

MICHAEL J. AHERN (612) 340-2881 FAX (612) 340-2643 ahern.michael@dorsey.com

November 3, 2008

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

# PUBLIC DOCUMENT – TRADE SECRET DATA HAS BEEN EXCISED

Re:	In the Matter of the Petition of Minnesota Energy Resources Corporation – PNG
	for Approval of a Change in Demand Entitlement for its Viking Gas Transmission
	System; Docket No.

Dear Dr. Haar:

In accordance with Minnesota Rule 7825.2910, subpart 2, please find the public and nonpublic versions of Minnesota Energy Resources Corporation's (MERC) request to change demand entitlement. In particular, MERC proposes to change demand levels by type on the Viking Gas Transmission (VGT) system for customers served by MERC-PNG effective November 1, 2008.

Please note that page 16 of the Petition and Attachments 5 and 9 contain financial information with independent economic value that is not generally known to, and not readily ascertainable by, competitors of MERC, who could obtain economic value from its disclosure. MERC maintains this information as secret. Accordingly this data qualifies as trade secret data as defined in Minn. Stat. § 13.37, subd. 1(b), and MERC requests that the data be treated as trade secret information.

In accordance with Minnesota Rule 7825.2910, subpart 3, a Notice of Availability has been sent to all intervenors in Aquila Networks-PNG's previous two rate cases.

Please feel free to contact me at (612) 340-2881 if you have any questions regarding this matter.

∕Michael J. Aherr

Enclosures

cc: Service List

# STATE OF MINNESOTA BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

David C. Boyd		Chair	
J. Dennis O'Brien		Commissioner	
Thomas Pugh		Commissioner	
Phyllis A. Reha		Commissioner	
Betsy Wergin		Commissioner	
In the Matter of the Petition of Minnesota	)		
Energy Resources Corporation – PNG for	j –		
Approval of a Change in Demand Entitlement	)	Docket No.	
for its Viking Gas Transmission System	)	***************************************	

### FILING UPON CHANGE IN DEMAND

Pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation - PNG (MERC or the Company), hereby petitions the Minnesota Public Utilities Commission (Commission) for approval of changes in demand entitlements for MERC's Minnesota customers served off of the Viking Gas Transmission Company (VGT or Viking) system. MERC requests that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2008.

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 Aquila Networks – PNG'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 Box 455 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: November 3, 2008

Proposed Effective Date: November 1, 2008

### 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.

### E. Utility Employee Responsible for the Filing

Gregory J. Walters 519 First Avenue SW P.O. Box 6538 Rochester, MN 55903-6538 (507) 529-5100

If additional information is required, please contact Michael J. Ahern at: (612) 340-2881.

By

DATED: November 3, 2008 Respectfully Submitted,

DORSEY & WHITNEY LLP

Michael J. Ahern

Suite 1500, 50 South Sixth Street Minneapolis, MN 55402-1498 Telephone: (612) 340-2600

Attorney for Minnesota Energy Resources Corporation

All Intervenors

### **Notice of Availability**

Please take notice that Minnesota Energy Resources Corporation-PNG has filed a petition with the Minnesota Public Utilities Commission for approval of a change in demand entitlements.

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

Gregory J. Walters Minnesota Energy Resources Corporation 519 1st Ave SW Rochester, MN 55902 507-529-5100.

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

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

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

# STATE OF MINNESOTA BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Betsy Wergin		Commissioner	
In the Matter of the Petition of Minnesota	)		
Energy Resources Corporation – PNG for	)		
Approval of a Change in Demand Entitlement	)	Docket No.	
for its Viking Gas Transmission System	)		

### **SUMMARY OF FILING**

Pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation - PNG (MERC or the Company), hereby petitions the Minnesota Public Utilities Commission (Commission) for approval of changes in demand entitlements for MERC's Minnesota customers served off of the Viking Gas Transmission Company (VGT or Viking) system. MERC requests that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2008.

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### BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

David C. Boyd	Chair
J. Dennis O'Brien	Commissioner
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Betsy Wergin	Commissioner
In the Matter of the Petition of	) FILING UPON CHANGE IN DEMAND
Minnesota Energy Resources	
Corporation – PNG For Approval	)
of a Change in Demand Entitlement	DOCKET NO

### PETITION FOR CHANGE IN DEMAND

### I. <u>INTRODUCTION</u>

Pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand),
Minnesota Energy Resources Corporation - PNG (MERC or the Company), a division of
Integrys Energy Group, Inc. (TEG), hereby petitions the Minnesota Public Utilities Commission
(Commission) for approval of changes in demand entitlements for MERC's Minnesota
customers served off of the Viking Gas Transmission (VGT or Viking) system. MERC requests
that the Commission approve the requested changes to be recovered in the Purchased Gas
Adjustment (PGA) effective on November 1, 2008.

### II. DISCUSSION

### A. MERC's PNG-VGT Design Day Requirements

MERC's 2008-2009 PNG-VGT design day requirements decreased 715 Mcf (or approximately 8.79 percent) from 8,135 Mcf to 7,420 Mcf.

### Table 1: MERC's Proposed Reserve Margins For the 2008-2009 Heating Season VGT PNG

	Reserve Margin 2008-2009	Reserve Margin 2007-2008	
	Heating Season	<b>Heating Season</b>	Change
VGT-PNG	9.74%	2.76%	-6.18%

As shown in Table 1 and Attachment 3, MERC's proposed system wide reserve margin for PNG-VGT for the 2008-2009 heating season is positive.

For the Demand Entitlement filing effective November 1, 2008, the total Design Day requirement for Viking Gas Transmission (VGT), is 7,420 Dth as calculated in Attachment 1, Page 2 and Attachment 3.

For the Demand Entitlement filing effective November 1, 2008, the total Design Day capacity on VGT, is 7,625 Dth as calculated in Attachment 3.

The difference between the total Design Day requirement and total Design Day capacity results in a 2.76% positive reserve margin.

### B. Forecast Methodology for MERC Demand Entitlement Nov. 1, 2008

### **Peakday**

### Purpose

Gather data and perform analysis used in the "Petition for Change in Demand" for

Minnesota Energy Resources Corporation – PNG and Minnesota Energy Resources Corporation

– NMU 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 is composed of two service areas:

- 1. PNG Peoples Natural Gas (company approximately 170,000 customers)
- 2. NMU Northern Minn Utility (company approximately 40,000 customers)

Which are served by four pipelines:

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

Four Petitions for Change in Demand are filed (one for each of PGAC):

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

Weather data is obtained from six weather stations:

1. International Falls

- 2. Bemidji
- 3. Cloquet
- 4. Fargo
- 5. Minneapolis
- 6. Rochester

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

Demand Area		
(Service Area / Pipeline)	<b>PGAC</b>	Weather Station(s)
NMU-Centra	NMU	International Falls
NMU-GLGT *	NMU	Bemidji & Cloquet
NMU-NNG	NMU	Cloquet
NMU-VGT *	NMU	Bemidji & Fargo
NMU-GLGT&VGT*	NMU	Bemidji & Fargo
PNG-GLGT	PNG-GLGT	Bemidji & Cloquet
PNG-NNG	PNG-NNG	Minneapolis, Rochester & Cloquet
PNG-VGT	PNG-VGT	Bemidji & Fargo
	(Service Area / Pipeline) NMU-Centra NMU-GLGT * NMU-NNG NMU-VGT * NMU-GLGT&VGT* PNG-GLGT PNG-NNG	(Service Area / Pipeline)PGACNMU-CentraNMUNMU-GLGT *NMUNMU-NNGNMUNMU-VGT *NMUNMU-GLGT&VGT*NMUPNG-GLGTPNG-GLGTPNG-NNGPNG-NNG

<sup>\*</sup> Thief River Falls is included only in NMU-GLGT&VGT

### 2008 Analytical Approach

### **Summary**

- 1. Obtain daily weather data for each weather station as shown in Attachment 13
- 2. Obtain daily total throughput volumes by pipeline
- 3. Perform total throughput peak day regressions
- 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 MERC 2008/09 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-PNG and MERC-NMU.

The Team proposed an approach different from the one used last year that would:

- Make the best use of the best available data.
- 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.
- Provide a basis for future risk adjustment to the forecast.

The MERC 2009 Peak Day Process consisted of:

- I. Data Preparation
- II. Regression Generation of Net Daily Metered Volumes
- III. 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, four, and five years of December through February daily total metered throughput for the eight 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, four, or five 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 eight demand areas.
   Each daily weather station data file was searched to find the coldest Adjusted Heating
   Degree Day (AHDD) in the last 20 years. This 1-in-20 approach is consistent with prior years. The results are provided in the following table:

		Avg.	Avg.		
<b>Station</b>	<b>Date</b>	<b>Temp</b>	<b>Wind</b>	<u>HDD</u>	<u>AHDD</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	2/2/1996	-34	8	99	107
Minneapolis	2/2/1996	-25	8	90	97
Rochester	2/2/1996	-27	10	92	101

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 PNG or NMU. 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 PNG or NMU. 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 <u>daily</u> telemetered data from each interruptible, transportation, and joint interruptible customer mapped to each of the eight 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.

The Team was faced with the choice of either:

- Trying to "invent" daily meter readings from this monthly data and subtract the
  estimated daily meter readings from the actual metered daily throughput to arrive at a
  daily firm load estimate, or
- 2. Generate regressions of the daily throughput data available less the known daily meter readings for non-firm customers and adjust those regressions for the estimated peak day impact of the other non-firm customers who do not have daily readings.

The Team's consensus was that the second approach 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 eight Demand Areas (Service Area / Pipeline):
  - 1. Gather the net daily metered volumes and weather station  $AHDD^1$ .
  - 2. If more than one weather station is represented in a given demand area, weight each weather station's AHDD by the total December through February metered volumes attributable to that weather station. This weighting is computed separately for the five-year, four-year, and three-year regressions as the relative load attributed to the different weather stations changes based on factors such as customer growth (or loss) and conservation.
  - 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.

<sup>&</sup>lt;sup>2</sup> Temperature and weather data was obtained from Weather Bank/DTN via TherMaxx then converted to HDD and AHDD in an Excel spreadsheet by MERC – Gas Supply. Temperature and wind data is from midnight to midnight.

- 4. Perform three ordinary least squares linear regressions for each of the 5-year, 4-year, and 3-year time frames:
  - All: Use the weighted AHDD and all indicator variables to determine which are statistically significant.
  - Significant or S: Use only the independent variables that the "All" run showed to be statistically significant, i.e. those having T-Stats higher than
     2.0 or less than minus 2.0.
  - AHDD: Use only the AHDD variable.
- 5. Summarize the Baseload and Use/AHDD from each regression.
- 6. Calculate a point estimate from each regression based on the baseload value plus the Use/AHDD coefficient times the coldest AHDD in 20 years (weighted if using more than one weather station).

After reviewing the results of the above regressions internally, the 3-year regressions using statistically significant independent variables were selected as being the most representative of the current system customers. The results of the 3-Year Significant, or "3-Yr S" regressions were then checked for reasonableness by comparing the point estimate against every day of the original five years of data, adding the estimated heat load required to weather-adjust the actual data to design AHDD conditions. For a perfectly normal distribution based on a perfectly homogeneous population, the point estimate would have 50% of the adjusted data above it, and 50% of the adjusted data below it. In practice, perfectly normal distributions and perfectly homogeneous populations are rare. For instance, over a five year time period, customers may be added or lost, and the customers that are present for all five

years may change their preferences for usage (such as setting the thermostat higher or lower or by adding insulation or adopting other conservation measures). Taking those factors into consideration, the results of the reasonableness test were reasonable, with the AHDD-adjusted actual daily metered volumes exceeding the "3-Yr S" point estimates an average of 46% of the time (PNG-GLGT was lowest with 34.7% and NMU-VGT was highest with 59.1%).

### III. 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>2</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 July 2006 through February 2008 was obtained. The database contained detail by customer class<sup>3</sup>, calendar month, (service) area, city, location, zip code and responsibility center. The billing database was provided by ADS/Vertex,

<sup>&</sup>lt;sup>2</sup> Individual daily volumes were available for a handful of paper mills, direct-connects, taconites, and off-system end users.

<sup>&</sup>lt;sup>3</sup> Transportation, Interruptible, Joint Interruptible, Residential, Large Commercial & Industrial and Small Commercial & Industrial

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 from the interruptible, transportation and joint interruptible customer classes totals. The following peak demand estimation method based on the highest monthly total from the winter of 2008 was then used to calculate the amount to subtract from the results of the data regressions for each demand area:

The MERC-PNG and MERC-NMU 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 59 "joint interruptible" customers from January 2007 through May 2008 that showed the volume that each customer has selected to receive as firm service from MERC each month. Assistance was required from MERC Gas Supply to properly assign these 59 customers to the appropriate regression demand area. Once assigned, the daily firm capacity volumes were summed by month for each demand area. The total volumes for January 2008 were than added back to the adjusted regression results.

### C. Apply Sales Forecast Growth Rates

The throughput volumes used in the data regressions were from 2008 and needed to be adjusted to properly forecast 2009. The sales forecast "MERC Fcst 200806", as approved by the Gas Planning Committee, was used to determine a growth rate for each demand area. Because the Peak Day Forecast is based on firm load, General Service volumes (GS - residential, commercial and industrial firm) were used as a proxy to calculate growth rates. These growth rates were then applied to the adjusted regression results.

### Major Differences from 2007 Approach to the 2008 Approach

 In 2007, estimates of the daily transport and interruptible volumes were removed from the total metered daily throughput to get estimated daily firm load before any regressions were performed. This was done by dividing monthly billing data by the number of days in the month, then subtracting these daily estimated volumes for transport and interruptible customers from total daily metered throughput. This method assumed transport and interruptible loads are not weather sensitive, but more process load. In 2008, no attempt was made to convert monthly volumes to daily amounts. Transport and interruptible volumes were backed out after regressions were performed on measured daily throughput volumes.

- In 2007, changes in customer counts were used to calculate growth rates. In 2008, forecasted changes in volumes were used
- 3. In 2007, Farm Taps were handled uniquely, whereas in 2008, they were not treated different from any other customer.

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

### NMU-GLGT

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

### **NMU-GLGT**

Direct Connects = U.S Gypsum

### NMU-VGT

Note: Discussions were held regarding how best to handle Lamb Weston (RDO) and the decision was to include these volumes in the regression analysis. If 3 years of daily usage were available, consideration would have been given to excluding from the regression and then consistently removing comparable volumes along with the interruptible and transportation volumes.

### PNG-NNG

### Taconites / Direct Connects =

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

### PNG-NNG

### OSEU (EndUsers) =

- CORRECTIONAL CTR
- GRAND CASINO HINCKLEY
- KEMPS LLC
- KERRY BIO-SCIENCE
- LAKESIDE
- LAND OF LAKES
- PRO-CORN
- SWIFT

### 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 10. The daily estimate is compared to actual consumption. The actual volumes is 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 NNG pipeline. 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.

### **Average Customer Counts**

In the 2007 demand entitlement dockets, MERC agreed to include average customer counts which is provided in Attachment 11.

### C. MERC's Specific VGT Proposed Demand-Related Changes

There are two types of demand entitlement changes. The first type is design day deliverability, which, in this case, there is no change in the amount of firm transportation capacity actually available to MERC's PNG-VGT 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

As shown in PNG-VGT Attachment 6, MERC PNG-VGT proposes a decrease in the Viking Backhaul contract and the NNG Chisago contract that

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delivers gas into the VGT system for design day deliverability for the upcoming heating season.

### 2. Other Demand Entitlement Changes

As shown in the Attachment 6, MERC PNG-VGT proposes no changes in other pipeline entitlements that are not included in peak day deliverability.

### D. <u>Financial Option Units and Premiums</u>

- MERC entered into New York Mercantile Exchange (NYMEX) financial Call Options for the upcoming 2008/2009 winter (November through March). Please see Attachment 5.
- Total premium cost to enter into the financial Call Options on behalf of MERC's firm customers amounted to \$215,559 for the 2008/2009 winter.
   Please see Attachment 5.
- iii. MERC entered into [TRADE SECRET DATA BEGINS

  TRADE SECRET DATA ENDS] Total

premium per contract is approximately [TRADE SECRET DATA

BEGINS TRADE SECRET DATA ENDS] 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 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 physical fixed price purchases), 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 9, Page 1 of 2.

### E. Gas Supply.

The PNG-VGT 2008-2009 Winter Portfolio Plan - Minnesota Energy Resources Corporation for VGT gas supply purchases for the Hedging Plan is in Attachment 9, page 2.

### F. 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, 2008. Rate impacts can be found on Attachment 4 and Attachment 7.

### II. CONCLUSION

Based upon the foregoing, MERC respectfully requests the Minnesota Public Utilities Commission grant the demand changes requested herein effective November 1, 2008. If any further information, clarification, or substantiation is required to support this filing please advise.

DATED: November 3, 2008

Respectfully Submitted,

DORSEY & WHITNEY LLP

By

Viichael J. Ahern

Suite 1500, 50 South Sixth Street Minneapolis, MN 55402-1498 Telephone: (612) 340-2600

Attorney for Minnesota Energy Resources Corporation

### AFFIDAVIT OF SERVICE

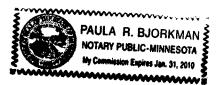
STATE OF MINNESOTA	)	
	) s:	S.
COUNTY OF HENNEPIN	)	

Sarah J. Kerbeshian, being first duly sworn on oath, deposes and states that on the 3rd day of November, 2008, the Petition of Minnesota Energy Resources Corporation-PNG for Approval of a Change in Demand Entitlement was electronically filed with the Minnesota Public Utilities Commission and the Minnesota Department of Commerce, the Petition was provided via United States first class mail to the individuals on the attached service list at the Office of the Attorney General, and a Summary of the Filing was provided via United States first class mail to the remaining individuals on the attached service list. Additionally, a Notice of Availability was provided via United States First Class Mail to all intervenors in Aquila Networks-PNG's previous two rate cases.

Sarah J. Cel

Subscribed and sworn to before me this 3rd day of November 2008.

Notary Public, State of Minnesota



Burl W. Haar MN Public Utilities Commission 350 Metro Square Building 121 Seventh Place East St. Paul, MN 55101-5147

Sharon Ferguson MN Department of Commerce 85 Seventh Place East Suite 500 St. Paul, MN 55101-2198

Julia Anderson Attorney General's Office 1400 Bremer Tower 445 Minnesota Street St. Paul, MN 55101-2131

Ronald M. Giteck Attorney General's Office-RUD 900 Bremer Tower 445 Minnesota Street St. Paul, MN 55101

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Eric F. Swanson Winthrop & Weinstine 225 South Sixth Street Suite 350 Minneapolis, MN 55402-4629

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Greg Walters Minnesota Energy Resources 519 First Avenue SW P.O. Box 6538 Rochester, MN 55903-6538

### DESIGN-DAY DEMAND SUMMARY NOVEMBER 1, 2008

Design Day Requirement	7,420
Total Entitlement on Peak Day(excl. Peak Shaving)	7,625
Firm Peak Day Actual Sendout -Non Coincidental (Feb. 10)	7,058
Firm Annual Throughput - Minnesota	652,333
No. of Firm Customers	4,635
DPS Load Factor Calculation	25.32%

# MINNESOTA DESIGN DAY REQUIREMENTS \_\_\_\_\_\_NOVEMBER 1, 2008

Pipeline Group	Nov07-Mar 08 Avg. Customer Count	1/20 Design DDD	Regression Intercept	Factors Slope	Regression Total Footnote 1	Regression Adjustment Footnote 2	1/20 Requirements Regression Load Footnote 3	Nov07-Mar 08 Avg. Customer Growth	Total
					PEAK				1
<del></del>	4,635	109	623	86	10,038	2,841	7,197	3.1%	7,420
Total	4,635								7,420
			····		OFF BEAK				
	4,635	57	623	86	<b>OFF PEAK</b> 5,546	1,562	3,984	3.1%	4,108
Total	4,635				• 10.5		i i i i i i i i i i i i i i i i i i i		4,108

<sup>\*</sup>All requirement adjusted for customer growth

### DESIGN-DAY DEMAND PER CUSTOMER NOVEMBER 1, 2008

Heating <u>Season</u>	No. of Firm <u>Customers</u>	Design Day <u>Reguirements</u>	MMBtus /Customer <u>/Day</u>
08/09	4,635	7,420	1.60
07/08	4,586	8,135	1.77
06/07	4,523	8,112	1.79
05/04	4,502	7,598	1.69
04/03	4,471	7,423	1.66
03/02	4,374	7,083	1.62

11/3/2008

# **MINNESOTA ENERGY RESOURCES - PNG**

### SUMMER/WINTER USAGE - Mcf PROJECTED 12 MONTHS ENDING JUNE 2008

<u>Class</u>	Summer <u>Apr-Oct</u>	Winter <u>Nov-Mar</u>	<u>Total</u>
GS	164,092	474,057	638,149
SVI	49,631	148,374	198,005
SVJ	3,514	10,670	14,184
LVI	<u>0</u>	<u>0</u>	<u>0</u>
Total	<u>217,237</u>	<u>633,101</u>	<u>850,338</u>

11/3/2008

# MINNESOTA ENERGY RESOURCES - PNG

# ENTITLEMENT LEVELS PROPOSED TO BE EFFECTIVE NOVEMBER 1, 2008

Type of Capacity or Entitlement		Current Amount Mcf or <u>MMBtu</u>	Proposed Change Mcf or <u>MMBtu</u>	Proposed Amount Mcf or MMBtu
AF0012 AF0014 (Dec-Feb) * AF0016 AF0102 NNG-TF12 Chisago NNG-TF5 Chisago NNG-TFX 12 Chisago NNG-TFX 5 Chisago Chisago Backhaul* Heating Season Total Non-Heating Season Total Entitlement		3,527 1,098 1,000 2,000 935 227 373 841 1,277 8,902 7,835 8,902	0 0 0 (763) 162 59 (736) (1,277) (677)	3,527 1,098 1,000 2,000 172 389 432 105 0 7,625 7,132 7,625
Heating Season Forecasted Design Da	ау	8,112	(692)	7,420
Non-Heating Season Forecasted Design Da	ay	2,693	1,415	4,108
Heating Season Capacity Surplus/Shor	rtage	790	(585)	205
Non-Heating Season Capacity Surplus/Shor	tage	5,142	(2,118)	3,024
Reserve Margin		8.87%		2.69%

<sup>\*</sup>Not included in total firm entitlement

<sup>(1)</sup> Increase entitlement to ensure adequate reserve margin against design day.

Commodity Margin

\$1.1771

\$1.1771

### **MINNESOTA ENERGY RESOURCES - PNG**

### RATE IMPACT OF THE PROPOSED DEMAND CHANGE

**NOVEMBER 1, 2008** 

\$1.1771

All costs in	Last	Last	Last	Most	Current	Re	sult of Prop	oosed Char	nge
\$/MMBtu	Rate	Demand	Demand	Recent	Proposal	Change	Change	Change	Change
	Case	Change	Change	PGA		from	from	from	from
	G011	G011	G011		Effective	Last	Last	Last	Last
	M03-1372	M06-XXXX	M07-XXXX	Oct. 08	Nov.1,2008	Rate	Demand	PGA	PGA
		Nov. 06	Nov. 07			Case	Change		\$
1) General Service: A	vg. Annual Usi	ð;		139	Mcf				
Commodity Cost	\$2.7770	\$7.3593	\$6.9399	\$6.9633	\$7.0000	152.07%	-4.88%	0.53%	\$0.0367
Demand Cost	\$0.6947	\$1.4386	\$1.1745	\$1.2591	\$1.0176	46.48%	-29.27%	-19.18%	(\$0.2415)

**VGT** 

Total Cost of Gas \$4.6488 \$9.9750 \$9.2915 \$9.8487 \$9.6439 107.45% -3.32% -2.08% (\$0.2048)Avg Annual Cost \$646.18 \$1,386.53 \$1,291.52 \$1,368.97 \$1,340.50 107.45% -3.32% -2.08% (\$28.47)Effect of proposed commodity change on average annual bills: \$5.10 Effect of proposed demand change on average annual bills: (\$33.57)

\$1.6263

\$1.6263

38.16%

38.16%

0.00%

\$0.0000

<ol> <li>Small Vol. Interruj Commodity Cost</li> </ol>	<b>\$</b> 2.7770	\$7.3593	\$6.9399	<b>3,744</b> \$6,9633	Mcf \$7.0000	152.07%	-4.88%	0.53%	\$0.0367
Demand Cost		·	·	•					*
Commodity Margin	\$0.9000	\$0.9000	\$0.9000	\$1.2434	\$1.2434	38.16%	38.16%	0.00%	\$0.0000
Total Cost of Gas	\$3.6770	\$8.2593	\$7.8399	\$8.2067	\$8.2434	124.19%	-0.19%	0.45%	\$0.0367
Avg Annual Cost	\$13,766.69	\$30,922.82	\$29,352.59	\$30,725.88	\$30,863.29	124.19%	-0.19%	0.45%	\$137.40
Effect of proposed cor	mmodity change	on average annu	ıal bills:						\$137.40
Effect of proposed dea	mand change on	average annual	bills:						\$0.00

3) Large Vol. Interru	ptible: Avg. Anr	iual Use:		106,427	Mcf				
Commodity Cost	\$2.7770	\$6.9399	\$6.9633	\$6.9633	\$7.0000	152.07%	0.87%	0.53%	\$0.0367
Demand Cost				•	·				•
Commodity Margin	\$0.2600	\$0.2600	\$0.3592	\$0.2600	\$0.2600	0.00%	0.00%	0.00%	\$0.0000
Total Cost of Gas	\$3.0370	\$7.1999	\$7.3225	\$7.2233	\$7.2600	139.05%	0.83%	0.51%	\$0.0367
Avg Annual Cost	\$323,218.80	\$766,263.76	\$779,311.71	\$768,754.15	\$772,660.02	139.05%	0.83%	0.51%	\$3,905.87
Effect of proposed co									\$3,905.87
Effect of proposed de	mand change on	average annual	bills:						\$0.00

4) Small Vol. Firm: A				3,893	Maf				
	nual CD Units:			13					
Commodity Cost	\$2.7770	\$6.9399	\$6.9399	\$6.9633	\$7.0000	152.07%	0.87%	0.53%	\$0.0367
Demand Cost	\$2.7846	\$3.4671	\$3.4671	\$3.4671	\$3.4671	24.51%	0.00%	0.00%	\$0.0000
Commodity Margin	\$0.9000	\$0.9000	\$0.9000	\$1.2434	\$1.2434	38.16%	38.16%	0.00%	\$0.0000
Demand Margin	\$1.5000	\$1.5000	\$1.5000	\$2.0724	\$2.0724	38.16%	38.16%	0.00%	\$0.0000
Total Cost of Gas	\$3.6770	\$7.8399	\$7.8399	\$8.2067	\$8.2434	124.19%	5.15%	0.45%	\$0.0367
Total Demand Cost	\$4.2846	\$4.9671	\$4.9671	\$5.5395	\$5.5395	29.29%	11.52%	0.00%	\$0.0000
Avg Annual Cost	\$14,370.26	\$30,585.30	\$30,585.30	\$32,020.70	\$32,163.57	123.82%	5.16%	0.45%	\$142.87
Effect of proposed con									\$142.87
Effect of proposed den	nand change on	average annual	bills:						\$0.00

Note: Average Annual Average based on PNG Annual Automatic Adjustment Report in Docket No. E,G999/AA-05-1403

Page 2 of 2

CALCULA	TION OF PURCHASED GAS AD	JUSTMENT	r (PGA)				VGT
I. VIKING	BASE COST OF GAS		BASE		15-Dec-03		
II.	OVED IN DOCKET NO. G011/MF	R-03-1372		_	Based on Feb 2000 ra	ates	Rate/CCF
II	FT-2 Demand	3,127	12	\$2.7846	=	\$104,489	\$0.01619
	FT-2	1,098	3	\$2.7846	=	\$9,172	\$0.00142
1	TF-12(NNG)	1,098	12	\$5.9972	=	\$79,019	\$0.01225
	FT-D	2,000	12	\$10.6500	=	\$255,600	\$0.03961
	Total Demand Cost	2,000	1 4-	Ψ10.0000	GS Demand \$	\$448,280	\$0.06947
	Total Bernaria Cost				OO Demand #	ψ140,200	Ψ0.005-7
	Rate Case 2000 volume in Ccf				GS Ccf	6,452,500	
ľ	Demand Base Cost of Gas/CCf	:			<u> </u>	0,432,300	\$0.06947
	Demand base cost of Gas/CCI						Ψ0.00341
	Commodity Base Cost of Gas/C	`cf					\$0.27770
	Commodity base cost of Cas/C	701					Ψ0.27770
	TOTAL BASE COST OF GAS/0	Ccf					\$0.34717
	TO THE BRIDE GOOT OF GROOT	301			All Classes Ccf	9,546,800	Ψ0.0+7 17
					All Classes Comm \$	\$2,651,146	
					All Olasses Collins 4	Ψ2,031,140	
B SVL4	TOTAL BASE COST OF GAS/0	`cf					\$0.27770
D. 011-4	TOTAL BAGE GOOT OF GAGA	JOI					Ψ0.27770
C. SJ-4	Demand Base Cost of Gas/CCf	:					\$0.27846
J. 33-4	Demand Dase Cost of Gas/CC!				SVJ Demand Unit	54	φυ. <i>Δ1</i> 040
	Commodity Base Cost of Gas/C	^Cf			SVJ Demand \$	\$5,413.26	¢0.27770
	Commounty Base Cost of Gas/C	,01			SvJ Demand \$	\$3,413.20	\$0.27770
İ							
D D///	Commodity Boso Cost of Cost	· O f					<b>60 07770</b>
D. LVI-4	Commodity Base Cost of Gas/C	,CI					\$0.27770
ļ					T-4-1 O O40	£0.404.000	
					Total Gas Cost \$	\$3,104,839	#
N							
II. VIKIN	G GAS TRANSMISSION'S RATE	S CURRI	ENT COST	OF GAS EF	U1-NOV-08	CURRENT	
						\$0.70000	WACOG
						\$0.70000	WACOG
							WACOG
						\$0.70000	WACOG
III ANNIII	AI EIDM CAI EC				-		WACOG
III. ANNU	AL FIRM SALES						WACOG
		FECTIVE			M November 1	\$0.70000	WACOG
	AL FIRM SALES CURRENT COST OF GAS EF	FECTIVE		to dik	01-Nov-08		
IV. PNG'S	CURRENT COST OF GAS EF		12	\$3 4671		\$0.70000 CURRENT	Rate/CCF
	CURRENT COST OF GAS EF	3,527	12	\$3.4671 \$3.4671	=	\$0.70000  CURRENT   \$146,742	Rate/CCF \$0.02274
IV. PNG'S	CURRENT COST OF GAS EF FT-A AF0012 FT-A AF0014	3,527	3	\$3.4671	= =	\$0.70000  CURRENT  \$146,742 \$11,421	Rate/CCF \$0.02274 \$0.00177
IV. PNG'S	CURRENT COST OF GAS EF  FT-A AF0012  FT-A AF0014  FT-A AF0016	3,527 * 1,098 1,000	3 12	\$3.4671 \$3.4671	= = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605	Rate/CCF \$0.02274 \$0.00177 \$0.00645
IV. PNG'S	CURRENT COST OF GAS EF  FT-A AF0012  FT-A AF0014  FT-A AF0016  FT-A AF0102	3,527 * 1,098 1,000 2,000	3 12 12	\$3.4671 \$3.4671 \$3.4671	= = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495	3,527 * 1,098 1,000 2,000 5 172	3 12 12 12	\$3.4671 \$3.4671 \$3.4671 \$7.5776	= = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495	3,527 * 1,098 5 1,000 2,000 5 172 5 389	3 12 12 12 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530	= = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TFX 12 Chisago 112486	3,527 1,098 1,000 2,000 172 389 3 432	3 12 12 12 5 12	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288	= = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486	3,527 * 1,098 1,000 2,000 172 389 3 432 6 105	3 12 12 12 5 12 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530	= = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX	3,527 * 1,098 1,000 2,000 172 389 3 432 6 105	3 12 12 12 5 12	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288	= = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange	3,527 * 1,098 1,000 2,000 172 389 3 432 6 105	3 12 12 12 5 12 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530	= = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Co	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccc	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000
IV. PNG'S	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Co	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176
IV. PNG'S A. GS-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas Current Total Cost of Gas/Ccf	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176
IV. PNG'S A. GS-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccc	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000
IV. PNG'S A. GS-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas Current Total Cost of Gas/Ccf	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176
IV. PNG'S  A. GS-4  B. SVI-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas Current Total Cost of Gas/Ccf	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176 \$0.70000
IV. PNG'S A. GS-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas Current Total Cost of Gas/Ccf	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176
IV. PNG'S  A. GS-4  B. SVI-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176 \$0.70000
IV. PNG'S  A. GS-4  B. SVI-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas Current Total Cost of Gas/Ccf	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176 \$0.70000
IV. PNG'S  A. GS-4  B. SVI-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176 \$0.70000
IV. PNG'S  A. GS-4  B. SVI-4	FT-A AF0012 FT-A AF0014 FT-A AF0016 FT-A AF0102 NNG-TF12 Chisago 112495 NNG-TF5 Chisago 112495 NNG-TFX 12 Chisago 112486 NNG-TFX 5 Chisago 112486 FT-A Backhaul AFXXX Total Demand Cost Nexen Exchange Rate Case 2000 volume in Ccf Current Demand Cost of Gas/Ccf Current Commodity Cost of Gas	3,527 * 1,098 1,000 2,000 5 172 5 389 6 432 6 105 X 0 152,888 Cf //Ccf	3 12 12 12 5 12 5 5	\$3.4671 \$3.4671 \$3.4671 \$7.5776 \$15.1530 \$9.6288 \$15.1530 \$3.7671	= = = = = = = =	\$0.70000  CURRENT  \$146,742 \$11,421 \$41,605 \$83,210 \$15,661 \$29,449 \$49,950 \$7,939 \$0 \$385,977 \$270,612	Rate/CCF \$0.02274 \$0.00177 \$0.00645 \$0.01290 \$0.00243 \$0.00456 \$0.00774 \$0.00123 \$0.00000 \$0.05982 \$0.04194 \$0.10176 \$0.70000 \$0.80176 \$0.70000

### \*\*\*PUBLIC DOCUMENT - TRADE SECRET DATA EXCISED\*\*\*

### MINNESOTA ENERGY RESOURCES - PNG-GLGT

Attachment 5

6,310

190,339

Financial Options Heating Season 2008-2009

[TRADE SECRET DATA BEGINS

Units - Gas Daily Packages

No Gas Daily Peakers were purchased

Units - Call Option (Daily Volume)

<u>December</u> February Property <u>March</u> November <u>January</u> Contract Daily Daily Daily Daily Term Contract Daily Contract Daily Contract Contract <u>Date</u> Date <u>Volume</u> <u>Volume</u> Date <u>Volume</u> <u>Date</u> <u>Volume</u> <u>Date</u> <u>Volume</u> <u>Total</u> **Total** 

Total <u>1,000</u> <u>1,290</u> <u>1,613</u> <u>1,429</u>

Premium - Call Option (Monthly Cost)

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

Total \$ 0.9405 \$ 28,216 \$ 0.9620 \$ 38,479 \$ 1.1427 \$ 57,136 \$ 1.3178 \$ 54,596 \$ 1.2239 \$ 37,131 \$ 1.1325 \$ 215,559

Attachment 6 VGT

		605	TF12 (NNG)		1,108	11F12 (NNG)	
	=	1,098	NNG TF 12 mos. (backhaul)	1	1,098	NNG TF 12 mos. (backhaul)	
	1	0	FT-A (5 month backhaul)	1	915	FT-A (5 month backhaul)	
		1,098	FT-A 3 months		1,098	FT-A 3 months	
ر		6,527	FT-A 12 months	2/	3,527	FT-A 12 months	
Quai		Quantity (Mcf)	G011/M-08-XXXX		Quantity (Mcf)	G011/M-07-XXXX	
Chai			2008-09	_		2007-08	
		12.0%	Percent Seasonal on Viking		7.6%	Percent Seasonal on Viking	
		1,067	Total Seasonal Transport		614	Total Seasonal Transport	
		7,835	Total Annual Transportation		7,472	Total Annual Transportation	
		8,902	Total Viking Transportation		8,086	Total Viking Transportation	
		8,902	Total Design Day Capacity		8,086	Total Design Day Capacity	
		0,000					
		3 000	FT-D 12 months		2000	FT-D 12 months	
		1,067	TF5 (NNG)		614	TF5 (NNG)	
		1,308	TF12 (NNG)		286	TF12 (NNG)	
	1	1,098	NNG TF 12 mos. (backhaul)	1	1,098	NNG TF 12 mos. (backhaul)	
	1	1,277	FT-A (5 month backhaul)	<u> </u>	600	FT-A (5 month backhaul)	
		1,098	FT-A 3 months		1,098	FT-A 12 months	
	2	3,527	FT-A 12 months	2/	4,088	FT-A 12 months	
		Quantity (Mcf)	G011/M-06-XXXX		Quantity (Mcf)	G011/M-05-1725	
			2006-07			2005-06	

2007-08		_	2008-09		Change in
G011/M-07-XXXX	Quantity (Mcf)		G011/M-08-XXXX	Quantity (Mcf)	Quantity
FT-A 12 months	3,527	2/	FT-A 12 months	6,527	3,000
FT-A 3 months	1,098		FT-A 3 months	1,098	0
FT-A (5 month backhaul)	915	<u> </u>	FT-A (5 month backhaul)	0 1/	(915)
NNG TF 12 mos. (backhaul)	1,098	<u> </u>	NNG TF 12 mos. (backhaul)	) 1,098 1/	0
TF12 (NNG)	1,108		TF12 (NNG)		(503)
TF5 (NNG)	905		TF5 (NNG)	493	(412)
FT-D 12 months	3,000		FT-D 12 months	0	(3,000)
Total Design Day Capacity	8,540	4	Total Design Day Capacity	7,625	(915)
Total Viking Transportation	8,540		Total Viking Transportation	7,625	(915)
Total Annual Transportation	7,635		Total Annual Transportation	_	(503)
Total Seasonal Transport	905		Total Seasonal Transport		(412)
Percent Seasonal on Viking	10.6%		Percent Seasonal on Viking		-4.13%

<sup>1/</sup> The amount is excluded from the design day capacity since it is a backhaul to transport gas to Viking.

Attachment 7

				October PGA with Current	Chango	Change From	Change	
	Last Rate	Last Demand	Most Recent	Demand	Change From	Last	From Most	Change
		Change M-06-	PGA as Filed-	Entitlement	Last Rate			From Most
General Service	1372	XXXX	October	Change	Case	Change	PGA	Recent PGA
Commodity Cost of Gas (WACOG)		\$7.3593	\$6.9633	\$7.0000	152.07%	-4.88%	0.53%	\$0.0367
Demand Cost of Gas	\$0.6947	\$1.4386	\$1.2591	\$1.0176		-29.27%		(\$0.2415)
Commodity Margin	\$1.2628	\$1.1771	\$1.6263	\$1.6263	28.79%	38.16%	0.00%	\$0.0000
Total Cost of Gas	\$4.7345	\$9.9750	\$9.8487	\$9.6439	103.69%	-3.32%	-2.08%	(\$0.2048)
Average Annual Usage (Mcf)	139	139	139	139				,
Average Annual Total Cost of Gas	\$658.10	\$1,386.53	\$1,368.97	\$1,340.50	103.69%	-3.32%	-2.08%	(\$28.47)
						Change	Change	
					Change	From	From	-
	Last Rate	Last Demand			From	Last	Most	Change
0		Change M-06-	Most Recent	Current	Last Rate		Recent	From Most
Small Volume Interruptible	1372	XXXX	PGA	Proposal	Case	Change	PGA	Recent PGA
Commodity Cost of Gas (WACOG) Demand Cost of Gas	\$2.7770	\$7.3593	\$6.9633	\$7.0000	152.07%	-4.88%	0.53%	\$0.0367 \$0.0000
Commodity Margin	\$0.9000	\$0.9000	\$0.9000	\$1.2434	38.16%	38.16%	38.16%	\$0.3434
Total Cost of Gas	\$3.6770	\$8.2593	\$7.8633	\$8.2434	124.19%	-0.19%	4.83%	\$0.3801
Average Annual Usage (Mcf)	3,744	3,744	3,744	3,744				
Average Annual Total Cost of Gas	\$13,766.69	\$30,922.82	\$29,440.20	\$30,863.29	124.19%	-0.19%	4.83%	\$1,423.09
						-	Change	
	Last Data	115			Change	From	From	
	Last Rate	Last Demand	M. (5)	•	From	Last	Most	Change
Large Volume Internatible	Case GR-03-	Change M-06-	Most Recent	Current	Last Rate		Recent	From Most
Large Volume Interruptible	1372	XXXX	PGA	Proposal	Case	Change	PGA	Recent PGA
Commodity Cost of Gas (WACOG) Demand Cost of Gas	\$2.7770	\$7.3593	\$6.9633	\$7.0000	152.07%	-4.88%	0.53%	\$0.0367
Commodity Margin	\$0.2600	\$0.2600	\$0.2600	<b>ድ</b> ስ ኃርስስ	0.000/	0.000/	0.000/	\$0.0000
Total Cost of Gas	\$3.0370	\$7.6193	\$7.2233	\$0.2600 \$7.2600	0.00% 139.05%	0.00% -4.72%	0.00%	\$0.0000
Average Annual Usage (Mcf)	106,427	106,427	47.2233 106,427	106,427	139.05%	-4.72%	0.51%	\$0.0367
	\$323,218.80	\$810,899.24	\$768,754.15	\$772,660.02	139.05%	-4.72%	0.51%	\$3,905.87
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	Last Rate	Last Demand			Change	From	From	C Channe
		Change M-06-	Most Recent	Current	From Last Rate	Last	Most Recent	\$ Change From Most
Small Volume Firm	1372	XXXX	PGA	Proposal	Case	Change	PGA	Recent PGA
Commodity Cost of Gas (WACOG)	\$2.7770	\$7.3593	\$6.9633	\$7.0000	152.07%	-4.88%	0.53%	\$0.0367
Demand Cost of Gas	\$2.7846	\$3.4671	\$3.3260	\$3.4671	24.51%	0.00%	4.24%	\$0.0307
Commodity Margin	\$0.9000	\$0.9000	\$0.9000	\$1.2434	38.16%	38.16%		\$0.3434
Demand Margin	\$1.5000	\$1.5000	\$1.5000	\$2.0724	38.16%	38.16%	38.16%	\$0.5724
Total Commodity Cost	\$3.6770	\$8.2593	\$7.8633	\$8.2434	124.19%	-0.19%	4.83%	\$0.3801
Total Demand Cost	\$4.2846	\$4.9671	\$4.8260	\$5.5395	29.29%	11.52%	14.78%	\$0.7135
Total Recovery	\$7.9616	\$13.2264	\$12.6893	\$13.7829	73.12%	4.21%	8.62%	\$1.0936
Average Annual Usage (Mcf)*	3,893	3,893	3,893	3,893				
Average Annual Commodity Bill <sup>^</sup> * Excludes 7 CD Units	\$14,314.56	\$32,153.45	\$30,611.83	\$32,091.56	124.19%	-0.19%	4.83%	\$1,479.73
	Commodity	Commodity	Demand	Demand	Total	Total		Effect on
	Change	Change	Change	Change	Change	Change		Annual
Summary	(\$/Mcf)	(%)	(\$/Mcf)	(%)	_	(%)		
General Service	\$0.0367	3.67%	(\$0.2415)	-19.18%	(\$/Mcf) (\$0.2048)	-2.08%	-	(\$28.47)
Small Volume Interruptible	\$0.0367	3.67%	\$0.0000	0.00%	\$0.3801	-2.06% 4.83%		(\$28.47) \$1,423.09
Large Volume Interruptible	\$0.0367	3.67%	\$0.0000	0.00%	(\$0.0367)	0.51%		\$1,423.09 \$3,905.87
Small Volume Firm	\$0.3801	38.01%	\$0.7135	14.78%	\$0.0000	0.00%		\$3,905.67 \$1,479.73
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Atttachment 8

VGI								
	Oct-08	Nov-08	Entitlement		Oct. 2008	Oct. 2008	Nov. 2008	Entitlement
	Entitlement	Entitlement	Change	Months	Tariff Rate	Total Cost	Total Cost	Change
FT-A (AF0012)	3,527	3,527	0	12	\$3.4671	\$146,742	\$146,742	\$0
FT-A (AF0014)	1,098	1,098	0	3	\$3.4671	\$11,421	\$11,421	\$0
FT-A (AF0016)	1,000	1,000	0	12	\$3.4671	\$41,605	\$41,605	\$0
FT-A (AF0102)	2,000	2,000	0	12	\$3.4671	\$83,210	\$83,210	\$0
TF-12 (NNG) (112495)	172	172	0	12	\$7.5776	\$15,661	\$15,661	\$0
TFX-12 (NNG) (112495)	389	389	0	12	\$15.1530	\$70,678	\$70,678	\$0
TF-5 (NNG) (112495)	432	432	0	5	\$9.6288	\$20,813	\$20,813	\$0
TFX-5 (NNG) (112486)	105	105	0	5	\$15.1530	\$7,939	\$7,939	\$0
Chisago Backhaul	0	915	915	5	\$3.7671	\$0	\$17,234	\$17,234
Chisago Backhaul	915	0	-915	5	\$2.7360	\$12,517	\$0	-\$12,517
Tenaska PSO	0	0	0	1		\$0	\$0	\$0
Nexen PSO	154,541	152,888	-1,653	1	\$1.7700_	\$273,538	\$270,612	-\$2,926
Total Demand Cost						\$684,123	\$685,915	\$1,791

### \*\*\*PUBLIC DOCUMENT - TRADE SECRET DATA EXCISED\*\*\*

Attachment 9, Page 1 of 2

### 08/09 Winter Portfolio Plan - MERC VGT-PNG Hedging Plan

[TRADE SECRET DATA BEGINS]

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[TRADE SECRET DATA ENDS]

\*\*\*PUBLIC DOCUMENT - TRADE SECRET DATA EXCISED\*\*\*

### \*\*\*PUBLIC DOCUMENT - TRADE SECRET DATA EXCISED\*\*\*

Attachment 9 Page 2 of 2

### MINNESOTA ENERGY RESOURCES

VGT WINTER PLAN (PNG) NOVEMBER, 2008 THROUGH MARCH, 2009

[TRADE SECRET DATA BEGINS

TRADE SECRET DATA ENDS]
\*\*\*PUBLIC DOCUMENT - TRADE SECRET DATA EXCISED\*\*\*

Attachment 10
Daily Total Throughput Data - July 1, 2007 through June 30, 2008
VGT

Base Variable 1,801 67

			l	variable	67
Date	15.00% Bemidji Adjusted HDD	85.00% Fargo Adjusted HDD	100.00% Weighted Adjusted HDD	Actual Total Through- Put *	Estimated Through- Put
7/1/07	0	0	0	747	1,801
7/2/07	0	0	0	850	1,801
7/3/07	0	0	0	769	1,801
7/4/07	0	0	0	504	1,801
7/5/07 7/6/07	0	0	0 0	566	1,801
7/0/07	0	0	0	566 509	1,801 1,801
7/8/07	0	Ö	Ö	627	1,801
7/9/07	1	Ö	Ŏ	870	1,812
7/10/07	5	0	1	940	1,848
7/11/07	4	0	1	939	1,846
7/12/07	3	1	1	898	1,897
7/13/07	3	0	0	669	1,834
7/14/07	0	0	0	589	1,801
7/15/07 7/16/07	1 0	0 0	0 0	712 898	1,812 1,801
7/10/07	0	0	0	882	1,801
7/18/07	Ŏ	Ö	Ö	860	1,801
7/19/07	Õ	Ö	Ö	880	1,801
7/20/07	1	0	0	639	1,812
7/21/07	0	0	0	544	1,801
7/22/07	0	0	0	634	1,801
7/23/07	0	0	0	796	1,801
7/24/07	0	0	0	791	1,801
7/25/07	0	0	0	794	1,801
7/26/07 7/27/07	0 0	0 0	0 0	841 638	1,801
7/28/07	0	0	0	509	1,801 1,801
7/29/07	Ö	Ö	Ö	585	1,801
7/30/07	ŏ	ő	ŏ	794	1,801
7/31/07	Ō	Ō	ō	794	1,801
8/1/07	0	0	0	832	1,801
8/2/07	0	0	0	838	1,801
8/3/07	1	0	0	650	1,811
8/4/07	0	0	0	585	1,801
8/5/07	0	0	0	650	1,801
8/6/07 8/7/07	4 0	0 0	1	820	1,843
8/8/07	0	0	0 0	839 844	1,801 1,801
8/9/07	0	Ö	0	814	1,801
8/10/07	Ö	Ö	Ö	613	1,801
8/11/07	0	Ō	Ö	561	1,801
8/12/07	7	3	4	655	2,057
8/13/07	6	0	1	851	1,866
8/14/07	0	0	0	888	1,801
8/15/07	0	0	0	885	1,801
8/16/07 8/17/07	9 8	3 6	4 7	912 742	2,071
8/18/07	12	6	7	690	2,242 2,291
8/19/07	3	3	3	791	2,022
8/20/07	7	2	3	933	1,993
8/21/07	0	0	0	912	1,801
8/22/07	0	0	0	865	1,801
8/23/07	1	0	0	925	1,812
8/24/07	7	5	6	714	2,173
8/25/07	5	5	5	565	2,148
8/26/07 8/27/07	0 0	0	0	628	1,801
8/28/07	9	0 3	0 4	876 951	1,801
8/29/07	8	4	5	930	2,079 2,123
8/30/07	7	Ö	1	818	1,876
8/31/07	Ö	ŏ	ò	620	1,801
9/1/07	0	0	0	531	1,801
9/2/07	2	0	0	525	1,823
9/3/07	0	0	0	601	1,801
9/4/07	1	0	0	803	1,812
9/5/07	0	0	0	774	1,801
9/6/07 9/7/07	0 8	0	0	898	1,801
9/8/07	0 18	6 17	6 17	760	2,192
9/9/07	18	17	17	939 890	2,955 2,810
9/10/07	11	8	8	1,136	2,357
9/11/07	23	17	18	1,617	3,010
9/12/07	21	12	13	1,244	2,704
9/13/07	21	12	13	1,707	2,683
9/14/07	29	20	21	1,673	3,224
9/15/07	19	12	13	1,111	2,689
9/16/07	9	4	5	851	2,141
9/17/07	6	0	1	983	1,866
9/18/07 9/19/07	7 17	7 11	7 12	1,233	2,247
9/19/07	17	4	12 6	1,328 1,204	2,591 2,223
9/21/07	7	6	6	1,204	2,223
9/22/07	8	2	3	733	2,190
•	-	-	-		_,

	_	_	_	207	
9/23/07	0	0	0	697	1,801
9/24/07	1	0	0	1,089	1,812
9/25/07	21	14	15	1,565	2,820
9/26/07	16	12	13	1,345	2,645
9/27/07	12	10	10	1,394	2,479
9/28/07	17	11	12	957	2,618
9/29/07	2	0	0	693	1,824
9/30/07	8	2	3	1,088	2,005
10/1/07	16	10	11	1,143	2,519
10/2/07	7	7	7	1,371	2,258
10/3/07	11	7	7	1,154	2,280
10/4/07	11	9	9	1,194	2,395
10/5/07	17	10	11	1,067	2,539
10/6/07	6	0	1	718	1,856
10/7/07	9	12	12	1,275	2,595
10/8/07	21	14	15	1,965	2,825
10/9/07	33	21	23	2,631	3,356
10/10/07	27	27	27	2,329	3,619
10/11/07	24	21	21	2,292	3,208
10/12/07	24	13	14	1,947	2,766
10/13/07	17	16	16	1,602	2,889
10/14/07	22	14	15	1,938	2,811
10/15/07	22	19	19	2,239	3,085
10/16/07	23	18	19	2,059	3,069
10/17/07	17	13	14	1,830	2,721
10/18/07	17	14	15	2,021	2,783
10/19/07	21	15	16	2,061	2,890
10/19/07	21	14		•	
			15	1,618	2,806
10/21/07	21	18	19	2,243	3,048
10/22/07	26	22	22	2,394	3,292
10/23/07	21	19	20	2,589	3,120
10/24/07	25	23	23	2,232	3,346
10/25/07	14	11	11	2,020	2,548
10/26/07	26	23	24	2,425	3,387
10/27/07	30	28	28	2,633	3,674
10/28/07	29	21	23	2,197	3,317
10/29/07	18	18	18	1,952	
					3,015
10/30/07	13	13	13	1,987	2,682
10/31/07	32	28	29	2,932	3,718
11/1/07	28	24	24	2,326	3,423
11/2/07	29	26	26	2,550	3,541
11/3/07	30	29	29	2,542	3,760
11/4/07	30	31	31	2,744	3,883
11/5/07	39	36	36	3,923	4,229
11/6/07	40	40	40	4,099	4,496
11/7/07	37	37	37	3,803	4,275
11/8/07	35	36	36	3,444	4,206
11/9/07	34	32	32	3,188	3,945
11/10/07	30	26	26	2,720	3,553
11/11/07	25	18	19	2,576	3,071
11/12/07	24	24	24	2,453	3,396
11/13/07	19	18	18	2,808	2,989
11/14/07	35	31	31	4,029	3,908
11/15/07	40	39	39	3,626	4,396
11/16/07	36	28	29	3,026	3,732
11/17/07	41	33	34	3,478	4,076
11/18/07	40	34	35	3,338	4,139
11/19/07	29	25	26	3,109	3,511
11/20/07	39	36	37	4,232	4,255
11/21/07	47	47	47	4,763	4,938
11/22/07	48	47	47	4,249	4,969
11/23/07	43	43	43	3,988	4,652
11/24/07	41	38	38	3,661	4,363
11/25/07	35	32	32	3,641	3,957
11/26/07	55	52	52	5,514	5,292
11/27/07	71	66	67	6,001	6,302
11/28/07	61	59	60	6,476	5,795
11/29/07	67	67	67	6,875	6,273
11/30/07					
12/1/07	68 55	56 53	57 54	5,744 5,050	5,647 5,306
	55 63	53 71	54 60	5,050	5,396
12/2/07	63	71	69	6,107	6,450
12/3/07	65	64	64	5,687	6,103
12/4/07	57	53	53	5,779	5,378
12/5/07	68	73	72	6,316	6,628
12/6/07	62	63	63	6,062	5,990
12/7/07	73	77	77	6,785	6,942
12/8/07	75	79	78	6,900	7,055
12/9/07	73	78	78	6,516	7,002
12/10/07	59	63	63	5,796	6,001
12/11/07	64	63	63		
				5,816 5,290	6,003
12/12/07	56	58	58	5,280	5,671
12/13/07	61	60	60	6,881	5,846
12/14/07	74	72	72	6,363	6,629
12/15/07	56	56	56	5,119	5,526
12/16/07	55	57	57	5,198	5,610
12/17/07	47	55	53	4,816	5,385
12/18/07	49	53	52	5,034	5,283
12/19/07	54	52	53	4,896	5,324
12/20/07	43	48	47		
				4,646	4,946
12/21/07	39	47	46	4,285	4,850
12/22/07	55	60	60	5,648	5,793
12/23/07	66	68	68	6,288	6,361
12/24/07	57	57	57	4,801	5,595
12/25/07	45	43	43	4,339	4,709
12/26/07	47	54	53	4,732	5,351
12/27/07	47	52	51	4,946	5,234
12/28/07	53	49	49	4,666	5,113
			,-	.,	۵,,,,

12/29/07	48	51	51	4,698	5,208
12/30/07	49	54	53	4,774	5,361
12/31/07	63	62	62	6,043	5,939
1/1/08	75	77	77	7,047	6,931
1/2/08	70	68	69	6,254	6,392
1/3/08	50	52	52	5,142	5,294
1/4/08	51	51	51	4,909	5,199
1/5/08	44	46	45	3,947	4,843
1/6/08	35	35	35	3,553	4,142
1/7/08	36	36	36	3,867	4,235
1/8/08	44	49	48	4,951	5,023
1/9/08 1/10/08	50 44	48 48	49 47	4,750	5,052 4,976
1/11/08	44	46 50	50	4,972	5,155
1/12/08	58	50 57	57	5,041 5,056	5,641
1/12/08	60	67	66	6,503	6,230
1/14/08	75	80	79	7,670	7,085
1/15/08	68	68	68	5,961	6,384
1/16/08	63	64	64	7,017	6,073
1/17/08	69	72	72	7,039	6,618
1/18/08	83	81	82	8,296	7,267
1/19/08	85	85	85	8,050	7,485
1/20/08	83	82	82	7,537	7,325
1/21/08	73	71	71	7,473	6,581
1/22/08	77	71	72	7,554	6,623
1/23/08	83	81	81	8,307	7,253
1/24/08	70	75	74	7,122	6,782
1/25/08	63	62	62	5,839	5,962
1/26/08	50	60	59	5,280	5,743
1/27/08	49	48	48	4,130	5,049
1/28/08	39	48	47	5,343	4,939
1/29/08	81	85	84	9,192	7,441
1/30/08	92	87	88	8,515	7,674
1/31/08	73	74	74	7,244	6,731
2/1/08 2/2/08	55 49	55 56	55 55	5,446	5,459
2/3/08	49 48	47	47	5,906 4,908	5,492 4,940
2/4/08	42	51	50	5,000	5,123
2/5/08	59	72	70	6,588	6,516
2/6/08	62	69	68	5,756	6,350
2/7/08	48	56	55	5,025	5,480
2/8/08	47	47	47	4,947	4,968
2/9/08	75	71	72	8,062	6,620
2/10/08	97	91	92	8,235	7,955
2/11/08	81	77	77	7,354	6,975
2/12/08	60	61	61	6,220	5,884
2/13/08	66	65	65	6,526	6,165
2/14/08	78	79	79	7,753	7,087
2/15/08	80	69	71	6,763	6,550
2/16/08	52	46	47	4,408	4,965
2/17/08	57	57	57	6,585	5,594
2/18/08	78	83	82	7,837	7,289
2/19/08	84	90	89	8,408	7,756
2/20/08	81	89	88	8,011	7,702
2/21/08 2/22/08	72 57	71 50	71 50	6,062	6,571
	57 52	56 56	56 55	5,316	5,537
2/23/08 2/24/08	52 44	47	55 47	4,413 4,305	5,492 4,931
2/25/08	49	59	58	5,350	5,663
2/26/08	53	51	51	5,357	5,227
2/27/08	57	54	54	4,988	5,421
2/28/08	54	46	47	4,697	4,983
2/29/08	56	53	54	5,402	5,395
3/1/08	54	54	54	4,341	5,394
3/2/08	52	50	50	5,559	5,164
3/3/08	69	68	68	6,169	6,355
3/4/08	54	54	54	5,431	5,408
3/5/08	62	66	65	6,433	6,158
3/6/08	76	77 70	77	7,475	6,975
3/7/08	74	78	77	6,520	6,965
3/8/08 3/9/08	60 56	61	61	5,439	5,868
3/10/08	48	64 48	62 48	5,368 4,189	5,987
3/11/08	31	36	35	3,447	5,023 4,168
3/12/08	35	31	32	3,559	3,923
3/13/08	35	33	33	3,663	4,022
3/14/08	47	45	45	4,797	4,822
3/15/08	48	52	51	4,311	5,239
3/16/08	46	48	48	3,735	4,990
3/17/08	37	38	38	3,849	4,316
3/18/08	36	31	31	3,787	3,897
3/19/08	37	35	35	3,697	4,142
3/20/08	44	39	40	3,764	4,458
3/21/08 3/22/08	38 36	36 30	36 38	3,732	4,214
3/23/08	36 47	39 52	38 51	3,801 4 327	4,379 5.245
3/23/08	47 47	52 46	51 46	4,327 4,097	5,245 4,895
3/25/08	40	36	36	4,097 4,133	4,895 4,229
3/26/08	44	40	41	4,166	4,229 4,544
3/27/08	43	41	41	3,878	4,5 <del>44</del> 4,546
3/28/08	39	40	40	3,222	4,488
3/29/08	34	34	34	3,196	4,084
3/30/08	35	35	35	3,489	4,116
3/31/08	37	36	36	4,073	4,236
4/1/08	37	35	36	3,580	4,182
4/2/08 4/3/08	36 27	27	28	3,505	3,693
4/3/08	27	23	24	2,709	3,400

4/4/08	26	21	22	2,336	3,243
4/5/08	31	31	31	2,632	3,853
4/6/08	41	40	40	3,938	4,506
4/7/08	34	33	33	3,526	
4/8/08	38	29	30	3,141	3,830
4/9/08	34	27	28	2,920	3,676
4/10/08	34	29	30	3,847	3,782
4/11/08	40	38	38	3,784	4,376
4/12/08	36	30	31	3,174	3,861
4/13/08	36	29	30	2,829	3,818
4/14/08	32	25	26	2,735	3,536
4/15/08	17	12	13	1,990	2,673
4/16/08	21	17	18	2,690	3,002
4/17/08	25	22	22	2,355	3,308
4/18/08	23	19	19	1,913	3,105
4/19/08	23	18	19	1,584	3,059
	20				2,728
4/20/08		13	14	1,791	
4/21/08	21	23	23	2,780	3,325
4/22/08	23	21	22	2,293	3,254
4/23/08	24	23	23	1,796	3,325
4/24/08	24	23	23	2,852	3,370
4/25/08	40	41	41	4,044	4,532
4/26/08	45	37	38	3,874	4,369
4/27/08	40	36	37	3,056	4,278
4/28/08	41	34	35	2,755	4,129
4/29/08	29	25	26	2,447	3,525
4/30/08	27	16	18	2,075	3,008
5/1/08	21	14	15	2,245	2,821
5/2/08	23	22	22	2,997	3,273
		21			
5/3/08	27		22	2,069	3,255
5/4/08	21	14	15	1,839	2,784
5/5/08	27	18	19	1,894	3,094
5/6/08	12	4	6	1,491	2,171
5/7/08	22	18	18	1,866	3,026
5/8/08	26	20	20	1,986	3,172
5/9/08	20	15	15	1,469	2,835
5/10/08	29	27	27	2,529	3,624
5/11/08	25	21	22	1,655	3,275
5/12/08	23	11	13	1,921	2,645
5/13/08	26	19	20	2,485	3,123
5/14/08	17	16	16	1,434	2,884
5/15/08	9				
		4	5	1,341	2,132
5/16/08	9	3	4	1,018	2,084
5/17/08	13	9	10	1,244	2,460
5/18/08	22	15	16	1,189	2,894
5/19/08	23	11	13	1,687	2,657
5/20/08	19	15	16	1,545	2,844
5/21/08	21	15	16	1,215	2,876
5/22/08	15	8	9	1,098	2,394
5/23/08	9	2	3	903	2,022
5/24/08	8	2	3	733	2,015
5/25/08	Ö	0	ŏ	687	1,801
5/26/08	18	15	16	1,387	2,846
5/27/08	21	16	17		
5/28/08	14			1,279	2,914
		3	5	1,080	2,123
5/29/08	7	6	6	1,328	2,183
5/30/08	7	3	4	1,025	2,057
5/31/08	8	1	2	813	1,943
6/1/08	2	0	0	790	1,823
6/2/08	9	10	10	1,269	2,451
6/3/08	16	15	15	1,605	2,789
6/4/08	16	6	8	1,213	2,320
6/5/08	10	8	8	1,286	2,347
6/6/08	8	6	6	956	2,217
6/7/08	1	Ö	0	710	1,812
6/8/08	6	4	4	805	2,101
6/9/08	8	8	8	1,068	2,317
6/10/08	14	9	10	1,175	2,447
6/11/08	20	13	14	1,480	2,745
6/12/08	4	7	6		
6/13/08	10			1,105	2,228
		6	6	933	2,231
6/14/08	3	0	0	747	1,834
6/15/08	13	10	10	950	2,492
6/16/08	8	4	5	1,045	2,124
6/17/08	7	0	1	963	1,875
6/18/08	5	0	1	934	1,853
6/19/08	0	0	0	885	1,801
6/20/08	0	0	0	730	1,801
6/21/08	1	ō	Õ	620	1,812
6/22/08	3	ŏ	ŏ	724	1,834
6/23/08	2	ő	ő	896	1,822
6/24/08	0	0	0	852	
6/25/08	0	0	0		1,801
				942	1,801
6/26/08	0	0	0	914	1,801
6/27/08	0	0	0	806	1,801
6/28/08	9	4	4	746	2,094
6/29/08	0	0	0	769	1,801
6/30/08	0	0	0	939	1,801
Totals	10,845	10,209	10,304	1,091,586	1,349,547

<sup>\*</sup> Volumes include interruptible and transportation volumes except for transportation volumes that are not located behind MERC citygates.

<sup>\*\*</sup> Design Model numbers are used to calculate firm volumes only

Attachment 11

Customer Counts by PGAC Class - July 1, 2007 through June 30, 2008 VGT

	Tariff	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	1110-08
Rate	Rate	Average	Average	Average	Average	Average	Average	Average	Average	_	Average	Average	Average
Class	Designation	Customers	Customers	Customers	Customers	<u> </u>	Customers	Customers	Customers	Customers	Customers	Customers	Customers
Residential w/ Heat	MN004	3,769	3,966	3,717	3,711	3,857	3,809	3,836	3.828	3.903	3.867	3,922	4 075
Residential w/o Heat	¥	74	9/	92	72	77	75	80	92			73	75
Commercial-SV	MN051/072	296	316	295	302	318	300	312	309	307	308	316	330
Commercial-I V	MANO73	α	α	α	0	0					(	,	
Industrial-SV	MN058	0					0	ō	0 0	0	o c	α	Σ
Industrial-I V	MNIO63	370	308	306	200	0 90	200			0 00	0	0	0
SV-Interrintible	MAN 405/408	200	330	200	2		- 60	660	1.65	995	391	385	419
ov-michinghine		0	8	3	57	ΩZ	22	7.7	70	20	26	44	33
LV-Interruptible		0	0	0	0	0	0	0	0	0	0	0	0
Transport	MN586/70A/76A	8	8	6	S	6	80	6	6	10	6	4	9
Total		4 552	4 780	4 514	809 V	7 605	7 646	4 660	7 6 4 7	7 7 7	000	1	
		1							140,4	4.7		70/.4	4 94b