	Fargo
5	NMU-GLGT&VGT*	NMU	Bemidji
6	PNG-GLGT	PNG-GLGT	Bemidji
7a	PNG-NNG – All except Ortonville	PNG-NNG	Minneapolis, Rochester, Cloquet & Worthington
7b	PNG-NNG – Ortonville Only	PNG-NNG	Ortonville
8	PNG-VGT	PNG-VGT	Fargo
* Thief River Falls is included only in NMU-GLGT&VGT			

## 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 service area, 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:

- Identify the coldest Adjusted Heating Degree Day (AHDD) in the last 20 years for each weather station.
- Determine the most recent three years of December through February daily total metered throughput for each of the demand areas by weather station.
- 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)

- 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. Each meter was also designated as either NNG or Consolidated. As noted above, some of the meters represented a TBS. Some meters were dedicated to a customer who is not a firm service customer of either NNG or Consolidated. 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 (Service Area / Pipeline):
  1. Gather the net daily metered volumes and weather station data including AHDD65<sup>2</sup>.
  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 day-type and month. Day-type 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

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<sup>2</sup> 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.

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.

### **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 records<sup>3</sup>. 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 class<sup>4</sup>, 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, mapped to the demand areas, summed and subtracted

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<sup>3</sup> Individual daily volumes were available for a handful of paper mills, direct-connects, taconites, and off-system end users.

<sup>4</sup> Transportation, Interruptible, Joint Interruptible, Residential, Large Commercial & Industrial and Small Commercial & Industrial

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**

**Demand Area / (Service Area / Pipeline) Regression Notes**

**A. Interruptible, Transportation and Joint Interruptible**

NMU-GLGT

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

NMU-VGT

Lamb Weston.

PNG-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

PNG-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

**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.

In the August 1, 2014 petition, MERC anticipated purchasing a Wadena Delivered Call Option. Due to the lack of interest in selling this product by suppliers, MERC chose to purchase 1,500 Dth firm capacity from December 2013 through February 2014 from the pipeline. Once MERC has revised Design Day numbers this may change and will be revised in the November 1, 2014 filing.

On Centra there is no planned change in winter capacity.

Table 4

Capacity Entitlement	Propose Change Increase / (Decrease)
GLGT FT0016	0 Mcf/Day
GLGT FT0155 (12)	0 Mcf/Day
GLGT FT0155 (5)	0 Mcf/Day
GLGT FT15782	0 Mcf/Day
VGT AF0012	0 Mcf/Day
VGT AF0014	0 Mcf/Day
VGT AF0102	0 Mcf/Day
VGT TBD	0 Mcf/Day
Wadena Delivered Option	0 Mcf/Day
Centra FT	0 Mcf/Day
Total Overall Change	0 Mcf/Day

\* Numbers are not part of peak day deliverability

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.

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 \$368,559 for the 2014/2015 winter. MERC will update total premium costs in the November 1, 2014 filing. 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 \$0.3021. MERC will update total premium per contract in the November 1, 2014. 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 \$4.1210. Please see Attachment 13, page 1 of 3. MERC is projecting the storage WACOG on AECO Storage to be approximately \$4.2134. 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 \$4.2827, 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. MERC has also calculated the rate impact of moving the cost recovery of FDD Storage contracts from the demand cost recovery portion of the monthly PGA to the commodity cost recovery portion of the monthly PGA. Attachment 4, pages 4 through 6, and Attachment 7, page 2, illustrate the rate impact created by this shift in cost recovery.

#### H. Impacts of Telemetry

Based on the requirement that all interruptible and transportation customers on MERC's system must have telemetry, this has led to some customers switching from interruptible to firm. On Consolidated, there has been one (1) customer that switched from interruptible to firm service. The switching occurred between November 1, 2013 and July 1, 2014. MERC will project the impact of these customers on firm requirements by projecting their peak day volumes and provide this number in the November 1, 2014 filing.

## II. CONCLUSION

Based upon the foregoing, MERC respectfully requests the Minnesota Public Utilities Commission grant the demand changes requested herein effective November 1, 2014. If any further information, clarification, or substantiation is required to support this filing please advise.

DATED: August 1, 2014

Respectfully Submitted,

DORSEY & WHITNEY LLP

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Resources Corporation

# MINNESOTA ENERGY RESOURCES - Consolidated

## DESIGN-DAY DEMAND SUMMARY NOVEMBER 1, 2014

Design Day Requirement	50,048
Total Peak Day Entitlement	52,959
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		% of total load	Regression Total Footnote 1	Regression Adjustment Footnote 2	1/20 Requirements Regression Load Footnote 3	2008/09 Customer Growth	Total
			Intercept	Slope						

VGT										
VGT	10,461	109	3,025	143		19,375	5,201	14,174	0.3%	14,217
**VGT/GLGT	3,280	107	726	44	68.0%	3,980	804	3,176	0.3%	3,186
Peak	13,741		3,751	187				17,350		17,402
VGT	10,461	57	3,025	143		12,679	3,353	9,326	0.3%	9,354
VGT/GLGT	3,280	57	726	44	68.0%	2,480	519	1,961	0.3%	1,967
Off Peak	13,741		3,751	187				11,287		11,321

GLGT										
**VGT/GLGT	3,280	107	726	44	32.0%	1,873	378	1,495	0.3%	1,499
GLGT	14,976	105	3,105	217		28,707	5,370	23,337	0.3%	23,407
Peak	18,256		3,831	261				24,832		24,906
VGT/GLGT	3,280	57	726	44	32.0%	1,167	244	923	0.3%	926
GLGT	14,976	57	3,105	217		18,292	3,388	14,904	0.3%	14,949
Off Peak	18,256		3,831	261				15,827		15,874

Centra										
Peak	5,680	107	1,874	78		10,961	3,244	7,717	0.3%	7,740
Off Peak	5,680	57	1,874	78		7,056	2,093	4,963	0.3%	4,978

Total Consolidated										
Peak	34,397		8,730	482		64,896	14,997	49,899	0.3%	50,048
Off Peak	34,397		8,730	482		41,674	9,597	32,077	0.3%	32,173

**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

<b><u>Heating Season</u></b>	<b><u>No. of Firm Customers</u></b>	<b><u>Design Day Requirements</u></b>	<b><u>MMBtus /Customer /Day</u></b>
14/15	34,397	50,048	1.46
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>
<b>Total</b>	<u>1,702,327</u>	<u>4,001,614</u>	<u>5,703,941</u>

<b>MINNESOTA ENERGY RESOURCES - Consolidated</b>
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**ENTITLEMENT LEVELS**

**PROPOSED TO BE EFFECTIVE NOVEMBER 1, 2014**

<b>Type of Capacity or Entitlement</b>		<b>Current Amount Mcf or MMBtu</b>	<b>Proposed Change Mcf or MMBtu</b>	<b>Proposed Amount Mcf or MMBtu</b>
FT Western Zone	FT0016	10,130	0	10,130
FT Western Zone (12)	FT0155 (12)	3,600	0	3,600
FT Western Zone (5)	FT0155 (5)	3,638	0	3,638
FT Western Zone	FT15782	9,000	0	9,000
FT-A ZONE 1 - 1	AF0012	12,493	0	12,493
FT-A ZONE 1 - 1	AF0014 (3)	1,098	0	1,098
FT-A ZONE 1 - 1	AF0102	2,000	0	2,000
FA-A ZONE 1 - 1		1,500	0	1,500
Wadena Delivered GDD Call Option		0	0	0
CENTRA FT-1		9,500	0	9,500
<b>Total Entitlement</b>		<b><u>52,959</u></b>	<b><u>0</u></b>	<b><u>52,959</u></b>
Forecasted Design Day-Adjusted		50,048	0	50,048
Capacity Surplus/Shortage		2,911	(0)	2,911
Reserve Margin		5.82%		5.82%

## MINNESOTA ENERGY RESOURCES - Consolidated

### RATE IMPACT OF THE PROPOSED DEMAND CHANGE 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 Aug. 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	\$4.0261	\$4.0397	-9.88%	-11.51%	0.34%	\$0.0136	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	3.55%	-0.02%	(\$0.0002)	
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	\$7.1137	\$7.1271	-5.44%	-6.08%	0.19%	\$0.0134	
Avg Annual Cost	\$700.97	\$626.96	\$618.13	\$661.57	\$662.82	-5.44%	-6.08%	0.19%	\$1.25	
Effect of proposed commodity change on average annual bills:									\$1.26	
Effect of proposed demand change on average annual bills:									(\$0.02)	

2) Large General Service: Avg. Annual Use:						5,383	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	\$4.0397	-9.88%	4.97%	0.34%	\$0.0136	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	-6.45%	-0.02%	(\$0.0002)	
Commodity Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000	
Total Cost of Gas	\$7.2117	\$6.4529	\$6.3580	\$6.7881	\$6.8015	-5.69%	5.40%	0.20%	\$0.0134	
Avg Annual Cost	\$38,820.58	\$34,735.96	\$34,225.11	\$36,540.34	\$36,612.45	-5.69%	5.40%	0.20%	\$72.10	
Effect of proposed commodity change on average annual bills:									\$73.21	
Effect of proposed demand change on average annual bills:									(\$1.10)	

3) SV Interruptible Service: Avg. Annual Use:						6,699	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	\$4.0397	-9.88%	4.97%	0.34%	\$0.0136	
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	\$5.2275	\$5.2411	-7.79%	6.67%	0.26%	\$0.0136	
Avg Annual Cost	\$38,076.45	\$32,913.53	\$32,417.13	\$35,019.02	\$35,110.13	-7.79%	6.67%	0.26%	\$91.11	
Effect of proposed commodity change on average annual bills:									\$91.11	

4) LV Interruptible Service: Avg. Annual Use:						42,000	Dth			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	\$4.0397	-9.88%	4.97%	0.34%	\$0.0136	
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	\$4.4287	\$4.4423	-9.06%	5.64%	0.31%	\$0.0136	
Avg Annual Cost	\$205,174.20	\$176,622.60	\$173,510.40	\$186,005.40	\$186,576.60	-9.06%	5.64%	0.31%	\$571.20	
Effect of proposed commodity change on average annual bills:									\$571.20	

Note: Average Annual Average based on PNG Annual Automatic Adjustment Report in Docket No. E,G999/AA-13-600

\*As approved in Docket No. G011/MR-13-732; to coincide with implementation of interim rates in Docket No. G011/GR-13-617

## MINNESOTA ENERGY RESOURCES - CONSOLIDATED

DEMAND									
Contract Type	Contract	Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs	Rate Case Sales (therms)	Cost/Ccf	
<b>Viking (VGT)</b>									
FT-A ZONE 1 - 1	AF0012	Annual	12,493	12	\$3.3978	\$ 509,385	45,118,157	\$0.01129	
FT-A ZONE 1 - 1	AF0014 (3)	Winter	1,098	3	\$3.3978	\$ 11,192	45,118,157	\$0.00025	
FT-A ZONE 1 - 1	AF0102	Annual	2,000	12	\$3.3978	\$ 81,547	45,118,157	\$0.00181	
FA-A ZONE 1 - 1	AF0203	Dec-Feb	1,500	3	\$3.7043	\$ 16,669	45,118,157	\$0.00037	
<b>VGT Demand</b>			17,091			<b>\$ 618,793</b>	45,118,157	<b>\$0.01371</b>	
<b>Great Lakes (GLGT)</b>									
FT Western Zone	FT0016	Annual	10,130	12	\$3.8490	\$ 467,886	45,118,157	\$0.01037	
FT Western Zone (12)	FT0155 (12)	Annual	3,600	12	\$3.8490	\$ 166,277	45,118,157	\$0.00369	
FT Western Zone (5)	FT0155 (5)	Winter	3,638	5	\$3.8490	\$ 70,013	45,118,157	\$0.00155	
FT Western Zone	FT15782	Annual	9,000	12	\$3.8490	\$ 415,693	45,118,157	\$0.00921	
<b>GLGT Demand</b>			26,368			<b>\$ 1,119,869</b>	45,118,157	<b>\$0.02482</b>	
<b>Centra</b>									
CENTRA TRANSMISSION	(\$Cdn/103M3)				\$255.8270				
Conversion (103M3 x Rate(C\$ 103M3)		Annual	9,500	12	\$7.2470	\$ 826,161	45,118,157	\$0.01831	
CENTRA MINNESOTA PIPELINES		Annual	9,500	12	\$1.7780	\$ 202,692	45,118,157	\$0.00449	
<b>Centra Demand</b>			9,500			<b>\$ 1,028,853</b>	45,118,157	<b>\$0.02280</b>	
<b>AECO</b>									
Niska Storage (AECO)		Annual	947,820	1	\$0.7263	\$ 688,362	45,118,157	\$0.01526	
AECO/Emerson Swap		Annual	947,823	1	\$0.5200	\$ 417,042	45,118,157	\$0.00924	
<b>AECO Demand</b>						<b>\$ 1,105,404</b>	45,118,157	<b>\$0.02450</b>	
<b>Consolidated DEMAND - \$/Ccf</b>			<b>52,959</b>			<b>\$ 3,872,919</b>		<b>\$0.08584</b>	
<b>For Joint Rate Demand</b>					<b>45,118,157</b>	<b>Annual Firm Sales in therms</b>			
<b>Viking (VGT)</b>									
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			1,500	3		4,500			
<b>Great Lakes (GLGT)</b>									
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			
<b>Centra</b>									
CENTRA TRANSMISSION									
Conversion (103M3 x Rate(C\$ 103M3)			9,500	12		114,000			
CENTRA MINNESOTA PIPELINES			9,500	12		114,000			
<b>Total Demand Cost</b>						<b>\$ 3,872,919</b>			
<b>Total Demand Weighted Vol in Mcf</b>						<b>5,866,600</b>			
<b>Total Joint Demand Rate \$/Mcf</b>							<b>\$0.66016</b>		

**MERC-Consolidated**

PRESENT AVERAGE COST OF GAS  
COMMODITY

EFFECTIVE: 01-Aug-14

Attachment 4  
Page 3 of 6  
12:00 AM

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	Cost/therm	REFERENCE	Effective
<b>VGT</b>	<b>\$3.91030</b>							
GAS COST	\$3.91030							
FUEL 0.80%	\$0.03153						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
<b>VGT Commodity</b>	<b>\$3.95573</b>	<b>1,933,108</b>	<b>\$132,556</b>	<b>\$89,580</b>	<b>\$7,868,988</b>	<b>\$0.14640</b>	<b>VGT Commodity</b>	
<b>GLGT</b>								
GAS COST	\$3.91030							
FUEL 0.575%	\$0.02261							
COMMODITY TRANSPORTATION	\$0.00394						5 Revised Sheet 4	Jun 1, 1997
GRI	\$0.00000						Contract	Jun. 1, 2004
ACA	\$0.00120						18th Revised Sheet No. 7	Oct. 1, 2005
<b>GLGT Commodity</b>	<b>\$3.93805</b>	<b>2,436,860</b>	<b>\$167,099</b>	<b>\$0</b>	<b>\$9,763,574</b>	<b>\$0.18165</b>	<b>GLGT Commodity</b>	
<b>CENTRA</b>								
CENTRA TRANSMISSION (\$Cdn/103M3)	1.062						Sheet 1 (N.E.B.)	
Conversion	\$0.02760							
GAS COSTS	\$3.91030							
CUSTOMS FEE	\$0.00040							
<b>CENTRA Commodity</b>	<b>\$3.93830</b>	<b>1,004,857</b>	<b>\$68,904</b>	<b>\$54,000</b>	<b>\$4,080,330</b>	<b>\$0.07592</b>	<b>Centra Commodity</b>	
<b>Consolidated Weighted Average gas cost</b>		<b>5,374,824</b>	<b>\$368,559</b>	<b>\$143,580</b>	<b>\$21,712,891</b>	<b>\$0.40397</b>	<b>Consolidated WACOG-\$/therm</b>	
<b>Total Annual Sales in therms</b>		<b>53,748,240</b>						

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	4,500	12	\$1.0000	\$54,000

## 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 Aug. 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 \$	
<b>1) General Service Residential Avg. Annual Use:</b>						<b>93</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	\$4.2454	-5.29%	-6.16%	5.45%	\$0.2193	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.6134	-25.72%	-23.15%	-28.56%	(\$0.2452)	
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	\$7.1137	\$7.0878	-5.96%	-6.67%	-0.36%	(\$0.0259)	
Avg Annual Cost	\$700.97	\$626.96	\$618.13	\$661.57	\$659.16	-5.96%	-6.67%	-0.36%	(\$2.41)	
Effect of proposed commodity change on average annual bills:									\$20.39	
Effect of proposed demand change on average annual bills:									(\$22.80)	
<b>2) Large General Service: Avg. Annual Use:</b>						<b>5,383</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.3688	\$3.3921	\$4.0261	\$4.2454	-5.29%	26.02%	5.45%	\$0.2193	
Demand Cost	\$0.8258	\$1.3431	\$1.4012	\$0.8586	\$0.6134	-25.72%	-54.33%	-28.56%	(\$0.2452)	
Commodity Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000	
Total Cost of Gas	\$7.2117	\$6.3987	\$6.4801	\$6.7881	\$6.7622	-6.23%	5.68%	-0.38%	(\$0.0259)	
Avg Annual Cost	\$38,820.58	\$34,444.20	\$34,882.38	\$36,540.34	\$36,400.88	-6.23%	5.68%	-0.38%	(\$139.46)	
Effect of proposed commodity change on average annual bills:									\$1,180.49	
Effect of proposed demand change on average annual bills:									(\$1,319.95)	
<b>3) SV Interruptible Service: Avg. Annual Use:</b>						<b>6,699</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.3688	\$3.3921	\$4.0261	\$4.2454	-5.29%	26.02%	5.45%	\$0.2193	
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	\$4.4335	\$4.4568	\$5.2275	\$5.4468	-4.17%	22.86%	4.20%	\$0.2193	
Avg Annual Cost	\$38,076.45	\$29,700.02	\$29,856.10	\$35,019.02	\$36,488.11	-4.17%	22.86%	4.20%	\$1,469.09	
Effect of proposed commodity change on average annual bills:									\$1,469.09	
<b>4) LV Interruptible Service: Avg. Annual Use:</b>						<b>42,000</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.3688	\$3.3921	\$4.0261	\$4.2454	-5.29%	26.02%	5.45%	\$0.2193	
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	\$3.7256	\$3.7489	\$4.4287	\$4.6480	-4.85%	24.76%	4.95%	\$0.2193	
Avg Annual Cost	\$205,174.20	\$156,475.20	\$157,453.80	\$186,005.40	\$195,216.00	-4.85%	24.76%	4.95%	\$9,210.60	
Effect of proposed commodity change on average annual bills:									\$9,210.60	

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



**MINNESOTA ENERGY RESOURCES - CONSOLIDATED**

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

DEMAND									Cost/Ccf
Contract Type		Season	Monthly Entitlement		Rate (\$/Dth)	Contract Costs	Rate Case Sales (therms)		
			(Dth)	Months					
<b>Viking (VGT)</b>									
FT-A ZONE 1 - 1	AF0012	Annual	12,493	12	\$3.3978	\$ 509,385	45,118,157		\$0.01129
FT-A ZONE 1 - 1	AF0014 (3)	Winter	1,098	3	\$3.3978	\$ 11,192	45,118,157		\$0.00025
FT-A ZONE 1 - 1	AF0102	Annual	2,000	12	\$3.3978	\$ 81,547	45,118,157		\$0.00181
FA-A ZONE 1 - 1		Dec-Feb	1,500	3	\$3.7043	\$ 16,669	45,118,157		\$0.00037
<b>VGT Demand</b>						<b>\$ 618,793</b>	45,118,157		<b>\$0.01371</b>
<b>Great Lakes (GLGT)</b>									
FT Western Zone	FT0016	Annual	10,130	12	\$3.8490	\$ 467,886	45,118,157		\$0.01037
FT Western Zone (12)	FT0155 (12)	Annual	3,600	12	\$3.8490	\$ 166,277	45,118,157		\$0.00369
FT Western Zone (5)	FT0155 (5)	Winter	3,638	5	\$3.8490	\$ 70,013	45,118,157		\$0.00155
FT Western Zone	FT15782	Annual	9,000	12	\$3.8490	\$ 415,693	45,118,157		\$0.00921
<b>GLGT Demand</b>						<b>\$ 1,119,869</b>	45,118,157		<b>\$0.02482</b>
<b>Centra</b>									
CENTRA TRANSMISSION	(\$Cdn/103M3)				\$255.8270				
Conversion (103M3 x Rate(C\$ 103M3)		Annual	9,500	12	\$7.2470	\$ 826,161	45,118,157		\$0.01831
CENTRA MINNESOTA PIPELINES		Annual	9,500	12	\$1.7780	\$ 202,692	45,118,157		\$0.00449
<b>Centra Demand</b>						<b>\$ 1,028,853</b>	45,118,157		<b>\$0.02280</b>
<b>AECO</b>									
Niska Storage (AECO)		Annual	947,820	1	\$0.7263	\$ -	45,118,157		\$0.00000
AECO/Emerson Swap		Annual	947,823	1	\$0.5200	\$ -	45,118,157		\$0.00000
<b>AECO Demand</b>						<b>\$ -</b>	45,118,157		<b>\$0.00000</b>
<b>NMU DEMAND - \$/Ccf</b>						<b>\$ 2,767,515</b>			<b>\$0.06134</b>
<b>For Joint Rate Demand</b>					<b>45,118,157</b>	<b>Annual Firm Sales in therms</b>			
			<b>Units Dth's</b>	<b>Months</b>	<b>Annual Dth's</b>				
<b>Viking (VGT)</b>									
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				
Wadena Delivered GDD Option			3,500	3	10,500				
Balancing Agreement			7,465	12	89,580				
<b>Great Lakes (GLGT)</b>									
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				
<b>Centra</b>									
CENTRA TRANSMISSION									
Conversion (103M3 x Rate(C\$ 103M3)			9,500	12	114,000				
Union Balancing			4,500	12	54,000				
CENTRA MINNESOTA PIPELINES			9,500	12	114,000				
<b>Total Demand Cost</b>						<b>\$ 2,767,515</b>			
<b>Total Demand Weighted Vol in Mcf</b>							<b>5,926,600</b>		
<b>Total Joint Demand Rate \$/Mcf</b>									<b>\$0.46697</b>

**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-Aug-14

	Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs	Annual Sales (therms)	Rate (\$/therm)
Niska Storage (AECO)	Annual	947,820	1	\$ 0.72626	\$688,362.0	53,748,240	\$0.01281
AECO/Emerson Swap	Annual	947,823	1	\$ 0.52000	\$417,042	53,748,240	\$0.00776
					\$1,105,404	53,748,240	\$0.02057

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	Cost/therm	REFERENCE	Effective
<b>VGT</b>								
GAS COST	\$3.91030							
FUEL 0.80%	\$0.03153						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
<b>VGT Commodity</b>	\$3.95573	1,933,108	\$132,556	\$89,580	\$7,868,988	\$0.14640	<b>VGT Commodity</b>	
<b>GLGT</b>								
GAS COST	\$3.91030							
FUEL 0.575%	\$0.02261						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							
<b>GLGT Commodity</b>	\$3.93805	2,436,860	\$167,099	\$0	\$9,763,574	\$0.18165	<b>GLGT Commodity</b>	
<b>CENTRA</b>								
CENTRA TRANSMISSION (\$Cdn/103M3)	1.062						Sheet 1 (N.E.B.)	
Conversion	\$0.02760							
GAS COSTS	\$3.91030							
CUSTOMS FEE	\$0.00040							
<b>CENTRA Commodity</b>	\$3.93830	1,004,857	\$68,904	\$54,000	\$4,080,330	\$0.07592	<b>Centra Commodity</b>	
<b>Consolidated Weighted Average gas cost</b>		<b>5,374,824</b>	<b>\$368,559</b>	<b>\$143,580</b>	<b>\$21,712,891</b>	<b>\$0.40397</b>	<b>Consolidated WACOG-\$/therm</b>	
<b>Total Annual Sales in therms</b>		<b>53,748,240</b>						

Balancing Service		Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs
Pipeline	Description					
VGT	Balancing Agreement	Annual	7,465	12	\$1.0000	\$89,580
GLGT	---		0	0	\$0.0000	\$0
Centra	Union Balancing	Annual	4,500	12	\$1.0000	\$54,000

**Total Commodity Cost: \$0.42454**

## 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>		
No GDD Peakers											-	-

#### 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>
No GDD Peakers											\$ -	\$ -

#### 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/xx/14	1,034	07/16/14	835	07/10/14	197	8/xx/2014	1,016	06/20/14	370	3,452	102,935
4	09/xx/14	1,034	8/xx/2014	835	07/10/14	889	9/xx/2014	871	06/20/14	370	3,998	120,301
5	10/xx/14	948	9/xx/2014	626	8/xx/2014	987	10/xx/2014	871	07/21/14	1,478	4,911	148,681
6			10/xx/2014	626	9/xx/2014	987	01/00/00		8/xx/2014	1,405	3,018	93,566
7					10/xx/2014	987	01/00/00			1,405	2,392	74,154
8							01/00/00			1,331	1,331	41,250
9							01/00/00				-	-
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	8/xx/2014	1,082	08/14/14	1,677	8/xx/2014	1,871	8/xx/2014	1,844	8/xx/2014	1,548	8,023	242,103
4	9/xx/2014	1,210	9/xx/2014	1,677	9/xx/2014	1,871	9/xx/2014	1,844	9/xx/2014	1,548	8,150	245,923
5	10/xx/2014	1,210	10/xx/2014	1,742	10/xx/2014	1,931	10/xx/2014	1,910	10/xx/2014	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	\$ 0.2380	\$11,900	\$ 0.3450	\$19,365	\$ 0.3750	\$19,362	\$ 0.3960	\$ 18,216	\$ 0.3241	\$ 76,571
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	\$ 0.2300	\$ 7,469	\$ 0.2305	\$11,986	\$ 0.2910	\$16,878	\$ 0.3400	\$17,555	\$ 0.4035	\$ 19,368	\$ 0.3026	\$ 73,255
4	\$ 0.2300	\$ 8,347	\$ 0.2305	\$11,986	\$ 0.2910	\$16,878	\$ 0.3400	\$17,555	\$ 0.4035	\$ 19,368	\$ 0.3015	\$ 74,134
5	\$ 0.2300	\$ 8,347	\$ 0.2305	\$12,447	\$ 0.2910	\$17,422	\$ 0.3400	\$18,182	\$ 0.4035	\$ 20,175	\$ 0.3019	\$ 76,573
6												
7												
Total	<u>\$ 0.2300</u>	<u>\$ 39,100</u>	<u>\$ 0.2304</u>	<u>\$ 59,915</u>	<u>\$ 0.2907</u>	<u>\$ 84,289</u>	<u>\$ 0.3400</u>	<u>\$ 88,400</u>	<u>\$ 0.4036</u>	<u>\$ 96,855</u>	<u>\$ 0.3021</u>	<u>\$ 368,559</u>
		<u>\$ 204,700</u>		<u>\$ 299,575</u>		<u>\$ 450,510</u>		<u>\$ 479,400</u>		<u>\$ 484,275</u>		<u>\$ 1,918,460</u>

#### Units - Collar Floor (put)

No Puts were purchased.

## MINNESOTA ENERGY RESOURCES - CONSOLIDATED

### Rate Impacts Consolidated

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.0397	-9.88%	7.03%	0.34%	\$0.0136
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	-4.28%	-0.02%	(\$0.0002)
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	\$7.1137	\$7.1271	-5.44%	7.23%	0.19%	\$0.0134
Average Annual Use	90	90	90	90	90				
Average Annual Cost of Gas	\$678.36	\$606.74	\$598.19	\$640.23	\$641.44	-5.44%	7.23%	0.19%	\$1.21

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.0397	-9.88%	7.03%	0.34%	\$0.0136
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	-4.28%	-0.02%	(\$0.0002)
Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$7.2117	\$6.4529	\$6.3580	\$6.7881	\$6.8015	-5.69%	6.98%	0.20%	\$0.0134
Average Annual Use	4,932	4,932	4,932	4,932	4,932				
Average Annual Cost of Gas	\$35,568.10	\$31,825.70	\$31,357.66	\$33,478.91	\$33,544.97	-5.69%	6.98%	0.20%	\$66.06

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.0397	-9.88%	7.03%	0.34%	\$0.0136
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	\$5.2275	\$5.2411	-7.79%	8.31%	0.26%	\$0.0136
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	\$31,720.47	\$31,802.99	-7.79%	8.31%	0.26%	\$82.52

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.0397	-9.88%	7.03%	0.34%	\$0.0136
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	\$4.4287	\$4.4423	-9.06%	7.53%	0.31%	\$0.0136
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	\$180,783.96	\$181,339.13	-9.06%	7.53%	0.31%	\$555.17

November Change Summary	Commodity Change \$/Mcf	Commodity Change %	Demand Change \$/Mcf	Demand Change %	Total Change \$/Mcf	Total Change %	Average Annual Change
General Service	\$0.0136	0.34%	(\$0.0002)	-0.02%	\$0.0134	0.19%	\$1.21
Large General Service	\$0.0136	0.34%	(\$0.0002)	-0.02%	\$0.0134	0.20%	\$66.06
SV Interruptible Service	\$0.0136	0.34%			\$0.0136	0.26%	\$82.52
LV Interruptible Service	\$0.0136	0.34%			\$0.0136	0.31%	\$555.17

## 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 Aug. 2014	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	\$4.0261	\$4.2454	-5.29%	12.48%	5.45%	\$0.2193
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.6134	-25.72%	-31.60%	-28.56%	(\$0.2452)
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	\$7.1137	\$7.0878	-5.96%	6.64%	-0.36%	(\$0.0259)
Average Annual Use	90	90	90	90	90				
Average Annual Cost of Gas*	\$678.36	\$606.74	\$598.19	\$640.23	\$637.90	-5.96%	6.64%	-0.36%	(\$2.33)

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.2454	-5.29%	12.48%	5.45%	\$0.2193
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.6134	-25.72%	-31.60%	-28.56%	(\$0.2452)
Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$7.2117	\$6.4529	\$6.3580	\$6.7881	\$6.7622	-6.23%	6.36%	-0.38%	(\$0.0259)
Average Annual Use	4,932	4,932	4,932	4,932	4,932				
Average Annual Cost of Gas*	\$35,568.10	\$31,825.70	\$31,357.66	\$33,478.91	\$33,351.13	-6.23%	6.36%	-0.38%	(\$127.77)

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.2454	-5.29%	12.48%	5.45%	\$0.2193
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	\$5.2275	\$5.4468	-4.17%	12.56%	4.20%	\$0.2193
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	\$31,720.47	\$33,051.18	-4.17%	12.56%	4.20%	\$1,330.71

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	\$4.2454	-5.29%	12.48%	5.45%	\$0.2193
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	\$4.4287	\$4.6480	-4.85%	12.51%	4.95%	\$0.2193
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	\$180,783.96	\$189,736.01	-4.85%	12.51%	4.95%	\$8,952.05

	Commodity Change \$/Mcf	Commodity Change %	Demand Change \$/Mcf	Demand Change %	Total Change \$/Mcf	Total Change %	Average Annual Change
November Change Summary							
General Service	\$0.2193	5.45%	(\$0.2452)	-28.56%	(\$0.0259)	-0.36%	(\$2.33)
Large General Service	\$0.2193	5.45%	(\$0.2452)	-28.56%	(\$0.0259)	-0.38%	(\$127.77)
SV Interruptible Service	\$0.2193	5.45%			\$0.2193	4.20%	\$1,330.71
LV Interruptible Service	\$0.2193	5.45%			\$0.2193	4.95%	\$8,952.05

\* 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

	Consolidated					Aug. 2014	Nov. 2014	Total Annual Cost
	Aug. 2014	Nov. 2014	Entitlement	Nov. 2014	Months	Aug. 2014	Nov. 2014	Total Annual Cost
	Entitlements	Entitlements	Change	Rate		Total Annual Cost	Total Annual Cost	Change
<b>Costs Assigned in Demand Charge</b>								
<u>Viking Pipeline</u>								
AF0012	12,493	12,493	0	\$ 3.3978	12	\$510,212	\$509,385	-\$827
AF0014 (3)	1,098	1,098	0	\$ 3.3978	3	\$11,211	\$11,192	-\$19
AF0102	2,000	2,000	0	\$ 3.3978	12	\$81,680	\$81,547	-\$133
FA-A ZONE 1 - 1	1,500	1,500	0	\$ 3.7043	3	\$16,669	\$16,669	\$0
<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	3,600	0	\$ 3.8490	12	\$166,277	\$166,277	\$0
FT Western Zone (5)	3,638	3,638	0	\$ 3.8490	5	\$70,013	\$70,013	\$0
FT Western Zone	9,000	9,000	0	\$ 3.8490	12	\$415,693	\$415,693	\$0
<u>CENTRA Pipeline</u>								
CENTRA Transmission (\$cdn/103M3)	9,500	9,500	0	\$ 7.2470	12	\$826,161	\$826,161	\$0
Centra MN Pipelines	9,500	9,500	0	\$ 1.7780	12	\$202,692	\$202,692	\$0
<b>Total Costs Assigned to Demand Charge</b>						<b>\$2,768,494</b>	<b>\$2,767,515</b>	<b>-\$979</b>
<b>Costs Assigned in Commodity Charge</b>								
<u>Niska Storage (AECO)</u>								
Niska Storage (AECO)	947,820	947,820	0	\$ 0.7263	1	\$688,362	\$688,362	\$0
AECO/Emerson Swap	947,823	947,823	0	\$ 0.5200	1	\$417,042	\$417,042	\$0
<u>Balancing</u>								
VGT Balancing Agreement	7,465	7,465	0	\$ 1.0000	12	\$89,580	\$89,580	\$0
Union Balancing	4,500	4,500	0	\$ 1.0000	12	\$54,000	\$54,000	\$0
Call Options Premium						\$295,511	\$368,559	\$73,048
<b>Total Costs Assigned to Commodity Charge</b>						<b>\$1,544,495</b>	<b>\$1,617,543</b>	<b>\$73,048</b>

**MINNESOTA ENERGY RESOURCES - CONSOLIDATED**

**GLGT**

	1/20	HDD	Customer	1/20	
	Design Day	HDD	Regression	Intercept	Slope
Peak	105	3,337	231	0.30%	24,832
Off Peak	57	3,337	231	0.30%	15,827
					<b>Total</b>

**VGT**

	1/20	HDD	Customer	1/20	
	Design Day	HDD	Regression	Intercept	Slope
Peak	109	3,519	173	0.30%	17,350
Off Peak	57	3,519	173	0.30%	11,287
					<b>Total</b>

**Centra**

	1/20	HDD	Customer	1/20	
	Design Day	HDD	Regression	Intercept	Slope
Peak	107	1,874	78	0.30%	7,717
Off Peak	57	1,874	78	0.30%	4,963
					<b>Total</b>

**Consolidated**

	1/20	HDD	Customer	1/20	
	Design Day	HDD	Regression	Intercept	Slope
Peak		8,730	482	0.30%	49,899
Off Peak		8,730	482	0.30%	32,077
					<b>Total</b>

**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	
<b>MN Requirements</b>			569,086		848,644		950,643		849,068		784,176		4,001,617	4,001,617
<b>GLGT -MN</b>			18,970		27,376		30,666		784,176		25,296		26,501	
	<b>70%</b>		398,360		594,051		665,450		594,348		548,923		2,801,132	
	<b>40%</b>		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	
	<b>30%</b>		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	
	<b>Total</b>	<b>15</b>	<b>150,000</b>	<b>11</b>	<b>110,000</b>	<b>15</b>	<b>150,000</b>	<b>13</b>	<b>130,000</b>	<b>22</b>	<b>220,000</b>	<b>76</b>	<b>760,000</b>	<b>18.99%</b>
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	
	<b>Total</b>	<b>17</b>	<b>170,000</b>	<b>26</b>	<b>260,000</b>	<b>29</b>	<b>290,000</b>	<b>26</b>	<b>260,000</b>	<b>24</b>	<b>240,000</b>	<b>122</b>	<b>1,220,000</b>	<b>30.49%</b>
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	
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
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	
	<b>Total</b>		<b>320,010</b>		<b>370,016</b>		<b>440,014</b>		<b>390,012</b>		<b>460,009</b>		<b>1,980,061</b>	<b>49.48%</b>
Physical Hedges			0		0		0		0		0		0	
Storage			85,304		231,769		231,769		209,339		96,374		854,555	<b>21.36%</b>
Prepaid Obl			0		0		0		0		0		0	<b>0.00%</b>
			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	<b>0.00%</b>
	Sep-14	0	0	0	0	0	0	0	0	0	0	0	0	<b>0.00%</b>
	Oct-14	0	0	0	0	0	0	0	0	0	0	0	0	<b>0.00%</b>
<b>Total NNG MN</b>													760,000	<b>18.99%</b>
Contracts													1,220,000	<b>30.49%</b>
Call Options													0	<b>0.00%</b>
Costing Collar													854,555	<b>21.36%</b>
Storage													0	<b>0.00%</b>
Prepaid Obl													0	<b>0.00%</b>
Term Index													0	<b>0.00%</b>
Month/Daily													1,167,062	<b>29.16%</b>
<b>Total</b>													4,001,617	<b>100.00%</b>

NOTE:





# MINNESOTA ENERGY RESOURCES - Consolidated

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

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

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

3/14/14	58	45	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

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
<b>Total</b>		<b>33,636</b>	<b>33,296</b>	<b>33,024</b>	<b>33,326</b>	<b>32,959</b>	<b>34,206</b>	<b>35,093</b>	<b>33,861</b>	<b>33,572</b>	<b>33,812</b>	<b>33,780</b>	<b>34,035</b>	<b>33,717</b>





# 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	\$ 4.1998	\$ 1,912,006	\$ 61,422	\$ 266,164	\$ 2,239,593	85,304	\$ 4.2134	\$ 359,423
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4,804,528	\$ 154,343	\$ 668,822	\$ 5,627,693	231,769	\$ 4.2134	\$ 976,543
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4,804,528	\$ 154,343	\$ 668,822	\$ 5,627,693	231,769	\$ 4.2134	\$ 976,543
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4,804,528	\$ 154,343	\$ 668,822	\$ 5,627,693	209,339	\$ 4.2134	\$ 882,035
Mar-15	455,259	14,625	63,375	533,259	\$ 4.1998	\$ 1,912,006	\$ 61,422	\$ 266,164	\$ 2,239,593	96,374	\$ 4.2134	\$ 406,065
<b>Total</b>	<b>4,342,470</b>	<b>139,500</b>	<b>604,500</b>	<b>5,086,470</b>	<b>\$ 4.1998</b>	<b>\$ 18,237,598</b>	<b>\$ 585,875</b>	<b>\$ 2,538,792</b>	<b>\$ 21,362,265</b>	<b>854,555</b>	<b>\$ 4.2134</b>	<b>\$ 3,600,608</b>

Month/ Year	NNG Storage Volume	NNG Indexes Price	NNG Indexes Cost	AECO Storage Volume	Emerson LDS + Basis	Emerson LDS + Cost
Nov-14	533,259	\$ 3.9955	\$ 2,130,636	85,304	\$ 4.2080	\$ 358,959
Dec-14	1,339,984	\$ 4.2065	\$ 5,636,643	231,769	\$ 4.4890	\$ 1,040,411
Jan-15	1,339,984	\$ 4.3310	\$ 5,803,471	231,769	\$ 4.8310	\$ 1,119,676
Feb-15	1,339,984	\$ 4.2985	\$ 5,759,921	209,339	\$ 4.7110	\$ 986,196
Mar-15	533,259	\$ 4.1410	\$ 2,208,226	96,374	\$ 4.5560	\$ 439,080
<b>Total</b>	<b>5,086,470</b>	<b>\$ 4.2345</b>	<b>\$ 21,538,896</b>	<b>854,555</b>	<b>\$ 4.6156</b>	<b>\$ 3,944,322</b>

Max NNG Storage (Storage plan withdrawals through Apr 14)	5,086,470	5,469,321	07/30/14 Storage Balance - NNG	2,095,947	38.32%	1,949,231
Max AECO Storage	854,555	947,820	07/30/14 Storage Balance - AECC	567,143	59.84%	511,336
						41.42%

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#125344 NNG WACOG	K#118657 K#125345 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	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 2,239,593	\$ 3.9955	\$ 2,130,636	\$ 108,956
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 5,627,693	\$ 4.2065	\$ 5,636,643	\$ (8,949)
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 5,627,693	\$ 4.3310	\$ 5,803,471	\$ (175,777)
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 5,627,693	\$ 4.2985	\$ 5,759,921	\$ (132,228)
Mar-15	455,259	14,625	63,375	533,259	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 2,239,593	\$ 4.1410	\$ 2,208,226	\$ 31,367
<b>Total</b>	<b>4,342,470</b>	<b>139,500</b>	<b>604,500</b>	<b>5,086,470</b>	<b>\$ 4.1998</b>	<b>\$ 4.1998</b>	<b>\$ 4.1998</b>	<b>\$ 21,362,265</b>	<b>\$ 4.2345</b>	<b>\$ 21,538,896</b>	<b>\$ (176,631)</b>
								\$ 4.1998	\$ (0.2690)	\$ (176,631)	

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	\$ 4.2134	\$ 359,423	\$ 4.2080	\$ 358,959	\$ 463
Dec-14	231,769	\$ 4.2134	\$ 976,543	\$ 4.4890	\$ 1,040,411	\$ (63,868)
Jan-15	231,769	\$ 4.2134	\$ 976,543	\$ 4.8310	\$ 1,119,676	\$ (143,133)
Feb-15	209,339	\$ 4.2134	\$ 882,035	\$ 4.7110	\$ 986,196	\$ (104,161)
Mar-15	96,374	\$ 4.2134	\$ 406,065	\$ 4.5560	\$ 439,080	\$ (33,015)
<b>Total</b>	<b>854,555</b>	<b>\$ 4.2134</b>	<b>\$ 3,600,608</b>	<b>\$ 4.6156</b>	<b>\$ 3,944,322</b>	<b>\$ (343,714)</b>
			\$ 3.2341	\$ (0.8488)	\$ (343,714)	





First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Michael	Ahern	ahern.michael@dorsey.com	Dorsey & Whitney, LLP	50 S 6th St Ste 1500  Minneapolis, MN 554021498	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Michael	Bradley	mike.bradley@lawmoss.com	Moss & Barnett	Suite 4800 90 S 7th St Minneapolis, MN 55402-4129	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 500  Saint Paul, MN 551012198	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Daryll	Fuentes	N/A	USG	550 W. Adams Street  Chicago, IL 60661	Paper Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Burl W.	Haar	burl.haar@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East St. Paul, MN 551012147	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Amber	Lee	ASLee@minnesotaenergyresources.com	Minnesota Energy Resources Corporation	2665 145th Street West  Rosemount, MN 55068	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
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	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Brian	Meloy	brian.meloy@stinsonleonard.com	Stinson, Leonard, Street LLP	150 S 5th St Ste 2300  Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Andrew	Moratzka	apmoratzka@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Gregory	Walters	gjwalters@minnesotaenergyresources.com	Minnesota Energy Resources Corporation	3460 Technology Dr. NW Rochester, MN 55901	Electronic Service	No	GEN_SL_Minnesota Energy Resources Corporation_General Service List

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Michael	Ahern	ahern.michael@dorsey.com	Dorsey & Whitney, LLP	50 S 6th St Ste 1500  Minneapolis, MN 554021498	Electronic Service	No	OFF_SL_13-617_Official cc service list
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_13-617_Official cc service list
Seth	DeMerritt	ssdemerritt@integrysgroup.com	Integrys Business Support	700 North Adams P.O. Box 19001 Green Bay, WI 543079001	Electronic Service	No	OFF_SL_13-617_Official cc service list
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	Yes	OFF_SL_13-617_Official cc service list
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_13-617_Official cc service list
Robert	Harding	robert.harding@state.mn.us	Public Utilities Commission	Suite 350 121 7th Place East  St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_13-617_Official cc service list
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_13-617_Official cc service list
Harry W	John	HWJohn@integrysgroup.com	MERC, Integrys	700 North Adams PO Box 19001 Green Bay, WI 54307-9001	Electronic Service	No	OFF_SL_13-617_Official cc service list
David G.	Kult	dgkult@minnesotaenergyresources.com	Minnesota Energy Resources Corporation	2665 145th St. NW  Rosemount, MN 55068	Electronic Service	No	OFF_SL_13-617_Official cc service list
David	Kyto	djkyto@integrysgroup.com	Integrys Business Support	700 North Adams PO Box 19001 Green Bay, WI 543079001	Electronic Service	No	OFF_SL_13-617_Official cc service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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_13-617_Official cc service list
Eric	Lipman	eric.lipman@state.mn.us	Office of Administrative Hearings	PO Box 64620  St. Paul, MN 551640620	Electronic Service	Yes	OFF_SL_13-617_Official cc service list
Peter	Madsen	peter.madsen@ag.state.mn.us	Office of the Attorney General-DOC	Bremer Tower, Suite 1800 445 Minnesota Street St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_13-617_Official cc service list
Chad T	Marriott	ctmarriott@stoel.com	Stoel Rives LLP	900 SW 5th Ave Ste 2600  Portland, OR 97204	Electronic Service	No	OFF_SL_13-617_Official cc service list
Andrew	Moratzka	apmoratzka@stoel.com	Stoel Rives LLP	33 South Sixth Street Suite 4200 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_13-617_Official cc service list
Barbara	Nick	banick@integrysgroup.com	Minnesota Energy Resources Corporation	2665 145th Street PO Box 455 Rosemount, MN 55068-0455	Electronic Service	No	OFF_SL_13-617_Official cc service list
Richard	Savelkoul	rsavelkoul@martinsquires.com	Martin & Squires, P.A.	332 Minnesota Street Ste W2750  St. Paul, MN 55101	Electronic Service	No	OFF_SL_13-617_Official cc service list
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	Ste 122 9100 W Bloomington Frwy Bloomington, MN 55431	Electronic Service	Yes	OFF_SL_13-617_Official cc service list
Kristin	Stastny	stastny.kristin@dorsey.com	Dorsey & Whitney LLP	50 South 6th Street Suite 1500 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_13-617_Official cc service list
Gregory	Walters	gjwalters@minnesotaenergyresources.com	Minnesota Energy Resources Corporation	3460 Technology Dr. NW  Rochester, MN 55901	Electronic Service	No	OFF_SL_13-617_Official cc service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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_13-617_Official cc service list



**MINNESOTA ENERGY RESOURCES - Consolidated****DESIGN-DAY DEMAND SUMMARY**

#REF!

Design Day Requirement	50,048
Total Peak Day Entitlement	52,959
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		% of total load	Regression Total Footnote 1	Regression Adjustment Footnote 2	1/20 Requirements Regression Load Footnote 3	2008/09 Customer Growth	Total
			Intercept	Slope						

VGT										
VGT	10,461	109	3,025	143		19,375	5,201	14,174	0.3%	14,217
**VGT/GLGT	3,280	107	726	44	68.0%	3,980	804	3,176	0.3%	3,186
Peak	13,741		3,751	187				17,350		17,402
VGT	10,461	57	3,025	143		12,679	3,353	9,326	0.3%	9,354
VGT/GLGT	3,280	57	726	44	68.0%	2,480	519	1,961	0.3%	1,967
Off Peak	13,741		3,751	187				11,287		11,321

GLGT										
**VGT/GLGT	3,280	107	726	44	32.0%	1,873	378	1,495	0.3%	1,499
GLGT	14,976	105	3,105	217		28,707	5,370	23,337	0.3%	23,407
Peak	18,256		3,831	261				24,832		24,906
VGT/GLGT	3,280	57	726	44	32.0%	1,167	244	923	0.3%	926
GLGT	14,976	57	3,105	217		18,292	3,388	14,904	0.3%	14,949
Off Peak	18,256		3,831	261				15,827		15,874

Centra										
Peak	5,680	107	1,874	78		10,961	3,244	7,717	0.3%	7,740
Off Peak	5,680	57	1,874	78		7,056	2,093	4,963	0.3%	4,978

Total Consolidated										
Peak	34,397		8,730	482		64,896	14,997	49,899	0.3%	50,048
Off Peak	34,397		8,730	482		41,674	9,597	32,077	0.3%	32,173

**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**

#REF!

<b><u>Heating Season</u></b>	<b><u>No. of Firm Customers</u></b>	<b><u>Design Day Requirements</u></b>	<b><u>MMBtus /Customer /Day</u></b>
14/15	34,397	50,048	1.46
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>
<b>Total</b>	<u>1,702,327</u>	<u>4,001,614</u>	<u>5,703,941</u>

<b>MINNESOTA ENERGY RESOURCES - Consolidated</b>
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## ENTITLEMENT LEVELS

#REF!

<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	0	3,600
FT Western Zone (5)	FT0155 (5)	3,638	0	3,638
FT Western Zone	FT15782	9,000	0	9,000
FT-A ZONE 1 - 1	AF0012	12,493	0	12,493
FT-A ZONE 1 - 1	AF0014 (3)	1,098	0	1,098
FT-A ZONE 1 - 1	AF0102	2,000	0	2,000
FA-A ZONE 1 - 1		1,500	0	1,500
Wadena Delivered GDD Call Option		0	0	0
CENTRA FT-1		9,500	0	9,500
<b>Total Entitlement</b>		<b><u>52,959</u></b>	<b><u>0</u></b>	<b><u>52,959</u></b>
Forecasted Design Day-Adjusted		50,048	0	50,048
Capacity Surplus/Shortage		2,911	(0)	2,911
Reserve Margin		5.82%		5.82%

**MINNESOTA ENERGY RESOURCES - Consolidated**

**RATE IMPACT OF THE PROPOSED DEMAND CHANGE**

#REF!

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 Aug. 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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	3.55%	-0.02%	(\$0.0002)	
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	\$7.1137	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$700.97	\$626.96	\$618.13	\$661.57	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	
Effect of proposed demand change on average annual bills:									(\$0.02)	

2) Large General Service: Avg. Annual Use:					5,383	Dth				
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	-6.45%	-0.02%	(\$0.0002)	
Commodity Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000	
Total Cost of Gas	\$7.2117	\$6.4529	\$6.3580	\$6.7881	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$38,820.58	\$34,735.96	\$34,225.11	\$36,540.34	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	
Effect of proposed demand change on average annual bills:									(\$1.10)	

3) SV Interruptible Service: Avg. Annual Use:					6,699	Dth				
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
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	\$5.2275	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$38,076.45	\$32,913.53	\$32,417.13	\$35,019.02	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	

4) LV Interruptible Service: Avg. Annual Use:					42,000	Dth				
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
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	\$4.4287	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$205,174.20	\$176,622.60	\$173,510.40	\$186,005.40	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	

#REF!

#REF!



MERC-Consolidated

Attachment 4

PRESENT AVERAGE COST OF GAS  
COMMODITY

EFFECTIVE:

01-Aug-14

Page 3 of 6

12:00 AM

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	Cost/therm	REFERENCE	Effective
<b>VGT</b>								
GAS COST	\$3.91030							
FUEL 0.80%	\$0.03153						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
<b>VGT Commodity</b>	\$3.95573	1,933,108	#REF!	\$89,580	#REF!	#REF!	<b>VGT Commodity</b>	
<b>GLGT</b>								
GAS COST	\$3.91030							
FUEL 0.575%	\$0.02261							
COMMODITY TRANSPORTATION	\$0.00394						5 Revised Sheet 4	Jun 1, 1997
GRI	\$0.00000						Contract	Jun. 1, 2004
ACA	\$0.00120						18th Revised Sheet No. 7	Oct. 1, 2005
<b>GLGT Commodity</b>	\$3.93805	2,436,860	#REF!	\$0	#REF!	#REF!	<b>GLGT Commodity</b>	
<b>CENTRA</b>								
CENTRA TRANSMISSION (\$Cdn/103M3)	1.062						Sheet 1 (N.E.B.)	
Conversion	\$0.02760							
GAS COSTS	\$3.91030							
CUSTOMS FEE	\$0.00040							
<b>CENTRA Commodity</b>	\$3.93830	1,004,857	#REF!	\$54,000	#REF!	#REF!	<b>Centra Commodity</b>	
<b>Consolidated Weighted Average gas cost</b>		<b>5,374,824</b>	<b>#REF!</b>	<b>\$143,580</b>	<b>#REF!</b>	<b>#REF!</b>	<b>Consolidated WACOG-\$/therm</b>	
Total Annual Sales in therms		53,748,240						

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	4,500	12	\$1.0000	\$54,000



**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 Aug. 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 \$	
<b>1) General Service Residential Avg. Annual Use:</b>						<b>93</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.8485	\$3.7744	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.6134	-25.72%	-23.15%	-28.56%	(\$0.2452)	
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	\$7.1137	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$700.97	\$626.96	\$618.13	\$661.57	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	
Effect of proposed demand change on average annual bills:									(\$22.80)	
<b>2) Large General Service: Avg. Annual Use:</b>						<b>5,383</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.3688	\$3.3921	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
Demand Cost	\$0.8258	\$1.3431	\$1.4012	\$0.8586	\$0.6134	-25.72%	-54.33%	-28.56%	(\$0.2452)	
Commodity Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000	
Total Cost of Gas	\$7.2117	\$6.3987	\$6.4801	\$6.7881	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$38,820.58	\$34,444.20	\$34,882.38	\$36,540.34	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	
Effect of proposed demand change on average annual bills:									(\$1,319.95)	
<b>3) SV Interruptible Service: Avg. Annual Use:</b>						<b>6,699</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.3688	\$3.3921	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
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	\$4.4335	\$4.4568	\$5.2275	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$38,076.45	\$29,700.02	\$29,856.10	\$35,019.02	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	
<b>4) LV Interruptible Service: Avg. Annual Use:</b>						<b>42,000</b>	<b>Dth</b>			
Commodity Cost	\$4.4825	\$3.3688	\$3.3921	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!	
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	\$3.7256	\$3.7489	\$4.4287	#REF!	#REF!	#REF!	#REF!	#REF!	
Avg Annual Cost	\$205,174.20	\$156,475.20	\$157,453.80	\$186,005.40	#REF!	#REF!	#REF!	#REF!	#REF!	
Effect of proposed commodity change on average annual bills:									#REF!	

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

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

DEMAND										Cost/Ccf
Contract Type		Season	Monthly Entitlement		Rate (\$/Dth)		Contract Costs	Rate Case Sales (therms)		
			(Dth)	Months						
<b>Viking (VGT)</b>										
FT-A ZONE 1 - 1	AF0012	Annual	12,493	12	\$3.3978	\$	509,385	45,118,157		\$0.01129
FT-A ZONE 1 - 1	AF0014 (3)	Winter	1,098	3	\$3.3978	\$	11,192	45,118,157		\$0.00025
FT-A ZONE 1 - 1	AF0102	Annual	2,000	12	\$3.3978	\$	81,547	45,118,157		\$0.00181
FA-A ZONE 1 - 1		Dec-Feb	1,500	3	\$3.7043	\$	16,669	45,118,157		\$0.00037
<b>VGT Demand</b>							<b>\$</b>	<b>618,793</b>	<b>45,118,157</b>	<b>\$0.01371</b>
<b>Great Lakes (GLGT)</b>										
FT Western Zone	FT0016	Annual	10,130	12	\$3.8490	\$	467,886	45,118,157		\$0.01037
FT Western Zone (12)	FT0155 (12)	Annual	3,600	12	\$3.8490	\$	166,277	45,118,157		\$0.00369
FT Western Zone (5)	FT0155 (5)	Winter	3,638	5	\$3.8490	\$	70,013	45,118,157		\$0.00155
FT Western Zone	FT15782	Annual	9,000	12	\$3.8490	\$	415,693	45,118,157		\$0.00921
<b>GLGT Demand</b>							<b>\$</b>	<b>1,119,869</b>	<b>45,118,157</b>	<b>\$0.02482</b>
<b>Centra</b>										
CENTRA TRANSMISSION (\$Cdn/103M3)					\$255.8270					
Conversion (103M3 x Rate(C\$ 103M3)		Annual	9,500	12	\$7.2470	\$	826,161	45,118,157		\$0.01831
CENTRA MINNESOTA PIPELINES		Annual	9,500	12	\$1.7780	\$	202,692	45,118,157		\$0.00449
<b>Centra Demand</b>							<b>\$</b>	<b>1,028,853</b>	<b>45,118,157</b>	<b>\$0.02280</b>
<b>AECO</b>										
Niska Storage (AECO)		Annual	947,820	1	\$0.7263	\$	-	45,118,157		\$0.00000
AECO/Emerson Swap		Annual	947,823	1	\$0.5200	\$	-	45,118,157		\$0.00000
<b>AECO Demand</b>							<b>\$</b>	<b>-</b>	<b>45,118,157</b>	<b>\$0.00000</b>
<b>NMU DEMAND - \$/Ccf</b>							<b>\$</b>	<b>2,767,515</b>		<b>\$0.06134</b>
<b>For Joint Rate Demand</b>								<b>45,118,157</b>	<b>Annual Firm Sales in therms</b>	
			<b>Units</b>	<b>Months</b>	<b>Annual</b>					
			<b>Dth's</b>		<b>Dth's</b>					
<b>Viking (VGT)</b>										
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					
Wadena Delivered GDD Option			3,500	3	10,500					
Balancing Agreement			7,465	12	89,580					
<b>Great Lakes (GLGT)</b>										
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					
<b>Centra</b>										
CENTRA TRANSMISSION										
Conversion (103M3 x Rate(C\$ 103M3)			9,500	12	114,000					
Union Balancing			4,500	12	54,000					
CENTRA MINNESOTA PIPELINES			9,500	12	114,000					
<b>Total Demand Cost</b>							<b>\$</b>	<b>2,767,515</b>		
<b>Total Demand Weighted Vol in Mcf</b>								<b>5,926,600</b>		
<b>Total Joint Demand Rate \$/Mcf</b>									<b>\$0.46697</b>	

**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-Aug-14

	Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs	Annual Sales (therms)	Rate (\$/therm)
Niska Storage (AECO)	Annual	947,820	1	\$ 0.72626	\$688,362.0	53,748,240	\$0.01281
AECO/Emerson Swap	Annual	947,823	1	\$ 0.52000	\$417,042	53,748,240	\$0.00776
					\$1,105,404	53,748,240	\$0.02057

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	Cost/therm	REFERENCE	Effective
<b>VGT</b>								
GAS COST	\$3.91030							
FUEL 0.80%	\$0.03153						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
<b>VGT Commodity</b>	\$3.95573	1,933,108	#REF!	\$89,580	#REF!	#REF!	<b>VGT Commodity</b>	
<b>GLGT</b>								
GAS COST	\$3.91030							
FUEL 0.575%	\$0.02261							
COMMODITY TRANSPORTATION	\$0.00394						5 Revised Sheet 4 Contract	Jun 1, 1997
GRI	\$0.00000						18th Revised Sheet No. 7	Jun. 1, 2004
ACA	\$0.00120							Oct. 1, 2005
<b>GLGT Commodity</b>	\$3.93805	2,436,860	#REF!	\$0	#REF!	#REF!	<b>GLGT Commodity</b>	
<b>CENTRA</b>								
CENTRA TRANSMISSION (\$Cdn/103M3)	1.062						Sheet 1 (N.E.B.)	
Conversion	\$0.02760							
GAS COSTS	\$3.91030							
CUSTOMS FEE	\$0.00040							
<b>CENTRA Commodity</b>	\$3.93830	1,004,857	#REF!	\$54,000	#REF!	#REF!	<b>Centra Commodity</b>	
<b>Consolidated Weighted Average gas cost</b>		<b>5,374,824</b>	#REF!	<b>\$143,580</b>	#REF!	#REF!	<b>Consolidated WACOG-\$/therm</b>	
Total Annual Sales in therms		53,748,240						

Balancing Service		Season	Monthly Entitlement (Dth)	Months	Rate (\$/Dth)	Contract Costs
Pipeline	Description					
VGT	Balancing Agreement	Annual	7,465	12	\$1.0000	\$89,580
GLGT	---		0	0	\$0.0000	\$0
Centra	Union Balancing	Annual	4,500	12	\$1.0000	\$54,000

N:\Group\Rates\Gas\MERC\PGAC\2013\Con1113

**Total Commodity Cost: #REF!**

## 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>			
No GDD Peakers											-	-

#### 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>	
No GDD Peakers											\$ -	\$ -

#### 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	#REF!	948	#REF!	209	#REF!	99	#REF!	871	#REF!	370	2,496	73,813
2	#REF!	1,034	#REF!	417	#REF!	691	#REF!	1,016	#REF!	370	3,528	105,300
3	#REF!	1,034	#REF!	835	#REF!	197	#REF!	1,016	#REF!	370	3,452	102,935
4	#REF!	1,034	#REF!	835	#REF!	889	#REF!	871	#REF!	370	3,998	120,301
5	#REF!	948	#REF!	626	#REF!	987	#REF!	871	#REF!	1,478	4,911	148,681
6			#REF!	626	#REF!	987	#REF!		#REF!	1,405	3,018	93,566
7					#REF!	987	#REF!		#REF!	1,405	2,392	74,154
8							#REF!		#REF!	1,331	1,331	41,250
9							#REF!				-	-
10											-	-
Total		5,000		3,548		4,839		4,643		7,097	25,127	760,000
		150,000		110,000		150,000		130,000		220,000		760,000

#### 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	#REF!	1,082	#REF!	1,613	#REF!	1,811	#REF!	1,844	#REF!	1,484	7,834	236,232
2	#REF!	1,082	#REF!	1,677	#REF!	1,871	#REF!	1,844	#REF!	1,548	8,023	242,103
3	#REF!	1,082	#REF!	1,677	#REF!	1,871	#REF!	1,844	#REF!	1,548	8,023	242,103
4	#REF!	1,210	#REF!	1,677	#REF!	1,871	#REF!	1,844	#REF!	1,548	8,150	245,923
5	#REF!	1,210	#REF!	1,742	#REF!	1,931	#REF!	1,910	#REF!	1,613	8,406	253,638
6												
7												
Total		5,667		8,387		9,355		9,286		7,742	40,436	1,220,000
		170,000		260,000		290,000		260,000		240,000		1,220,000

#### 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	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
2	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
3	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
4	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
5	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
6												
7												
Total	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

#### 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
<b>Viking Gas Transmission (VGT)</b>					
AF0012	12,493	12,493	<b>12,493</b>	<b>12,493</b>	0
AF0014 (3)	1,098	1,098	<b>1,098</b>	<b>1,098</b>	0
AF0102	2,000	2,000	<b>2,000</b>	<b>2,000</b>	0
TBD	0	0	<b>1,500</b>	<b>1,500</b>	0
Wadena Delivered GDD Option	0	3500	<b>0</b>	<b>0</b>	0
<b>Great Lakes Gas Transmission (GLGT)</b>					
FT0016	10,130	10,130	<b>10,130</b>	<b>10,130</b>	0
FT0155 (12)	3,600	3,600	<b>3,600</b>	<b>3,600</b>	0
FT0155 (5)	3,638	3,638	<b>3,638</b>	<b>3,638</b>	0
FT15782	9,000	9,000	<b>9,000</b>	<b>9,000</b>	0
<b>Centra Transmission Holding/Centra Minnesota Pipelines (CTHI/CPMI)</b>					
Centra FT-1	9,858	9,500	<b>9,500</b>	<b>9,500</b>	0
Total VGT Transportation	15,591	19,091	<b>17,091</b>	<b>17,091</b>	0
Total GLGT Transportation	26,368	26,368	<b>26,368</b>	<b>26,368</b>	0
Total CTHI/CPMI Transportation	9,858	9,500	<b>9,500</b>	<b>9,500</b>	0
Total Transportation	51,817	54,959	<b>52,959</b>	<b>52,959</b>	0
Total Seasonal Transportation	6,736	6,736	6,736	6,736	0
Total Seasonal Transportation %	13.00%	12.26%	<b>12.72%</b>	<b>12.72%</b>	0
<u>Other Entitlements not included in Peak Day Deliverability</u>					
AECO Storage	947,820	947,820	<b>947,820</b>	<b>947,820</b>	0
AECO/Emerson Swap	947,823	947,823	<b>947,823</b>	<b>947,823</b>	0

## MINNESOTA ENERGY RESOURCES - CONSOLIDATED

### Rate Impacts Consolidated

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	-4.28%	-0.02%	(\$0.0002)
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	\$7.1137	#REF!	#REF!	#REF!	#REF!	#REF!
Average Annual Use	90	90	90	90	90				
Average Annual Cost of Gas	\$678.36	\$606.74	\$598.19	\$640.23	#REF!	#REF!	#REF!	#REF!	#REF!

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.8584	3.95%	-4.28%	-0.02%	(\$0.0002)
Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$7.2117	\$6.4529	\$6.3580	\$6.7881	#REF!	#REF!	#REF!	#REF!	#REF!
Average Annual Use	4,932	4,932	4,932	4,932	4,932				
Average Annual Cost of Gas	\$35,568.10	\$31,825.70	\$31,357.66	\$33,478.91	#REF!	#REF!	#REF!	#REF!	#REF!

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$5.2275	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$31,720.47	#REF!	#REF!	#REF!	#REF!	#REF!

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$4.4287	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$180,783.96	#REF!	#REF!	#REF!	#REF!	#REF!

November Change Summary	Commodity Change \$/Mcf	Commodity Change %	Demand Change \$/Mcf	Demand Change %	Total Change \$/Mcf	Total Change %	Average Annual Change
General Service	#REF!	#REF!	(\$0.0002)	-0.02%	#REF!	#REF!	#REF!
Large General Service	#REF!	#REF!	(\$0.0002)	-0.02%	#REF!	#REF!	#REF!
SV Interruptible Service	#REF!	#REF!			#REF!	#REF!	#REF!
LV Interruptible Service	#REF!	#REF!			#REF!	#REF!	#REF!

## 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 Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.6134	-25.72%	-31.60%	-28.56%	(\$0.2452)
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	\$7.1137	#REF!	#REF!	#REF!	#REF!	#REF!
Average Annual Use	90	90	90	90	90				
Average Annual Cost of Gas*	\$678.36	\$606.74	\$598.19	\$640.23	#REF!	#REF!	#REF!	#REF!	#REF!

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
Demand Cost	\$0.8258	\$0.9176	\$0.8968	\$0.8586	\$0.6134	-25.72%	-31.60%	-28.56%	(\$0.2452)
Margin	\$1.9034	\$1.6868	\$1.6868	\$1.9034	\$1.9034	0.00%	12.84%	0.00%	\$0.0000
Total Cost of Gas	\$7.2117	\$6.4529	\$6.3580	\$6.7881	#REF!	#REF!	#REF!	#REF!	#REF!
Average Annual Use	4,932	4,932	4,932	4,932	4,932				
Average Annual Cost of Gas*	\$35,568.10	\$31,825.70	\$31,357.66	\$33,478.91	#REF!	#REF!	#REF!	#REF!	#REF!

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$5.2275	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$31,720.47	#REF!	#REF!	#REF!	#REF!	#REF!

	Base Cost of Gas Change MR13-732	Demand Change Jul. '13	Last Demand Change Nov. '13	Most Recent PGA Aug. 2014	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	\$4.0261	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$4.4287	#REF!	#REF!	#REF!	#REF!	#REF!
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	\$180,783.96	#REF!	#REF!	#REF!	#REF!	#REF!

	Commodity Change \$/Mcf	Commodity Change %	Demand Change \$/Mcf	Demand Change %	Total Change \$/Mcf	Total Change %	Average Annual Change
November Change Summary							
General Service	#REF!	#REF!	(\$0.2452)	-28.56%	#REF!	#REF!	#REF!
Large General Service	#REF!	#REF!	(\$0.2452)	-28.56%	#REF!	#REF!	#REF!
SV Interruptible Service	#REF!	#REF!			#REF!	#REF!	#REF!
LV Interruptible Service	#REF!	#REF!			#REF!	#REF!	#REF!

\* 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

	Aug. 2014 Entitlements	Nov. 2014 Entitlements	Entitlement Change	Nov. 2014 Rate	Months	Aug. 2014 Total Annual Cost	Nov. 2014 Total Annual Cost	Total Annual Cost Change
<b>Consolidated</b>								
<b>Costs Assigned in Demand Charge</b>								
<u>Viking Pipeline</u>								
AF0012	12,493	12,493	0	\$ 3.3978	12	\$510,212	\$509,385	-\$827
AF0014 (3)	1,098	1,098	0	\$ 3.3978	3	\$11,211	\$11,192	-\$19
AF0102	2,000	2,000	0	\$ 3.3978	12	\$81,680	\$81,547	-\$133
FA-A ZONE 1 - 1	1,500	1,500	0	\$ 3.7043	3	\$16,669	\$16,669	\$0
<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	3,600	0	\$ 3.8490	12	\$166,277	\$166,277	\$0
FT Western Zone (5)	3,638	3,638	0	\$ 3.8490	5	\$70,013	\$70,013	\$0
FT Western Zone	9,000	9,000	0	\$ 3.8490	12	\$415,693	\$415,693	\$0
<u>CENTRA Pipeline</u>								
CENTRA Transmission (\$cdn/103M3)	9,500	9,500	0	\$ 7.2470	12	\$826,161	\$826,161	\$0
Centra MN Pipelines	9,500	9,500	0	\$ 1.7780	12	\$202,692	\$202,692	\$0
<b>Total Costs Assigned to Demand Charge</b>						<b>\$2,768,494</b>	<b>\$2,767,515</b>	<b>-\$979</b>
<b>Costs Assigned in Commodity Charge</b>								
<u>Niska Storage (AECO)</u>								
Niska Storage (AECO)	947,820	947,820	0	\$ 0.7263	1	\$688,362	\$688,362	\$0
AECO/Emerson Swap	947,823	947,823	0	\$ 0.5200	1	\$417,042	\$417,042	\$0
<u>Balancing</u>								
VGT Balancing Agreement	7,465	7,465	0	\$ 1.0000	12	\$89,580	\$89,580	\$0
Union Balancing	4,500	4,500	0	\$ 1.0000	12	\$54,000	\$54,000	\$0
<u>Call Options Premium</u>						\$295,511	#REF!	#REF!
<b>Total Costs Assigned to Commodity Charge</b>						<b>\$1,544,495</b>	<b>#REF!</b>	<b>#REF!</b>



## MINNESOTA ENERGY RESOURCES - CONSOLIDATED

### GLGT

	1/20 Design Day	HDD Regression Intercept	HDD Slope	Customer Growth	1/20 Regression Load	Total
Peak	105	3,337	231	0.30%	24,832	24,906
Off Peak	57	3,337	231	0.30%	15,827	15,874

### VGT

	1/20 Design Day	HDD Regression Intercept	HDD Slope	Customer Growth	1/20 Regression Load	Total
Peak	109	3,519	173	0.30%	17,350	17,402
Off Peak	57	3,519	173	0.30%	11,287	11,321

### Centra

	1/20 Design Day	HDD Regression Intercept	HDD Slope	Customer Growth	1/20 Regression Load	Total
Peak	107	1,874	78	0.30%	7,717	7,740
Off Peak	57	1,874	78	0.30%	4,963	4,978

### Consolidated

	1/20 Design Day	HDD Regression Intercept	HDD Slope	Customer Growth	1/20 Regression Load	Total
Peak	8,730	482	0.30%	49,899	50,048	
Off Peak	8,730	482	0.30%	32,077	32,173	

**MINNESOTA ENERGY RESOURCES - CONSOLIDATED**

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

10,000 Contract Size

REVISED:

System	Purchase Month	#REF!		#REF!		#REF!		#REF!		#REF!		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	
<b>MN Requirements</b>			569,086		848,644		950,643		849,068		784,176		4,001,617	4,001,617
<b>GLGT -MN</b>			18,970		27,376		30,666		784,176		25,296		26,501	
<b>70%</b>			398,360		594,051		665,450		594,348		548,923		2,801,132	
<b>40%</b>			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	
	<b>30%</b>		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	
	<b>Total</b>	<b>15</b>	<b>150,000</b>	<b>11</b>	<b>110,000</b>	<b>15</b>	<b>150,000</b>	<b>13</b>	<b>130,000</b>	<b>22</b>	<b>220,000</b>	<b>76</b>	<b>760,000</b>	<b>18.99%</b>
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	
	<b>Total</b>	<b>17</b>	<b>170,000</b>	<b>26</b>	<b>260,000</b>	<b>29</b>	<b>290,000</b>	<b>26</b>	<b>260,000</b>	<b>24</b>	<b>240,000</b>	<b>122</b>	<b>1,220,000</b>	<b>30.49%</b>
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	
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.00%</b>
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	
	<b>Total</b>		<b>320,010</b>		<b>370,016</b>		<b>440,014</b>		<b>390,012</b>		<b>460,009</b>		<b>1,980,061</b>	<b>49.48%</b>
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%
<b>Total NNG MN</b>														
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%
<b>Total</b>													<b>4,001,617</b>	<b>100.00%</b>

NOTE:



# MINNESOTA ENERGY RESOURCES - Consolidated

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	#REF!	0	0	#REF!	6,011	#REF!
7/2/13	0	#REF!	0	0	#REF!	4,381	#REF!
7/3/13	0	#REF!	0	0	#REF!	5,300	#REF!
7/4/13	0	#REF!	0	0	#REF!	4,381	#REF!
7/5/13	0	#REF!	0	0	#REF!	3,946	#REF!
7/6/13	0	#REF!	0	0	#REF!	4,158	#REF!
7/7/13	0	#REF!	0	0	#REF!	5,357	#REF!
7/8/13	0	#REF!	0	0	#REF!	5,141	#REF!
7/9/13	0	#REF!	0	1	#REF!	6,275	#REF!
7/10/13	0	#REF!	0	1	#REF!	7,115	#REF!
7/11/13	0	#REF!	0	0	#REF!	6,217	#REF!
7/12/13	0	#REF!	0	0	#REF!	5,545	#REF!
7/13/13	0	#REF!	0	0	#REF!	3,886	#REF!
7/14/13	0	#REF!	0	0	#REF!	4,739	#REF!
7/15/13	0	#REF!	0	0	#REF!	6,144	#REF!
7/16/13	0	#REF!	0	0	#REF!	5,589	#REF!
7/17/13	0	#REF!	0	0	#REF!	5,325	#REF!
7/18/13	0	#REF!	0	3	#REF!	5,628	#REF!
7/19/13	4	#REF!	0	10	#REF!	5,241	#REF!
7/20/13	0	#REF!	0	7	#REF!	4,173	#REF!
7/21/13	3	#REF!	1	4	#REF!	5,837	#REF!
7/22/13	7	#REF!	2	6	#REF!	6,425	#REF!
7/23/13	4	#REF!	0	7	#REF!	5,362	#REF!
7/24/13	0	#REF!	0	6	#REF!	6,584	#REF!
7/25/13	12	#REF!	6	14	#REF!	7,186	#REF!
7/26/13	13	#REF!	6	13	#REF!	7,188	#REF!
7/27/13	9	#REF!	4	7	#REF!	5,316	#REF!
7/28/13	6	#REF!	0	8	#REF!	5,750	#REF!
7/29/13	0	#REF!	0	1	#REF!	6,235	#REF!
7/30/13	0	#REF!	0	2	#REF!	6,858	#REF!
7/31/13	1	#REF!	0	3	#REF!	7,271	#REF!
8/1/13	4	#REF!	0	5	#REF!	6,929	#REF!
8/2/13	7	#REF!	0	8	#REF!	5,465	#REF!
8/3/13	11	#REF!	1	10	#REF!	3,976	#REF!
8/4/13	3	#REF!	0	5	#REF!	4,788	#REF!
8/5/13	6	#REF!	0	8	#REF!	7,248	#REF!
8/6/13	8	#REF!	3	12	#REF!	7,356	#REF!
8/7/13	8	#REF!	0	14	#REF!	8,133	#REF!
8/8/13	9	#REF!	5	11	#REF!	12,868	#REF!
8/9/13	5	#REF!	3	8	#REF!	6,501	#REF!
8/10/13	2	#REF!	0	4	#REF!	4,660	#REF!
8/11/13	6	#REF!	0	7	#REF!	4,969	#REF!
8/12/13	9	#REF!	3	10	#REF!	6,847	#REF!
8/13/13	8	#REF!	3	10	#REF!	6,235	#REF!
8/14/13	5	#REF!	0	7	#REF!	6,994	#REF!
8/15/13	0	#REF!	0	3	#REF!	5,092	#REF!
8/16/13	0	#REF!	0	0	#REF!	3,341	#REF!
8/17/13	0	#REF!	0	0	#REF!	4,313	#REF!
8/18/13	0	#REF!	0	0	#REF!	6,977	#REF!
8/19/13	0	#REF!	0	0	#REF!	6,438	#REF!
8/20/13	0	#REF!	0	0	#REF!	5,292	#REF!
8/21/13	3	#REF!	0	5	#REF!	6,443	#REF!
8/22/13	1	#REF!	0	4	#REF!	6,419	#REF!
8/23/13	0	#REF!	0	0	#REF!	5,926	#REF!
8/24/13	0	#REF!	0	0	#REF!	4,323	#REF!
8/25/13	0	#REF!	0	0	#REF!	6,370	#REF!
8/26/13	0	#REF!	0	0	#REF!	6,521	#REF!
8/27/13	0	#REF!	0	0	#REF!	5,083	#REF!
8/28/13	0	#REF!	0	0	#REF!	6,453	#REF!
8/29/13	0	#REF!	0	0	#REF!	5,795	#REF!
8/30/13	0	#REF!	0	0	#REF!	5,685	#REF!
8/31/13	6	#REF!	4	9	#REF!	4,918	#REF!
9/1/13	9	#REF!	6	10	#REF!	5,537	#REF!
9/2/13	4	#REF!	0	5	#REF!	6,901	#REF!
9/3/13	7	#REF!	0	10	#REF!	7,703	#REF!
9/4/13	5	#REF!	0	9	#REF!	8,306	#REF!
9/5/13	0	#REF!	0	0	#REF!	7,405	#REF!
9/6/13	0	#REF!	0	2	#REF!	6,100	#REF!
9/7/13	4	#REF!	0	6	#REF!	5,095	#REF!
9/8/13	0	#REF!	0	3	#REF!	6,468	#REF!
9/9/13	0	#REF!	0	4	#REF!	7,888	#REF!
9/10/13	2	#REF!	0	3	#REF!	7,663	#REF!
9/11/13	12	#REF!	4	12	#REF!	7,875	#REF!
9/12/13	12	#REF!	3	11	#REF!	8,237	#REF!
9/13/13	6	#REF!	7	3	#REF!	6,859	#REF!
9/14/13	18	#REF!	10	20	#REF!	6,638	#REF!

9/15/13	17	#REF!	8	19	#REF!	8,321	#REF!
9/16/13	15	#REF!	6	12	#REF!	8,979	#REF!
9/17/13	3	#REF!	0	3	#REF!	8,918	#REF!
9/18/13	2	#REF!	0	0	#REF!	8,276	#REF!
9/19/13	16	#REF!	12	15	#REF!	8,798	#REF!
9/20/13	18	#REF!	13	22	#REF!	9,540	#REF!
9/21/13	11	#REF!	0	19	#REF!	7,645	#REF!
9/22/13	0	#REF!	0	5	#REF!	6,490	#REF!
9/23/13	4	#REF!	0	4	#REF!	7,369	#REF!
9/24/13	8	#REF!	0	5	#REF!	7,629	#REF!
9/25/13	0	#REF!	0	3	#REF!	6,835	#REF!
9/26/13	0	#REF!	9	0	#REF!	5,478	#REF!
9/27/13	17	#REF!	10	10	#REF!	6,622	#REF!
9/28/13	9	#REF!	4	11	#REF!	7,585	#REF!
9/29/13	0	#REF!	2	0	#REF!	8,746	#REF!
9/30/13	8	#REF!	7	8	#REF!	11,161	#REF!
10/1/13	17	#REF!	12	19	#REF!	17,019	#REF!
10/2/13	19	#REF!	17	19	#REF!	14,945	#REF!
10/3/13	16	#REF!	22	15	#REF!	14,299	#REF!
10/4/13	21	#REF!	18	21	#REF!	9,646	#REF!
10/5/13	17	#REF!	15	20	#REF!	15,050	#REF!
10/6/13	19	#REF!	14	20	#REF!	16,508	#REF!
10/7/13	9	#REF!	4	11	#REF!	17,333	#REF!
10/8/13	10	#REF!	7	10	#REF!	15,472	#REF!
10/9/13	7	#REF!	2	6	#REF!	14,115	#REF!
10/10/13	3	#REF!	5	2	#REF!	5,788	#REF!
10/11/13	24	#REF!	21	14	#REF!	7,424	#REF!
10/12/13	22	#REF!	19	24	#REF!	11,391	#REF!
10/13/13	22	#REF!	19	27	#REF!	13,302	#REF!
10/14/13	28	#REF!	30	27	#REF!	17,369	#REF!
10/15/13	24	#REF!	21	26	#REF!	18,956	#REF!
10/16/13	30	#REF!	28	29	#REF!	14,762	#REF!
10/17/13	31	#REF!	27	31	#REF!	20,624	#REF!
10/18/13	32	#REF!	29	29	#REF!	16,620	#REF!
10/19/13	34	#REF!	32	32	#REF!	18,165	#REF!
10/20/13	41	#REF!	31	35	#REF!	22,017	#REF!
10/21/13	34	#REF!	32	33	#REF!	26,146	#REF!
10/22/13	38	#REF!	32	36	#REF!	22,745	#REF!
10/23/13	35	#REF!	30	34	#REF!	24,223	#REF!
10/24/13	30	#REF!	24	29	#REF!	23,626	#REF!
10/25/13	33	#REF!	30	31	#REF!	19,449	#REF!
10/26/13	32	#REF!	27	31	#REF!	19,794	#REF!
10/27/13	41	#REF!	38	38	#REF!	22,243	#REF!
10/28/13	39	#REF!	37	39	#REF!	25,716	#REF!
10/29/13	31	#REF!	28	37	#REF!	23,822	#REF!
10/30/13	28	#REF!	27	26	#REF!	20,345	#REF!
10/31/13	35	#REF!	29	27	#REF!	20,588	#REF!
11/1/13	36	#REF!	28	30	#REF!	25,224	#REF!
11/2/13	29	#REF!	20	31	#REF!	24,891	#REF!
11/3/13	23	#REF!	21	24	#REF!	16,533	#REF!
11/4/13	33	#REF!	34	30	#REF!	20,437	#REF!
11/5/13	46	#REF!	38	38	#REF!	29,474	#REF!
11/6/13	44	#REF!	36	39	#REF!	26,128	#REF!
11/7/13	42	#REF!	34	41	#REF!	25,732	#REF!
11/8/13	36	#REF!	29	37	#REF!	19,144	#REF!
11/9/13	41	#REF!	39	35	#REF!	19,823	#REF!
11/10/13	47	#REF!	44	46	#REF!	21,927	#REF!
11/11/13	63	#REF!	57	56	#REF!	26,751	#REF!
11/12/13	49	#REF!	42	47	#REF!	25,266	#REF!
11/13/13	29	#REF!	23	32	#REF!	22,436	#REF!
11/14/13	30	#REF!	33	34	#REF!	18,749	#REF!
11/15/13	29	#REF!	28	29	#REF!	22,140	#REF!
11/16/13	28	#REF!	26	25	#REF!	15,077	#REF!
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11/18/13	49	#REF!	40	46	#REF!	26,137	#REF!
11/19/13	36	#REF!	32	37	#REF!	26,381	#REF!
11/20/13	38	#REF!	51	36	#REF!	23,799	#REF!
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11/22/13	67	#REF!	64	60	#REF!	38,212	#REF!
11/23/13	65	#REF!	64	65	#REF!	35,311	#REF!
11/24/13	45	#REF!	41	47	#REF!	25,006	#REF!
11/25/13	51	#REF!	45	52	#REF!	26,521	#REF!
11/26/13	60	#REF!	57	60	#REF!	35,812	#REF!
11/27/13	56	#REF!	52	54	#REF!	32,112	#REF!
11/28/13	62	#REF!	53	59	#REF!	33,109	#REF!
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11/30/13	45	#REF!	44	41	#REF!	26,866	#REF!
12/1/13	51	#REF!	44	50	#REF!	28,649	#REF!
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12/3/13	48	#REF!	46	50	#REF!	34,717	#REF!
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12/6/13	87	#REF!	82	82	#REF!	49,692	#REF!
12/7/13	87	#REF!	83	85	#REF!	49,879	#REF!
12/8/13	76	#REF!	74	78	#REF!	48,555	#REF!
12/9/13	83	#REF!	76	85	#REF!	54,545	#REF!

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12/12/13	68	#REF!	64	80	#REF!	48,378	#REF!
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12/15/13	80	#REF!	70	80	#REF!	44,862	#REF!
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12/24/13	69	#REF!	61	73	#REF!	38,272	#REF!
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12/31/13	89	#REF!	86	92	#REF!	45,162	#REF!
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1/7/14	89	#REF!	79	86	#REF!	56,998	#REF!
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1/11/14	44	#REF!	43	46	#REF!	30,889	#REF!
1/12/14	39	#REF!	43	38	#REF!	28,725	#REF!
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1/22/14	90	#REF!	90	94	#REF!	55,438	#REF!
1/23/14	74	#REF!	70	75	#REF!	48,597	#REF!
1/24/14	66	#REF!	57	65	#REF!	40,694	#REF!
1/25/14	73	#REF!	65	76	#REF!	42,558	#REF!
1/26/14	91	#REF!	84	88	#REF!	46,733	#REF!
1/27/14	94	#REF!	85	92	#REF!	51,779	#REF!
1/28/14	87	#REF!	79	87	#REF!	50,800	#REF!
1/29/14	63	#REF!	60	65	#REF!	41,792	#REF!
1/30/14	83	#REF!	80	84	#REF!	50,030	#REF!
1/31/14	73	#REF!	70	74	#REF!	46,743	#REF!
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2/3/14	75	#REF!	68	67	#REF!	46,251	#REF!
2/4/14	77	#REF!	75	81	#REF!	48,696	#REF!
2/5/14	83	#REF!	77	84	#REF!	50,627	#REF!
2/6/14	80	#REF!	72	78	#REF!	48,781	#REF!
2/7/14	80	#REF!	74	77	#REF!	47,440	#REF!
2/8/14	78	#REF!	77	75	#REF!	47,578	#REF!
2/9/14	81	#REF!	78	84	#REF!	54,632	#REF!
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3/22/14	68	#REF!	57	76	#REF!	36,011	#REF!
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4/20/14	29	#REF!	20	27	#REF!	9,726	#REF!
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4/26/14	34	#REF!	29	31	#REF!	17,489	#REF!
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4/28/14	25	#REF!	22	26	#REF!	29,467	#REF!
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5/12/14	27	#REF!	26	26	#REF!	16,449	#REF!
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5/15/14	28	#REF!	19	24	#REF!	17,252	#REF!
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5/18/14	13	#REF!	7	8	#REF!	6,301	#REF!
5/19/14	6	#REF!	4	4	#REF!	11,639	#REF!
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6/15/14	3	#REF!	0	2	#REF!	6,961	#REF!
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6/24/14	7	#REF!	0	7	#REF!	8,691	#REF!
6/25/14	1	#REF!	0	4	#REF!	7,654	#REF!
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6/29/14	0	#REF!	0	0	#REF!	5,432	#REF!
6/30/14	7	#REF!	4	9	#REF!	5,355	#REF!
Totals	12,070	#REF!	10,880	12,320	#REF!	8,286,815	#REF!

\* 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
<b>Total</b>		<b>33,636</b>	<b>33,296</b>	<b>33,024</b>	<b>33,326</b>	<b>32,959</b>	<b>34,206</b>	<b>35,093</b>	<b>33,861</b>	<b>33,572</b>	<b>33,812</b>	<b>33,780</b>	<b>34,035</b>	<b>33,717</b>



## 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	\$ 4.1998	\$ 1,912,006	\$ 61,422	\$ 266,164	\$ 2,239,593	85,304	\$ 4.2134	\$ 359,423
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4,804,528	\$ 154,343	\$ 668,822	\$ 5,627,693	231,769	\$ 4.2134	\$ 976,543
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4,804,528	\$ 154,343	\$ 668,822	\$ 5,627,693	231,769	\$ 4.2134	\$ 976,543
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4,804,528	\$ 154,343	\$ 668,822	\$ 5,627,693	209,339	\$ 4.2134	\$ 882,035
Mar-15	455,259	14,625	63,375	533,259	\$ 4.1998	\$ 1,912,006	\$ 61,422	\$ 266,164	\$ 2,239,593	96,374	\$ 4.2134	\$ 406,065
<b>Total</b>	<b>4,342,470</b>	<b>139,500</b>	<b>604,500</b>	<b>5,086,470</b>	<b>\$ 4.1998</b>	<b>\$18,237,598</b>	<b>\$ 585,875</b>	<b>\$ 2,538,792</b>	<b>\$21,362,265</b>	<b>854,555</b>	<b>\$ 4.2134</b>	<b>\$ 3,600,608</b>

Month/ Year	NNG Storage Volume	NNG Indexes Price	NNG Indexes Cost	AECO Storage Volume	Emerson LDS + Basis	Emerson LDS + Cost
Nov-14	533,259	#REF!	#REF!	85,304	\$ 4.2080	\$ 358,959
Dec-14	1,339,984	#REF!	#REF!	231,769	\$ 4.4890	\$ 1,040,411
Jan-15	1,339,984	#REF!	#REF!	231,769	\$ 4.8310	\$ 1,119,676
Feb-15	1,339,984	#REF!	#REF!	209,339	\$ 4.7110	\$ 986,196
Mar-15	533,259	#REF!	#REF!	96,374	\$ 4.5560	\$ 439,080
<b>Total</b>	<b>5,086,470</b>	<b>#REF!</b>	<b>#REF!</b>	<b>854,555</b>	<b>\$ 4.6156</b>	<b>\$ 3,944,322</b>

Max NNG Storage (Storage plan withdrawals through Apr 14)	5,086,470	5,469,321	07/30/14 Storage Balance - NNG	2,095,947	38.32%	1,949,231
Max AECO Storage	854,555	947,820	07/30/14 Storage Balance - AECO	567,143	59.84%	511,336
						41.42%

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#125344 NNG WACOG	K#125345 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	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 2,239,593	#REF!	#REF!	#REF!
Dec-14	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 5,627,693	#REF!	#REF!	#REF!
Jan-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 5,627,693	#REF!	#REF!	#REF!
Feb-15	1,143,984	36,750	159,250	1,339,984	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 5,627,693	#REF!	#REF!	#REF!
Mar-15	455,259	14,625	63,375	533,259	\$ 4.1998	\$ 4.1998	\$ 4.1998	\$ 2,239,593	#REF!	#REF!	#REF!
<b>Total</b>	<b>4,342,470</b>	<b>139,500</b>	<b>604,500</b>	<b>5,086,470</b>	<b>\$ 4.1998</b>	<b>\$ 4.1998</b>	<b>\$ 4.1998</b>	<b>\$ 21,362,265</b>	<b>#REF!</b>	<b>#REF!</b>	<b>#REF!</b>

\$ 4.1998 \$ (0.2690) #REF!

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	\$ 4.2134	\$ 359,423	\$ 4.2080	\$ 358,959	\$ 463
Dec-14	231,769	\$ 4.2134	\$ 976,543	\$ 4.4890	\$1,040,411	\$ (63,868)
Jan-15	231,769	\$ 4.2134	\$ 976,543	\$ 4.8310	\$1,119,676	\$ (143,133)
Feb-15	209,339	\$ 4.2134	\$ 882,035	\$ 4.7110	\$ 986,196	\$ (104,161)
Mar-15	96,374	\$ 4.2134	\$ 406,065	\$ 4.5560	\$ 439,080	\$ (33,015)
<b>Total</b>	<b>854,555</b>	<b>\$ 4.2134</b>	<b>\$ 3,600,608</b>	<b>\$ 4.6156</b>	<b>\$3,944,322</b>	<b>\$ (343,714)</b>

\$ 3.2341 \$ (0.8488) \$ (343,714)

