ATTACHMENT A

November 2, 2015

To: Service List

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

Notice of Availability

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

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

Amber Lee
Minnesota Energy Resources Corporation
1995 Rahncliff Court, Suite 200
Eagan, MN 55122
(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 B

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	**Chair**
Nancy Lange	**Commissioner**
Dan Lipschultz	**Commissioner**
John Tuma	**Commissioner**
Betsy Wergin	**Commissioner**

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

Docket No. G011/M-15-722

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 customers served off of the Consolidated system. MERC requests that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2015. MERC further stated that it would provide an update to the Petition. MERC submitted an update to its Petition on November 2, 2015.

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 for Approval of a Change in Demand Entitlement for its Consolidated System	Docket No. G011/M-15-722

REVISED FILING UPON CHANGE IN DEMAND

On July 31, 2015, pursuant to Minnesota Rule 7825.2910, subpart 2 (Filing Upon Change in Demand), Minnesota Energy Resources Corporation (MERC or the Company), hereby petitions the Minnesota Public Utilities Commission (Commission) for approval of changes in demand entitlements for MERC customers served off of the Consolidated system. MERC requests that the Commission approve the requested changes to be recovered in the Purchased Gas Adjustment (PGA) effective on November 1, 2015. MERC now submits this update to its July 31, 2015 Filing.

This filing includes the following attachments:

Attachment A: Notice of Availability.

Attachment B: One paragraph summary of the filing in accordance with Minn. R. 7829.1300, subp. 1.

Attachment C: Petition for Change in Demand with Attachments.

Attachment D: Affidavit of Service and Service List.

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

I. Summary of Filing

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

II. Service on Other Parties

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.

III. General Filing Information

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

Minnesota Energy Resources Corporation 1995
Rahncliff Court, Suite 200
Eagan, MN 55122
(651) 322-8901

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

Kristin M. Stastny
Briggs and Morgan, P.A.
2200 IDS Center
80 South 8th Street
Minneapolis, MN 55402
(612) 977-8400

Koby Bailey
WEC Energy Group, Inc.
200 East Randolph Street
Suite 2300
Chicago, IL 60601
(312) 240-4081

C. Date of the Filing and Proposed Effective Date

Date of filing: November 2, 2015
Proposed Effective Date: November 1, 2015

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. Signature and Title of Utility Employee Responsible for the Filing

Amber S. Lee
1995 Rahncliff Court, Suite 200
Eagan, MN 55122
(651) 322-8965

If additional information is required, please contact Amber S. Lee at (651) 322-8965.

DATED: November 2, 2015

Respectfully Submitted,
MINNESOTA ENERGY RESOURCES CORPORATION

By: /s/ Amber S. Lee
Amber S. Lee
1995 Rahncliff Court, Suite 200
Eagan, MN 55122
Telephone: (651) 322-8965

ATTACHMENT C

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger	**Chair**
Nancy Lange	**Commissioner**
Dan Lipschultz	**Commissioner**
John Tuma	**Commissioner**
Betsy Wergin	**Commissioner**

In the Matter of the Petition of Minnesota Energy Resources Corporation – Consolidated for Approval of a Change in Demand Entitlement	Docket No. G-011/M-15-722

PETITION OF MINNESOTA ENERGY RESOURCES CORPORATION-CONSOLIDATED 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), 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, 2015.

II. DISCUSSION

A. MERC's Consolidated Design Day Requirements

MERC's 2015-2016 Consolidated design day has increased by 4,369 Dth from what was filed in the November 1, 2014 filing.

Table 1: MERC's Proposed Consolidated Reserve Margins
For the 2015-2016 Heating Season
Consolidated (GLGT, VGT & Centra)

	Reserve Margin 2015-2016 Heating Season	Reserve Margin 2014-2015 Heating Season	Change
NNG Zone E-F	4.47%	5.65%	-1.18%

As shown in Table 1 and Attachment 3, MERC's proposed system wide reserve margin for Consolidated for the 2015-2016 heating season is positive.

For the Demand Entitlement filing effective November 1, 2015, the total Design Day requirement for Consolidated-Centra is 8,674 Mcf, as calculated in Attachment 1, page 2 of 3. For the Demand Entitlement filing effective November 1, 2015, the total Design Day capacity for Consolidated-Centra is 9,100 Mcf as calculated in Attachment 3 and Attachment 4, page 2 of 3. The difference between the total Design Day requirement and total Design Day capacity results in a 4.91% positive reserve margin.

For the Demand Entitlement filing effective November 1, 2015, the total Design Day requirement for Consolidated-GLGT is 28,543 Dth as calculated in Attachment 1, page 2 of 3. For the Demand Entitlement filing effective November 1, 2015, the total Design Day capacity for Consolidated-GLGT is 29,758 Dth as calculated in Attachment 3 and Attachment 4, page 2 or 3. The difference between the total Design Day requirement and total Design Day capacity results in a 4.26% positive reserve margin.

For the Demand Entitlement filing effective November 1, 2015, the total Design Day requirement for Consolidated-VGT is 15,858 Dth as calculated in Attachment 1, page 2 of 3. For the Demand Entitlement filing effective November 1, 2015, the total Design Day capacity for Consolidated-VGT is 16,591 Dth as calculated in Attachment 3 and Attachment 4, page 2 of 3.

The difference between the total Design Day requirement and total Design Day capacity results in a 4.62% positive reserve margin.

The Commission's Order Approving MERC's 2014 Demand Entitlement filings, issued June 22, 2015 in Docket Nos. G011/M-14-660 and G-011/M-14-661, required MERC to include in its next petition for a change in demand entitlement for the MERC-Consolidated area, a description and explanation of the different alternatives MERC reviewed and a discussion on each option that was considered by MERC to resolve the Consolidated-VGT negative reserve margin. Now that VGT was allowed to increase their pressure back up to 100% MAOP, MERC has contracted for an incremental 1,000 Dth/day capacity during the winter, which provides MERC a positive reserve margin. MERC stated in Additional Reply Comments it intended to explore all available options (i.e., Emerson, Northern Natural Gas, Great Lakes Gas Transmission, and ANR) to serve customers reliably given the negative VGT reserve margin in its 2015 demand entitlement filing. However, because VGT has been allowed to increase pressure back up to 100% MAOP, MERC has contracted to provide a positive reserve margin.

B. <u>Forecast Methodology for MERC Demand Entitlement November 1, 2015</u>

1. <u>Peakday</u>

a. <u>Purpose</u>

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."

b. <u>Background</u>

MERC customers are served by <u>four pipelines:</u>

1. VGT - Viking Gas Transmission system
2. NNG- Northern Natural Gas pipeline

3. GLGT - Great Lakes Gas Transmission pipeline

4. Centra - Centra pipeline

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

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

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

i. All MERC customers served off of NNG = NNG

ii. All other PNG customers, served off of Centra, GLGT & VGT = MERC Consolidated

Effective May 1, 2015, MERC acquired Interstate Power & Light Company's Minnesota natural gas operations and customers. The Commission's Order Approving Sale Subject to Conditions in Docket G-001,011/PA-14-107 required MERC to maintain the transitioned customers on a separate PGA until MERC's next rate case. (MERC NNG- Albert Lea).

Weather data is obtained from eight weather stations: International Falls, Bemidji, Cloquet, Fargo, Minneapolis, Rochester, Worthington and Ortonville.

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

	Pipeline	**PGA**	**Weather Station(s)**
1	Centra	MERC Consolidated	International Falls
2	GLGT	MERC Consolidated	Bemidji
3	GLGT	MERC Consolidated	Cloquet

4	VGT	MERC Consolidated	Fargo
5	NNG	NNG	Cloquet
6	NNG	NNG	Minneapolis
7	NNG	NNG	Ortonville
8	NNG	NNG	Rochester
9	NNG	NNG	Worthington

2. Analytical Approach

   a. Summary

1. Obtain daily weather data for each weather station
2. Obtain daily total throughput volumes by pipeline and by weather station
3. Obtain daily large volume transportation, interruptible and joint interruptible volumes by pipeline and by weather station (“Data A”)
4. Obtain daily small volume interruptible volumes by pipeline and by weather station (“Data B”)
5. Calculate daily “firm” volumes by subtracting both Data A and Data B from total throughput volumes
6. Perform quality control on volumetric data (e.g., identify missing or bad reads, and, to the extent possible, fix missing or bad reads)
7. Perform firm 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.

8. Add back Daily Firm Capacity (DFC) customer selections
9. Apply sales forecast growth rates

3. <u>Detail</u>

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

A review of the data available also showed that we could use daily small volume interruptible data that came as a result of the Telemetry program as part of MERC's Interruptible Tariffs.

The Team followed an approach generally consistent with the one used last year with one major change. By only using daily data, the Team removed the effects the monthly billing cycle data had on the Peak Day forecast.

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 <u>**Data Preparation**</u> 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 by pipeline and by weather station.
- Determine the most recent three years of December through February daily large volume transportation, interruptible and joint interruptible volumes by pipeline and by weather station ("Data A").
- Determine the most recent three years of December through February daily small volume interruptible volumes by pipeline and by weather station ("Data B").
- Review daily total metered throughput, Data A, and Data B and identify missing or bad reads, and to the extent possible, fix missing or bad reads. To the extent that the data could not be fixed, we did not include it in our regressions.
- Subtract both Data A and Data B daily meter readings for all three December through February years from the total throughput for each pipeline and each weather station. Use the resulting net daily metered volumes for regressions. Examples of transportation, interruptible, and joint interruptible meter readings subtracted are paper mills, direct-connects, taconites, and off-system end users. (see "Adjusting the Regression Results to a Firm Peak Day Estimate" below)

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:

Station	**Date**	**Avg. Temp**	**Avg. Wind**	**HDD65**	**AHDD65**
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	2/2/1996	-34	8	99	107

Falls					
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 table. As noted above, some of the meters represented a TBS. Some meters were dedicated to a customer who is not a firm service customer. For example, certain transportation, interruptible, direct-connect, and taconite customers have their own meter, but are not counted as firm service customers.

The Team then gathered daily telemetered data from every remaining interruptible customer and mapped each customer's data to a pipeline and to one of the weather stations shown in the above table This was a major new undertaking this year that was only made possible by the Telemetry program as part of MERC's Interruptible Tariffs.

ii. The **<u>Regression Generation of Net Daily Metered Volumes</u>** consisted of:

- For each of the pipelines and weather stations:

  1. Gather the net daily metered volumes and weather station data including AHDD65.[1]

  2. 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

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

based on winter month, such as businesses that are open extra hours in December and resume normal operating hours in January.

3. Perform ordinary least squares linear regressions for the 3-year time frame using the AHDD65 weather variable and the significant indicator variables.
4. In response to comments from the Minnesota Department of Commerce, changed the regression methodology to mitigate the impact of autocorrelation. See section below on autocorrelation.
5. In response to comments from the Department, provide a reasonable explanation whenever we choose to use a regression model that does not have an intercept.
6. Summarize the Baseload and Use/AHDD65 and Use/Prior Day AHDD65 from each regression.
7. Calculate a point estimate from each regression based on the baseload value plus the Use/AHDD65 coefficient times the coldest AHDD65 in 20 years and the Use/Prior Day AHDD65 coefficient times the AHDD65 on the day prior to the coldest AHDD65 in 20 years.

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 Yule-Walker estimation method within the SAS software package to employ an AR(1) regression which then showed that the Durbin –Watson statistics are all either close to 2 or above.

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. 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.

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

While transportation, interruptible and joint interruptible 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 pipeline. The total volumes were then added back to the regression results.

Exhibit 1
Pipeline and Weather Station Regression Notes

A. Large Volume Transportation, Interruptible and Joint Interruptible Customers

GLGT Paper Mills = Blandon mapped to Bemidji, and Sappi and USG mapped to Cloquet

VGT Lamb Weston mapped to Fargo.

NNG Taconites / Direct Connects =

- CCI EMPIRE IND DEL PT 2 TILDEN mapped to Cloquet
- CCI NORTHSHORE mapped to Cloquet
- UNITED TACONITE (was EVELETH TACONITE) mapped to Cloquet
- HIBBING TACONITE CO. mapped to Cloquet
- U.S. STEEL #1 & #2 mapped to Cloquet
- NATIONAL STEEL PELLET mapped to Cloquet
- COTTAGE GROVE TBS LS POWER mapped to Minneapolis
- INLAND STEEL mapped to Cloquet
- HANNA MINING mapped to Cloquet

NNG OSEU (End Users) =

- ARKEMA INC. mapped to Rochester
- MAYO Clinic 1 Fairmount mapped to Worthington
- MAYO Clinic 2 (Franklin Htg) mapped to Rochester
- MAYO Clinic 3 (St Mary's) mapped to Rochester
- ARCHER DANIELS MIDLAND, CO. mapped to Minneapolis
- ASSOCIATED MILK PRODUCTS, INC. mapped to Rochester
- Hawkins Inc mapped to Minneapolis
- CORRECTIONAL CTR mapped to Minneapolis
- DAIRY FARMERS OF AMERICA mapped to Rochester
- Dick's Sanitation mapped to Minneapolis
- KEMPS LLC mapped to Rochester
- KERRY BIO-SCIENCE mapped to Rochester
- LAKESIDE mapped to Rochester
- MILK SPECIALTIES mapped to Worthington
- LAND OF LAKES mapped to Rochester
- PRO-CORN mapped to Rochester
- SWIFT mapped to Rochester
- SENECA FOODS-ROCHERSTER mapped to Rochester
- ENGINEERED POLYMERS mapped to Cloquet
- SANDSTONE FEDERAL CORRECTIONAL INSTITUTE mapped to Cloquet

- Glenville #1 mapped to Rochester
- Agra Resources(Exol) mapped to Rochester
- Halcon Corporation mapped to Rochester
- REG ALBERT LEA, LLC mapped to Rochester
- Zinpro North Branch mapped to Minneapolis

B. Daily Firm Capacity

VGT

- DETROIT LAKES MIDDLE SCHOOL
- ROSSMAN SCHOOL

GLGT

- AMERIPRIDE
- NORTHLAND APTS
- NW TECH COLLEGE - BEMIDJI

NNG

- HENDRICKS HOSPITAL
- GLASSTITE INC

III. ADDITIONAL FILING REQUIREMENTS

A. 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.

B. Average Customer Counts

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

C. Balancing

In MERC's 2010-2011 Demand Entitlement docket, the Department of Commerce, Division of Energy Resources (Department) recommended that MERC clarify its statements regarding system balancing and provide detailed evidence in subsequent demand entitlement filings assuring the Commission that the appropriate customer group is paying for any balancing charges or penalties. Additionally, in Docket No. G-999/AA-12-756, by Order dated November 14, 2013, the Commission ordered that "[p]rospectively, all regulated natural gas utilities shall recover balancing service costs, and shall credit the utility's penalty revenues and the pipeline's revenue credits, to the commodity portion of the PGA effective with the earliest true-up filing (for revenues) or the earliest monthly PGA (for costs) that can reasonably be implemented."

MERC subsequently revised its monthly PGA filings, beginning November 2013, to recover all balancing costs via the commodity portion of the PGA. MERC's 2014 AAA and True-up filings, as well as the 2014 Demand Entitlement filing, also reflected this change. The current MERC-Consolidated demand entitlement filing includes detailed evidence of the allocation of balancing costs to the commodity portion of the PGA on Attachment 4, page 3 of 3.

D. <u>MERC's Specific Consolidated Proposed Demand-Related Changes</u>

There are two types of demand entitlement changes. The first type is design day deliverability, which, in this case, decreases 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. <u>Design Day Deliverability Changes</u>

On Centra Transmission Holdings Inc. and Centra Pipeline Minnesota, MERC decreased capacity from 9,500 Mcf to 9,100 Mcf to ensure a positive reserve margin less than 5%.

On GLGT, MERC increased capacity by 3,300 Dth for the winter only period (November 2015 through March 2016) to meet a design day requirement and ensure a positive reserve margin.

On VGT, MERC increased capacity by 1,000 Dth for the winter only period (November 2015 through March 2016) to meet a design day requirement and ensure a positive reserve margin.

Table 4

Capacity Entitlement	Propose Change Increase/(Decrease)	
FT0016	-	Dth/day
FT15782	-	Dth/day
FT17891 (12)	-	Dth/day
FT17891 (5)	90	Dth/day
FT18283 (5)	3,300	Dth/day
AF0012	-	Dth/day
AF0209	-	Dth/day
AF0102	-	Dth/day
AF0229	1,000	Dth/day
Centra FT-1	(400)	Mcf/Day
Total Overall Change	3,990	

2. Other Demand Entitlement Changes

MERC has AECO Storage. To deliver the supply from storage to MERC-Consolidated markets, MERC utilizes 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.

E. Financial Option Units and Premiums

i. MERC is entering into New York Mercantile Exchange (NYMEX) financial Call Options for the upcoming 2015/2016 winter (November through March). 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 $349,153 for the 2015/2016 winter. Since purchases have only been made through July 31, 2015, MERC will update total premium costs in the November 1, 2015 filing. Please see Attachment 5.

iii. MERC will be entering into 124 contracts (10,000MMBtu/contract) or 1,240,000MMBtu. Total premium per contract to date is approximately $0.2477. 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 80 futures contracts (10,000MMBtu/contract) or 800,000MMBtu. 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 meets 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.

F. Gas Supply

The Consolidated 2015-2016 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 2015 through March 2016 period as well as the planned physical fixed price, financial call options and storage and/or exchange volumes by month.

G. 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 $3.0506. Please see Attachment 13, page 1 of 3. MERC is projecting the storage WACOG on AECO Storage to be approximately $2.1997. 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 $3.1644, 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 $3.34 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.

H. 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, 2015. Rate impacts associated with this change can be found on Attachment 4, pages 1 through 3, and on page 1 of Attachment 7.

I. Impacts of Telemetry

Throughout the course of the year we have a number of customers who request to switch from interruptible to firm service. We evaluate these requests to determine the impact to our system and our upstream entitlement levels and our process requires us to evaluate the system capability before we allow a customer to switch to firm. As a result, the firm volumes associated with a customer switch fall within the design day parameters and do not impact our demand entitlement levels.

IV. CONCLUSION

Based upon the foregoing, MERC respectfully requests the Minnesota Public Utilities Commission grant the demand changes requested herein effective November 1, 2015. If any further information, clarification, or substantiation is required to support this filing please advise.

DATED: November 2, 2015

Respectfully Submitted,

MINNESOTA ENERGY RESOURCES CORPORATION

By: /s/ Amber S. Lee
Amber S. Lee
1995 Rahncliff Court, Suite 200
Eagan, MN 55122
Telephone: (651) 322-8965

ATTACHMENT D

CERTIFICATE OF SERVICE

I, Kristin M. Stastny, hereby certify that on the 2nd day of November, 2015, on behalf of Minnesota Energy Resources Corporation (MERC), I electronically filed a true and correct copy of MERC's Revised Petition for Approval of a Change in Demand Entitlement on www.edockets.state.mn.us. Said documents were also served via U.S. mail and electronic service as designated on the attached service list.

Dated this 2nd day of November, 2015.

/s/ Kristin M. Stastny

Kristin M. Stastny

MINNESOTA ENERGY RESOURCES - Consolidated

DESIGN-DAY DEMAND SUMMARY
NOVEMBER 1, 2015

Design Day Requirement		53,075
Total Peak Day Entitlement		55,449
Firm Peak Day Actual Sendout -Non Coincidental	(Jan. 4)	45,751
Firm Annual Throughput - Minnesota		5,033,575
No. of Firm Customers		34,799
Department Load Factor Calculation		30.14%

MINNESOTA ENERGY RESOURCES - Consolidated

MINNESOTA DESIGN DAY REQUIREMENTS
NOVEMBER 1, 2015
HDD

Pipeline Group	2014/15 Customer Count	1/20 Design DDD	Regression Factors Intercept	Regression Factors Slope	Regression Total Footnote 1	Add Adjustment Footnote 2	1/20 Requirements Regression Load Footnote 3	Nov15-Mar16 Customer Growth	Add Contract Demand Units	Total
VGT										
Peak	10,900	109	632	139	14,967	1,093	16,060	-1.3%	7	15,858
Off Peak	10,900	57	632	139	8,527	1,093	9,620	-1.3%	7	9,502
GLGT										
Peak	18,167	106	1,131	246	26,857	1,845	28,702	-1.3%	214	28,543
Off Peak	18,167	57	1,131	246	15,167	1,845	17,012	-1.3%	214	17,005
Centra										
Peak	5,732	107	569	73	8,341	447	8,788	-1.3%	0	8,674
Off Peak	5,732	57	569	73	4,712	447	5,159	-1.3%	0	5,092
Total Consolidated										
Peak	34,799	107	2,332	458	50,165	3,385	53,550	-1.3%	221	53,075
Off Peak	34,799	57	2,332	458	28,406	3,385	31,791	-1.3%	221	31,599

Footnote 1: Regression Total is based on total through-put data.
Footnote 2: Adjustment to bring to 97.5% confidence level.
Footnote 3: Total equals Regression Total plus Adjustment.

MINNESOTA ENERGY RESOURCES - Consolidated

DESIGN-DAY DEMAND PER CUSTOMER
NOVEMBER 1, 2015

Heating Season	No. of Firm Customers	Design Day Requirements	MMBtu /Customer /Day
15/16	34,799	53,075	1.53
14/15	34,397	48,706	1.42
13/14	34,007	50,048	1.47
12/13	33,630	52,289	1.55
11/12	33,384	50,366	1.51
10/11	33,399	50,779	1.52
09/10	34,053	53,931	1.58
08/09	32,632	59,654	1.83
07/08	32,454	57,202	1.76

MINNESOTA ENERGY RESOURCES - Consolidated

SUMMER/WINTER USAGE - Mcf

PROJECTED 12 MONTHS ENDING JUNE 2016

Consolidated

Class	Summer Apr-Oct	Winter Nov-Mar	Total
GS	1,381,150	3,624,827	5,005,977
SVI	0	0	0
SVJ	9,661	17,937	27,598
LVI	0	0	0
LVJ	0	0	0
SLV	0	0	0
IS	260,620	463,410	724,030
Total	1,651,431	4,106,174	5,757,605

MINNESOTA ENERGY RESOURCES - Consolidated

ENTITLEMENT LEVELS
PROPOSED TO BE EFFECTIVE NOVEMBER 1, 2015

Type of Capacity or Entitlement		Current Amount Mcf or MMBtu	Proposed Change Mcf or MMBtu	Proposed Amount Mcf or MMBtu
FT Western Zone	FT0016	10,130	0	10,130
FT Western Zone	FT15782	9,000	0	9,000
FT Western Zone (12)	FT17891 (12)	3,600	0	3,600
FT Western Zone (5)	FT17891 (5)	3,638	90	3,728
FT Western Zone (5)	FT18283 (5)	0	3,300	3,300
FT-A ZONE 1 - 1	AF0012	12,493	0	12,493
FT-A ZONE 1 - 1	AF0209	1,098		1,098
FT-A ZONE 1 - 1	AF0102	2,000	0	2,000
FA-A ZONE 1 - 1	AF0229	0	1,000	1,000
CENTRA FT-1		9,500	(400)	9,100
Total Entitlement		51,459	3,990	55,449
Forecasted Design Day-Adjusted		48,706	4,369	53,075
Capacity Surplus/Shortage		2,753	(379)	2,374
Reserve Margin		5.65%		4.47%

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

NOVEMBER 1, 2015

All costs in $/Dth	Base Cost of Gas G011/ MR-13-732* Apr. 15	Demand Change G011- 13-669 Nov. 13	Last Demand Change G011- 14-661 Nov. 14	Most Recent PGA Effective Oct 1, 2015	Current Proposal Effective Nov. 1,2015	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:				**87**	**Dth**				
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-34.62%	-2.05%	($0.0654)
Demand Cost	$0.8077	$0.8968	$0.8147	$0.7968	$0.8006	-0.88%	-0.79%	0.48%	$0.0038
Commodity Margin	$2.1806	$1.9754	$2.2290	$2.1806	$2.1806	0.00%	0.00%	0.00%	$0.0000
Total Cost of Gas	$7.4246	$6.6466	$7.9628	$6.1722	$6.1106	-17.70%	-19.77%	-1.00%	($0.0616)
Avg Annual Cost	$645.94	$578.25	$692.76	$536.98	$531.62	-17.70%	-19.77%	-1.00%	($5.36)
Effect of proposed commodity change on average annual bills:									($5.69)
Effect of proposed demand change on average annual bills:									$0.33
2) Large General Service: Avg. Annual Use:				**800**	**Dth**				
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-17.09%	-2.05%	($0.0654)
Demand Cost	$0.8077	$0.8968	$0.8147	$0.7968	$0.8006	-0.88%	-10.73%	0.48%	$0.0038
Commodity Margin	$1.6579	$1.6868	$1.9034	$1.6579	$1.6579	0.00%	-1.71%	0.00%	$0.0000
Total Cost of Gas	$6.9019	$6.3580	$7.6372	$5.6495	$5.5879	-19.04%	-12.11%	-1.09%	($0.0616)
Avg Annual Cost	$5,521.52	$5,086.40	$6,109.76	$4,519.60	$4,470.34	-19.04%	-12.11%	-1.09%	($49.26)
Effect of proposed commodity change on average annual bills:									($52.30)
Effect of proposed demand change on average annual bills:									$3.04
3) SV Interruptible Service: Avg. Annual Use:				**5,914**	**Dth**				
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-17.09%	-2.05%	($0.0654)
Commodity Margin	$0.8490	$1.0647	$1.2014	$0.8490	$0.8490	0.00%	-20.26%	0.00%	$0.0000
Total Cost of Gas	$5.2853	$4.8391	$6.1205	$4.0438	$3.9784	-24.73%	-17.79%	-1.62%	($0.0654)
Avg Annual Cost	$31,257.26	$28,618.44	$36,196.64	$23,915.03	$23,528.38	-24.73%	-17.79%	-1.62%	($386.65)
Effect of proposed commodity change on average annual bills:									($386.65)
4) LV Interruptible Service: Avg. Annual Use:				**70,770**	**Dth**				
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-17.09%	-2.05%	($0.0654)
Commodity Margin	$0.4553	$0.3568	$0.4026	$0.4553	$0.4553	0.00%	27.61%	0.00%	$0.0000
Total Cost of Gas	$4.8916	$4.1312	$5.3217	$3.6501	$3.5847	-26.72%	-13.23%	-1.79%	($0.0654)
Avg Annual Cost	$346,178.53	$292,365.02	$376,616.71	$258,317.58	$253,690.69	-26.72%	-13.23%	-1.79%	($4,626.89)
Effect of proposed commodity change on average annual bills:									($4,626.89)

Note: Average Annual Average based on PNG Annual Automatic Adjustment Report in Docket No. E,G999/AA-15-612
* As Approved in Docket No. G011/MR-13-732; to coincide with implementation of final rates in Docket No. G011/GR-13-617

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

NOVEMBER 1, 2015

DEMAND

Contract Type		Season	Monthly Entitlement (Dth)	Months	Rate ($/Dth)		Contract Costs	Rate Case Sales (therms)	$/therm
Viking (VGT)									
FT-A ZONE 1 - 1	AF0012	Annual	12,493	12	4.3706	$	655,223	46,134,679	$0.01420
FT-A ZONE 1 - 1	AF0209	Winter	1,098	3	4.3706	$	14,397	46,134,679	$0.00031
FT-A ZONE 1 - 1	AF0102	Annual	2,000	12	4.5607	$	109,457	46,134,679	$0.00237
FA-A ZONE 1 - 1	AF0229	Nov-Mar	1,000	5	4.7507	$	23,754	46,134,679	$0.00051
	.								
VGT Demand						**$**	**802,831**	46,134,679	**$0.01740**
Great Lakes (GLGT)									
FT Western Zone	FT0016	Annual	10,130	12	$3.8490	$	467,886	46,134,679	$0.01014
FT Western Zone	FT15782	Annual	9,000	12	$3.8490	$	415,693	46,134,679	$0.00901
FT Western Zone (12)	FT17891 (12)	Annual	3,600	12	$3.8490	$	166,277	46,134,679	$0.00360
FT Western Zone (5)	FT17891 (5)	Winter	3,728	5	$3.8490	$	71,746	46,134,679	$0.00156
FT Western Zone (5)	FT18283 (5)	Winter	3,300	5	$3.8490	$	63,509	46,134,679	$0.00138
GLGT Demand						**$**	**1,185,111**	46,134,679	**$0.02569**
Centra									
CENTRA TRANSMISSION	($Cdn/103M3)				$552.6130				
Conversion (103M3 x Rate(C$ 103M3)		Annual	9,100	12	$12.3678	$	1,350,566	46,134,679	$0.02927
CENTRA MINNESOTA PIPELINES		Annual	9,100	12	$3.2510	$	355,009	46,134,679	$0.00770
Centra Demand						**$**	**1,705,575**	46,134,679	**$0.03697**
MERC-Consolidated DEMAND - $/therm						**$**	**3,693,517**		**$0.08006**

For Joint Rate Demand				**46,134,679**	Annual Firm Sales in therms
	Units Dth's	**Months**	**Annual** Dth's		
Viking (VGT)					
FT-A ZONE 1 - 1	12,493	12	149,916		
FT-A ZONE 1 - 1	1,098	3	3,294		
FT-A ZONE 1 - 1	2,000	12	24,000		
FA-A ZONE 1 - 1	1,000	5	5,000		
Great Lakes (GLGT)					
FT Western Zone	10,130	12	121,560		
FT Western Zone	9,000	12	108,000		
FT Western Zone (12)	3,600	12	43,200		
FT Western Zone (5)	3,728	5	18,640		
FT Western Zone (5)	3,300	5	16,500		
Centra					
CENTRA TRANSMISSION					
Conversion (103M3 x Rate(C$ 103M3)	9,100	12	109,200		
CENTRA MINNESOTA PIPELINES	9,100	12	109,200		

Total Demand Cost	$	3,693,517	
Total Demand Weighted therms		5,993,100	
Total Joint Demand Rate $/therm			**$0.61629**

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

PRESENT AVERAGE COST OF GAS COMMODITY **NOVEMBER 1, 2015**

WACOG	Rate	Annual Dth	Call Option Premium	Balancing Service	Total Annual Cost	System Cost/therm	Storage Comm Rate	Total Comm Rate	REFERENCE	Effective
VGT										
GAS COST	$2.67930									
FUEL 0.00%	$0.00000								Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
COMMODITY TRANSPORTATION	$0.01160								Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
GRI	$0.00000								Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
ACA	$0.00140								Sub 16th Revised Sheet No. 5B	Apr. 1, 2006
VGT Commodity	$2.69230	2,100,257	$115,889	$89,580	$5,859,991	$0.10529			**VGT Commodity**	
GLGT										
GAS COST	$2.67930									
FUEL 0.748%	$0.02019									
COMMODITY TRANSPORTATION	$0.00394								5 Revised Sheet 4	Jun 1, 1997
GRI	$0.00000								Contract	Jun. 1, 2004
ACA	$0.00140								18th Revised Sheet No. 7	Oct. 1, 2005
GLGT Commodity	$2.70483	2,169,739	$119,722	$0	$5,988,498	$0.10760			**GLGT Commodity**	
CENTRA										
CENTRA TRANSMISSION ($Cdn/103M3)	1.062								Sheet 1 (N.E.B.)	
Conversion	$0.02284									
Abandonment Toll	$0.27649								N.E.B. MO-078-2014	Jan. 1, 2015
GAS COSTS	$2.67930									
CUSTOMS FEE	$0.00031									
CENTRA Commodity	$2.97894	1,295,443	$71,480	$54,000	$3,984,529	$0.07159			**Centra Commodity**	
Consolidated WACOG w/Premium & Balancing		**5,565,440**	**$307,091**	**$143,580**	**$15,833,017**	**$0.28449**	**$0.02845**			
	Total Annual Sales in therms	**55,654,396**								
								$0.31294	**Total Consolidated WACOG-$/therm**	

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

Storage Service	**Season**	**Monthly Entitlement (Dth)**	**Months**		**Rate ($/Dth)**	**Contract Costs**	**Annual Sales (therms)**	**Rate ($/therm)**
Niska Storage (AECO)	Annual	947,820	1		$0.6225	$590,018	55,654,396	$0.01060
AECO/Emerson Swap	Annual	955,255	1	$	1.04000	$993,465	55,654,396	$0.01785
						$1,583,483	55,654,396	$0.02845

Total Commodity Cost: **$0.31294**

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

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

Attachment 5

MINNESOTA ENERGY RESOURCES - PNG-NNG

Financial Options

Heating Season 2015-2016

Units - Gas Daily Peaker Packages (Physical)

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

Premium - Gas Daily Peaker (Monthly Cost)

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

Units - Futures (Daily Volume)

	November		December		January		February		March			
	Contract Date	Daily Volume	Contract Date	Daily Volume	Contract Date	Daily Volume	Contract Date	Daily Volume	Contract Date	Daily Volume	Daily Total	Term Total
1	05/15/15	952	05/28/15	753	05/26/15	442	05/19/15	600	05/21/15	1,135	3,882	118,191
2	06/09/15	952	06/29/15	753	05/26/15	531	05/19/15	480	06/19/15	956	3,671	111,899
3	07/09/15	873	07/29/15	753	06/24/15	973	06/15/15	1,079	06/19/15	179	3,857	116,545
4	08/07/15	794	08/28/15	538	07/23/15	973	07/16/15	720	07/21/15	1,075	4,099	124,840
5	09/10/15	714	09/10/15	538	08/24/15	973	07/16/15	240	08/19/15	1,075	3,540	108,546
6	10/01/15	714	10/19/15	538	09/23/15	884	08/14/15	960	09/18/15	1,075	4,171	126,674
7					10/22/15	708	09/14/15	720	10/23/15	956	2,383	72,435
8							10/20/15	720			720	20,870
9												
10												
Total		5,000		3,871		5,484		5,517		6,452	26,324	800,000
		150,000		120,000		170,000		160,000		200,000		800,000
		630,000		360,000		620,000		460,000		1,080,000		3,150,000

Units - Call Options (Daily Volume)

	November		December		January		February		March			
	Contract Date	Daily Volume	Contract Date	Daily Volume	Contract Date	Daily Volume	Contract Date	Daily Volume	Contract Date	Daily Volume	Daily Total	Term Total
1	05/22/15	944	05/20/15	1,333	05/18/15	1,579	05/27/15	1,552	05/14/15	1,227	6,635	201,650
2	06/23/15	944	06/17/15	1,333	06/11/15	1,637	06/26/15	1,552	06/04/15	1,227	6,694	203,463
3	07/22/15	944	07/17/15	1,333	07/13/15	1,637	07/27/15	1,552	07/07/15	1,227	6,694	203,463
4	08/21/15	944	08/17/15	1,389	08/11/15	1,696	08/26/15	1,492	08/04/15	1,227	6,748	205,267
5	09/21/15	944	09/16/15	1,500	09/11/15	1,696	09/25/15	1,552	09/02/15	1,227	6,919	210,442
6	10/02/15	944	10/01/15	1,500	10/19/15	1,754	10/23/15	1,611	10/21/15	1,283	7,093	215,715
7												
Total		5,667		8,387		10,000		9,310		7,419	40,783	1,240,000
		170,000		260,000		310,000		270,000		230,000		1,240,000
		960,000		1,510,000		1,710,000		1,560,000		1,330,000		7,070,000

Premium - Call Option (Monthly Cost)

	November		December		January		February		March		Total	
	Option Premium	Premium Cost	Option Premium	Premium Cost	Option Premium	Premium Cost	Option Premium	Premium Cost	Option Premium	Premium Cost	Option Premium	Premium Cost
1	$ 0.2280	$ 6,460	$ 0.2410	$9,959	$ 0.3770	$18,453	$ 0.3970	$17,865	$ 0.3970	$ 15,104	$ 0.3364	$ 67,841
2	$ 0.2420	$ 6,857	$ 0.3070	$12,687	$ 0.3000	$15,228	$ 0.3720	$16,740	$ 0.3360	$ 12,783	$ 0.3160	$ 64,295
3	$ 0.1330	$ 3,768	$ 0.2210	$9,133	$ 0.2480	$12,589	$ 0.3220	$14,490	$ 0.3420	$ 13,011	$ 0.2604	$ 52,991
4	$ 0.0900	$ 2,550	$ 0.1410	$6,070	$ 0.2790	$14,668	$ 0.2370	$10,255	$ 0.3080	$ 11,718	$ 0.2205	$ 45,260
5	$ 0.0690	$ 1,955	$ 0.1390	$6,462	$ 0.1730	$9,095	$ 0.2620	$11,790	$ 0.3100	$ 11,794	$ 0.1953	$ 41,096
6	$ 0.0910	$ 2,578	$ 0.0750	$3,487	$ 0.1420	$7,723	$ 0.2150	$10,047	$ 0.2960	$ 11,773	$ 0.1651	$ 35,608
7												
Total	**$ 0.1422**	**$ 24,168**	**$ 0.1838**	**$ 47,797**	**$ 0.2508**	**$ 77,756**	**$ 0.3114**	**$ 81,187**	**$ 0.3312**	**$ 76,184**	**$ 0.2477**	**$ 307,091**
		$ 136,480		**$ 277,590**		**$ 428,910**		**$ 469,080**		**$ 440,540**		**$ 1,752,600**

Units - Collar Floor (put)

No Puts were purchased.

Attachment 6

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

	M-11-Consolidated GS	M-12-Consolidated GS	M-13-Consolidated GS	**M-14-Consolidated GS**	**M-15-Consolidated GS**	Proposed Change
Viking Gas Transmission (VGT)						
FT-A ZONE 1 - 1	12,493	12,493	12,493	**12,493**	**12,493**	0
FT-A ZONE 1 - 1	1,098	1,098	1,098	**1,098**	**1,098**	0
FT-A ZONE 1 - 1	2,000	2,000	2,000	**2,000**	**2,000**	0
FA-A ZONE 1 - 1	0	0	1,500	**0**	**1,000**	1,000
Wadena Delivered GDD Option	0	3500	0	**0**	**0**	0
Great Lakes Gas Transmission (GLGT)						
FT Western Zone	10,130	10,130	10,130	**10,130**	**10,130**	0
FT Western Zone	9,000	9,000	9,000	9,000	**9,000**	0
FT Western Zone (12)	3,600	3,600	3,600	3,600	**3,600**	0
FT Western Zone (5)	3,638	3,638	3,638	3,638	**3,728**	90
FT Western Zone (5)	0	0	0	**0**	**3,300**	3,300
Centra Transmission Holding/Centra Minnesota Pipelines (CTHI/CPMI)						
Centra FT-1	9,858	9,500	9,500	**9,500**	**9,100**	-400
Total VGT Transportation	15,591	19,091	17,091	**15,591**	**16,591**	1,000
Total GLGT Transportation	26,368	26,368	26,368	**26,368**	**29,758**	3,390
Total CTHI/CPMI Transportation	9,858	9,500	9,500	**9,500**	**9,100**	-400
Total Transportation	51,817	54,959	52,959	**51,459**	**55,449**	3,990
Total Seasonal Transportation	1,098	4,598	2,598	**1,098**	**2,098**	1,000
Total Seasonal Transportation %	2.12%	8.37%	4.91%	**2.13%**	**3.78%**	-2.77%
<u>Other Entitlements not included in Peak Day Deliverability</u>						
AECO Storage	947,820	947,820	947,820	**947,820**	**947,820**	0
AECO/Emerson Swap	947,823	947,823	947,823	**940,428**	**955,255**	14,827

MINNESOTA ENERGY RESOURCES - Consolidated

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

General Service-Residential	Base Cost of Gas Change MR13-732	Demand Change Nov'13	Last Demand Change Nov'14	Most Recent PGA Oct'15	Nov. 1, 2015 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	$ Change From Last PGA
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-36.38%	-2.05%	($0.0654)
Demand Cost	$0.8077	$0.8968	$0.8147	$0.7968	$0.8006	-0.88%	-1.73%	0.48%	$0.0038
Margin	$2.1806	$1.9754	$2.2290	$2.1806	$2.1806	0.00%	-2.17%	0.00%	$0.0000
Total Cost of Gas	$7.4246	$6.6466	$7.9628	$6.1722	$6.1106	-17.70%	-23.26%	-1.00%	($0.0616)
Average Annual Use	87	87	87	87	87				
Average Annual Cost of Gas*	$645.94	$578.25	$692.76	$536.98	$531.62	-17.70%	-23.26%	-1.00%	($5.36)

Large General Service	Base Cost of Gas Change MR13-732	Demand Change Nov'13	Last Demand Change Nov'14	Most Recent PGA Oct'15	Nov. 1, 2015 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	$ Change From Last PGA
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-36.38%	-2.05%	($0.0654)
Demand Cost	$0.8077	$0.8968	$0.8147	$0.7968	$0.8006	-0.88%	-1.73%	0.48%	$0.0038
Margin	$1.6579	$1.6868	$1.9034	$1.6579	$1.6579	0.00%	-12.90%	0.00%	$0.0000
Total Cost of Gas	$6.9019	$6.3580	$7.6372	$5.6495	$5.5879	-19.04%	-26.83%	-1.09%	($0.0616)
Average Annual Use	800	800	800	800	800				
Average Annual Cost of Gas*	$5,521.52	$5,086.40	$6,109.76	$4,519.60	$4,470.34	-19.04%	-26.83%	-1.09%	($49.26)

SV Interruptible Service	Base Cost of Gas Change MR13-732	Demand Change Nov'13	Last Demand Change Nov'14	Most Recent PGA Oct'15	Nov. 1, 2015 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	$ Change From Last PGA
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-36.38%	-2.05%	($0.0654)
Commodity Margin	$0.8490	$1.0647	$1.2014	$0.8490	$0.8490	0.00%	-29.33%	0.00%	$0.0000
Total Cost of Gas	$5.2853	$4.8391	$6.1205	$4.0438	$3.9784	-24.73%	-35.00%	-1.62%	($0.0654)
Average Annual Use	5,914	5,914	5,914	5,914	5,914				
Average Annual Cost of Gas*	$31,257.26	$28,618.44	$36,196.64	$23,915.03	$23,528.38	-24.73%	-35.00%	-1.62%	($386.65)

LV Interruptible Service	Base Cost of Gas Change MR13-732	Demand Change Nov'13	Last Demand Change Nov'14	Most Recent PGA Oct'15	Nov. 1, 2015 w/ Proposed Demand Changes**	% Change From Last Rate Case^^	% Change From Last Demand Filing	% Change From Last PGA	$ Change From Last PGA
Commodity Cost	$4.4363	$3.7744	$4.9191	$3.1948	$3.1294	-29.46%	-36.38%	-2.05%	($0.0654)
Commodity Margin	$0.4553	$0.3568	$0.4026	$0.4553	$0.4553	0.00%	13.09%	0.00%	$0.0000
Total Cost of Gas	$4.8916	$4.1312	$5.3217	$3.6501	$3.5847	-26.72%	-32.64%	-1.79%	($0.0654)
Average Annual Use	70,770	70,770	70,770	70,770	70,770				
Average Annual Cost of Gas*	$346,178.53	$292,365.02	$376,616.71	$258,317.58	$253,690.69	-26.72%	-32.64%	-1.79%	($4,626.89)

November Change Summary	Commodity Change $/Mcf	Commodity Change %	Demand Change $/Mcf	Demand Change %	Total Change $/Mcf	Total Change %	Average Annual Change
General Service	($0.0654)	-2.05%	$0.0038	0.48%	($0.0616)	-1.00%	($5.36)
Large General Service	($0.0654)	-2.05%	$0.0038	0.48%	($0.0616)	-1.09%	($49.26)
SV Interruptible Service	($0.0654)	-2.05%			($0.0654)	-1.62%	($386.65)
LV Interruptible Service	($0.0654)	-2.05%			($0.0654)	-1.79%	($4,626.89)

***** Average Annual Bill amount does not include customer charges.

****** Commodity includes Upstream costs.

Attachment 8

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Change in Costs due to November,1 2015 Change in Entitlement Levels and Related Demand Costs

Consolidated

	Oct. 2015 Entitlements	Nov. 2015 Entitlements	Entitlement Change	Nov. 2015 Rate	Months	Oct. 2015 Total Annual Cost	Nov. 2015 Total Annual Cost	Total Annual Cost Change
Costs Assigned in Demand Charge								
Viking Pipeline								
FT-A ZONE 1 - 1	12,493	12,493	0	$ 4.3706	12	$655,223	$655,223	$0
FT-A ZONE 1 - 1	1,098	1,098	0	$ 4.3706	3	$14,397	$14,397	$0
FT-A ZONE 1 - 1	2,000	2,000	0	$ 4.5607	12	$109,457	$109,457	$0
FA-A ZONE 1 - 1	0	1,000	1,000	$ 4.7507	5	$0	$23,754	$23,754
GLGTPipeline								
FT Western Zone	10,130	10,130	0	$ 3.8490	12	$467,886	$467,886	$0
FT Western Zone	9,000	9,000	0	$ 3.8490	12	$415,693	$415,693	$0
FT Western Zone (12)	3,600	3,600	0	$ 3.8490	12	$166,277	$166,277	$0
FT Western Zone (5)	3,638	3,728	90	$ 3.8490	5	$70,013	$71,746	$1,733
FT Western Zone (5)	0	3,300	3,300	$ 3.8490	5	$0	$63,509	$63,509
CENTRA Pipeline								
CENTRA TRANSMISSION	9,500	9,100	-400	$ 12.3678	12	$1,409,931	$1,350,566	-$59,365
CENTRA MINNESOTA PIPELINES	9,500	9,100	-400	$ 3.2510	12	$370,614	$355,009	-$15,605
Total Costs Assigned to Demand Charge						$3,679,491	$3,693,517	$14,026
Costs Assigned in Commodity Charge								
Storage Service								
Niska Storage (AECO)	947,820	947,820	0	$ 0.6225	1	$590,018	$590,018	$0
AECO/Emerson Swap	940,428	955,255	14,827	$ 1.0400	1	$978,045	$993,465	$15,420
Balancing								
VGT Balancing Agreement	7,465	7,465	0	$ 1.0000	12	$89,580	$89,580	$0
Union Balancing	4,453	4,453	0	$ 1.0106	12	$54,000	$54,000	$0
Call Options Premium						$320,916	$307,091	-$13,825
Total Costs Assigned to Commodity Charge						$2,032,559	$2,034,154	$1,595

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

GLGT

	1/20 Design Day HDD	Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Contract Demand Units	Total
Peak	106	1,131	246	28,702	-1.30%	214	28,543
Off Peak	57	1,131	246	17,012	-1.30%	214	17,005

VGT

	1/20 Design Day HDD	Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Contract Demand Units	Total
Peak	109	632	139	16,060	-1.30%	7	15,858
Off Peak	57	632	139	9,620	-1.30%	7	9,502

Centra

	1/20 Design Day HDD	Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Contract Demand Units	Total
Peak	107	569	73	8,788	-1.30%	0	8,674
Off Peak	57	569	73	5,159	-1.30%	0	5,092

Consolidated

	1/20 Design Day HDD	Regression Intercept	HDD Slope	1/20 Regression Load	Customer Growth	Contract Demand Units	Total
Peak		2,332	458	53,550	-1.30%	221	53,075
Off Peak		2,332	458	31,791	-1.30%	221	31,599

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

15/16 Winter Portfolio Plan - GLGT/VGT/Centra Hedging Plan

10,000 Contract Size REVISED:

System	Purchase Month	Nov-15 Number Contracts	Nov-15 Contract Volume	Dec-15 Number Contracts	Dec-15 Contract Volume	Jan-16 Number Contracts	Jan-16 Contract Volume	Feb-16 Number Contracts	Feb-16 Contract Volume	Mar-16 Number Contracts	Mar-16 Contract Volume	Total Number Contracts	Total Contract Volume	Percent of Requirements
MN Requirements			567,132		872,464		1,009,129		906,038		751,413		4,106,176	4,106,176
GLGT -MN			18,904		28,144		32,553		31,243		24,239		27,014	
70%			396,992		610,725		706,390		634,227		525,989		2,874,323	
40%			226,853		348,986		403,652		362,415		300,565		1,642,470	
			85,304		231,769		231,769		209,339		96,374		854,555	
			141,549		117,217		171,883		153,076		204,191		787,915	
30%			170,140		261,739		302,739		271,811		225,424		1,231,853	
Contracts	May-15	3	30,000	2	20,000	3	30,000	3	30,000	4	40,000	15	150,000	
	Jun-15	3	30,000	2	20,000	3	30,000	3	30,000	4	40,000	15	150,000	
	Jul-15	3	30,000	2	20,000	3	30,000	3	30,000	3	30,000	14	140,000	
	Aug-15	2	20,000	2	20,000	3	30,000	3	30,000	3	30,000	13	130,000	
	Sep-15	2	20,000	2	20,000	3	30,000	2	20,000	3	30,000	12	120,000	
	Oct-15	2	20,000	2	20,000	2	20,000	2	20,000	3	30,000	11	110,000	
	Total	**15**	**150,000**	**12**	**120,000**	**17**	**170,000**	**16**	**160,000**	**20**	**200,000**	**80**	**800,000**	**19.48%**
Call Options	May-15	3	30,000	4	40,000	5	50,000	5	50,000	4	40,000	21	210,000	
	Jun-15	3	30,000	4	40,000	5	50,000	5	50,000	4	40,000	21	210,000	
	Jul-15	3	30,000	4	40,000	5	50,000	5	50,000	4	40,000	21	210,000	
	Aug-15	3	30,000	4	40,000	5	50,000	4	40,000	4	40,000	20	200,000	
	Sep-15	3	30,000	5	50,000	5	50,000	4	40,000	4	40,000	21	210,000	
	Oct-15	2	20,000	5	50,000	6	60,000	4	40,000	3	30,000	20	200,000	
	Total	**17**	**170,000**	**26**	**260,000**	**31**	**310,000**	**27**	**270,000**	**23**	**230,000**	**124**	**1,240,000**	**30.20%**
Collars	May-15	0	0	0	0	0	0	0	0	0	0	0	0	
	Jun-15	0	0	0	0	0	0	0	0	0	0	0	0	
	Jul-15	0	0	0	0	0	0	0	0	0	0	0	0	
	Aug-15	0	0	0	0	0	0	0	0	0	0	0	0	
	Sep-15	0	0	0	0	0	0	0	0	0	0	0	0	
	Oct-15	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.00%**
Index (back financial)	May-15	1,777	53,310	2,043	63,333	2,580	79,980	2,472	71,688	2,311	71,641	11,183	339,952	
	Jun-15	1,778	53,340	2,043	63,333	2,580	79,980	2,472	71,688	2,312	71,672	11,185	340,013	
	Jul-15	1,778	53,340	2,043	63,333	2,581	80,011	2,471	71,659	2,312	71,672	11,185	340,015	
	Aug-15	1,778	53,340	2,043	63,333	2,581	80,011	2,471	71,659	2,312	71,672	11,185	340,015	
	Sep-15	1,778	53,340	2,043	63,333	2,581	80,011	2,471	71,659	2,312	71,672	11,185	340,015	
	Oct-15	1,778	53,340	2,043	63,333	2,581	80,011	2,471	71,659	2,312	71,672	11,185	340,015	
	Total		**320,010**		**379,998**		**480,004**		**430,012**		**430,001**		**2,040,025**	**49.68%**
Physical Hedges			**0**		**0**		**0**		**0**		**0**		**0**	
Storage			85,304		231,769		231,769		209,339		96,374		854,555	**20.81%**
Prepaid Obl			0		0		0		0		0		0	**0.00%**
			71.47%		70.12%		70.53%		70.57%		70.05%		70.49%	
Term Index	Aug-15	0	0	0	0	0	0	0	0	0	0		0	**0.00%**
	Sep-15	0	0	0	0	0	0	0	0	0	0		0	**0.00%**
	Oct-15	0	0	0	0	0	0	0	0	0	0		0	**0.00%**
Total NNG MN														
Contracts													800,000	**19.48%**
Call Options													1,240,000	**30.20%**
Costing Collar													0	**0.00%**
Storage													854,555	**20.81%**
Prepaid Obl													0	**0.00%**
Term Index													0	**0.00%**
Month/Daily													1,211,621	**29.51%**
Total													4,106,176	**100.00%**

NOTE:

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

WINTER PLAN - CONSOLIDATED

NOVEMBER, 2015 THROUGH MARCH, 2016

PHYSICAL FIXED PRICE HEDGES	Deal #	Trigger Locked	Trigger Exercised	Receipt Point	Nov	Dec	Daily Volumes Jan	Feb	Mar	Monthly Total
										-
No Physical Fixed Price Hedges										-
										-
	Total Actual Fixed/Option Physical				-	-	-	-	-	-

INDEX	Contract Number	Date	Receipt Point	Nov	Dec	Jan	Feb	Mar	Total
Index - Back Financial Options	22858	5/20/2015	VGT-Emerson #1	1,777	2,043	2,580	2,559	2,311	342,475
Index - Back Financial Options	23351	6/11/2015	VGT-Emerson #1	1,778	2,043	2,580	2,559	2,312	342,536
Index - Back Financial Options	26621	8/26/2015	GLGT-Emerson #1	3,556	4,086	5,162	5,120	4,624	685,192
Index - Back Financial Options	27450	9/17/2015	GLGT-Emerson #1	1,778	2,043	2,581	2,560	2,312	342,596
Index - Back Financial Options	28591	10/16/2015	GLGT-Emerson #1	1,778	2,043	2,581	2,030	2,312	327,226
	Total Actual Seasonal Index			**10,667**	**12,258**	**15,484**	**14,828**	**13,871**	**2,040,025**

GAS DAILY PACKAGES

No GDD Options

STORAGE

Injection Month	Contract # AECO Volume Injected	Total Volume Injected
May - balance forward	191,115	191,115
June	184,936	184,936
July	191,103	191,103
August	191,102	191,102
Sept	93,237	93,237
Oct (est)	96,327	96,327
Total	**947,820**	**947,820**

MINNESOTA ENERGY RESOURCES - Consolidated

Daily Total Throughput Data - July 1, 2014 through June 30, 2015

Base	8,383
Variable	453

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 **
7/1/14	10	5	3	8	7	11,215	11,356
7/2/14	5	5	2	5	4	10,382	10,234
7/3/14	3	4	0	6	3	4,370	9,718
7/4/14	0	0	0	0	0	2,532	8,383
7/5/14	0	0	0	0	0	2,402	8,383
7/6/14	0	0	0	0	0	3,663	8,383
7/7/14	2	4	0	5	2	8,928	9,496
7/8/14	5	5	0	8	4	10,735	10,219
7/9/14	4	0	0	3	2	10,535	9,256
7/10/14	0	0	0	0	0	7,737	8,383
7/11/14	0	0	0	4	1	6,039	8,821
7/12/14	7	5	0	9	5	5,055	10,506
7/13/14	13	11	7	11	10	5,685	13,088
7/14/14	7	7	4	7	6	7,737	11,208
7/15/14	8	7	0	8	5	10,349	10,742
7/16/14	0	1	0	4	1	11,875	8,875
7/17/14	0	0	0	0	0	5,512	8,383
7/18/14	0	0	0	2	0	4,112	8,604
7/19/14	0	0	0	0	0	2,471	8,383
7/20/14	0	0	0	0	0	2,983	8,383
7/21/14	0	0	0	0	0	4,289	8,383
7/22/14	2	0	0	4	2	4,479	9,088
7/23/14	2	0	0	4	2	4,376	9,086
7/24/14	0	0	0	0	0	4,484	8,383
7/25/14	0	0	0	0	0	3,593	8,383
7/26/14	2	6	1	5	3	2,511	9,796
7/27/14	1	1	0	3	1	3,280	8,918
7/28/14	2	1	0	1	1	4,576	8,836
7/29/14	0	0	0	2	0	4,685	8,604
7/30/14	0	0	0	2	0	4,519	8,600
7/31/14	0	0	0	3	1	4,465	8,702
8/1/14	0	0	0	3	1	3,863	8,708
8/2/14	0	0	0	5	1	2,587	8,925
8/3/14	5	2	0	6	3	3,207	9,820
8/4/14	1	2	0	0	1	4,735	8,638
8/5/14	0	1	0	0	0	4,914	8,446
8/6/14	0	1	0	1	0	4,746	8,554
8/7/14	0	0	0	0	0	5,285	8,383
8/8/14	0	0	0	0	0	6,025	8,383
8/9/14	0	0	0	2	0	4,846	8,600
8/10/14	4	1	0	5	3	5,288	9,563
8/11/14	3	0	0	5	2	7,048	9,349
8/12/14	1	1	0	8	2	6,919	9,437
8/13/14	0	5	0	8	3	6,573	9,558
8/14/14	0	0	0	0	0	6,668	8,383
8/15/14	0	0	0	0	0	4,918	8,383
8/16/14	3	8	0	3	3	2,960	9,612
8/17/14	1	2	0	4	2	3,489	9,071
8/18/14	0	0	0	4	1	5,366	8,816
8/19/14	0	1	0	3	1	7,178	8,770
8/20/14	0	1	0	3	1	6,757	8,786
8/21/14	0	0	0	0	0	6,631	8,383
8/22/14	0	3	0	0	0	5,662	8,577
8/23/14	0	0	0	0	0	4,740	8,383
8/24/14	10	0	6	8	7	5,250	11,403
8/25/14	12	6	5	15	10	7,117	12,689
8/26/14	9	6	3	11	7	7,292	11,610
8/27/14	4	6	0	6	3	6,595	9,948
8/28/14	0	2	0	0	0	6,414	8,506
8/29/14	4	2	1	6	3	4,789	9,904
8/30/14	0	1	0	3	1	3,354	8,787
8/31/14	3	1	0	6	3	2,861	9,545
9/1/14	3	4	0	6	3	4,199	9,723
9/2/14	1	1	0	6	2	7,855	9,232
9/3/14	0	0	0	0	0	7,877	8,383
9/4/14	8	8	6	9	7	7,817	11,662
9/5/14	5	5	2	7	5	6,951	10,528
9/6/14	4	0	0	7	3	5,767	9,682
9/7/14	0	2	0	0	0	7,054	8,514
9/8/14	13	2	13	13	12	8,210	13,623
9/9/14	21	19	16	19	19	9,668	16,854

9/10/14	26	21	19	21	22	12,120	18,177
9/11/14	27	24	18	23	23	12,699	18,621
9/12/14	22	23	14	25	20	12,890	17,412
9/13/14	19	16	16	15	17	8,932	15,943
9/14/14	17	18	12	18	16	9,861	15,445
9/15/14	11	10	8	17	11	10,414	13,325
9/16/14	13	9	6	25	13	8,691	14,119
9/17/14	11	21	7	15	12	9,317	13,756
9/18/14	3	10	0	5	3	8,087	9,953
9/19/14	10	6	4	11	8	7,009	11,842
9/20/14	12	12	8	13	11	7,449	13,157
9/21/14	7	6	2	8	6	9,126	10,947
9/22/14	9	6	0	9	5	8,103	10,872
9/23/14	6	4	1	7	4	7,883	10,277
9/24/14	0	6	0	4	2	8,300	9,186
9/25/14	0	3	0	0	0	7,679	8,570
9/26/14	0	0	0	0	0	6,802	8,383
9/27/14	7	0	6	12	7	5,654	11,504
9/28/14	17	18	10	22	16	8,968	15,642
9/29/14	18	21	13	17	17	13,081	15,872
9/30/14	13	17	0	15	10	11,005	12,735
10/1/14	14	11	9	20	13	11,263	14,277
10/2/14	30	27	28	27	28	12,678	21,133
10/3/14	36	28	27	30	30	18,330	22,117
10/4/14	28	25	21	29	26	19,073	19,954
10/5/14	24	23	18	28	23	20,815	18,765
10/6/14	31	26	17	31	25	22,268	19,847
10/7/14	31	27	25	30	28	23,322	21,049
10/8/14	32	27	27	24	28	23,711	20,848
10/9/14	31	29	25	31	29	21,233	21,307
10/10/14	22	26	18	24	22	19,030	18,133
10/11/14	12	17	13	13	13	13,859	14,443
10/12/14	20	16	14	22	18	11,941	16,458
10/13/14	19	17	16	19	17	14,935	16,251
10/14/14	19	22	11	20	17	14,479	16,042
10/15/14	11	19	6	16	12	13,932	13,642
10/16/14	21	20	23	24	22	12,568	18,444
10/17/14	24	25	23	28	25	14,705	19,585
10/18/14	16	17	11	20	15	13,627	15,380
10/19/14	24	20	15	28	21	12,526	18,023
10/20/14	24	25	12	26	20	14,663	17,584
10/21/14	15	19	7	15	13	14,306	14,183
10/22/14	9	14	9	10	10	13,047	12,732
10/23/14	6	9	4	7	6	12,700	11,017
10/24/14	23	18	17	27	21	13,770	17,823
10/25/14	24	21	16	28	22	14,678	18,273
10/26/14	18	19	18	20	19	13,417	16,814
10/27/14	30	25	24	26	26	18,550	20,360
10/28/14	35	29	29	31	31	21,336	22,470
10/29/14	31	28	27	29	29	21,764	21,399
10/30/14	41	36	42	42	41	23,054	26,990
10/31/14	36	37	34	40	36	22,081	24,701
11/1/14	31	29	25	30	28	25,532	21,237
11/2/14	24	21	19	27	22	22,679	18,537
11/3/14	23	25	25	23	24	29,098	19,202
11/4/14	36	33	31	33	33	33,394	23,430
11/5/14	37	30	35	32	34	35,673	23,916
11/6/14	33	31	29	34	32	30,952	22,764
11/7/14	37	35	26	36	33	26,975	23,109
11/8/14	49	39	36	47	42	25,837	27,604
11/9/14	51	42	43	47	46	29,003	29,191
11/10/14	49	48	51	50	50	36,330	30,907
11/11/14	50	49	55	50	51	39,937	31,693
11/12/14	51	45	54	46	50	39,160	30,989
11/13/14	61	53	57	56	57	37,961	34,345
11/14/14	60	56	54	58	57	36,914	34,055
11/15/14	58	55	55	57	56	33,940	33,806
11/16/14	64	61	58	62	61	36,979	35,980
11/17/14	66	60	59	58	61	47,187	36,013
11/18/14	58	57	51	56	55	44,417	33,391
11/19/14	65	60	58	62	61	43,713	36,104
11/20/14	65	66	54	68	62	46,808	36,413
11/21/14	47	52	44	45	46	35,361	29,266
11/22/14	37	35	31	32	34	25,491	23,576
11/23/14	43	34	44	40	41	28,277	27,152
11/24/14	65	53	58	63	60	44,912	35,731
11/25/14	53	52	56	58	55	45,024	33,209
11/26/14	77	65	75	75	75	43,976	42,146
11/27/14	74	66	67	72	70	37,513	40,032
11/28/14	55	53	50	56	53	33,795	32,378
11/29/14	62	48	60	60	59	33,532	35,086

11/30/14	78	71	75	77	76	43,012	42,675
12/1/14	74	67	73	72	72	37,328	41,180
12/2/14	55	55	55	57	55	33,635	33,366
12/3/14	59	58	54	67	59	35,285	35,147
12/4/14	48	47	46	48	47	31,926	29,783
12/5/14	53	48	51	57	52	32,273	32,152
12/6/14	52	47	50	53	51	30,169	31,417
12/7/14	44	36	39	40	40	27,225	26,717
12/8/14	54	46	53	52	52	31,978	32,021
12/9/14	52	46	51	52	51	32,355	31,461
12/10/14	45	44	41	43	43	30,570	27,866
12/11/14	40	39	37	40	39	29,040	26,014
12/12/14	36	33	34	35	35	25,728	24,111
12/13/14	28	27	27	30	28	22,498	21,012
12/14/14	30	28	33	31	31	22,565	22,465
12/15/14	49	40	61	47	51	26,670	31,669
12/16/14	59	55	62	57	59	32,376	35,076
12/17/14	55	52	55	58	55	31,818	33,415
12/18/14	55	44	52	55	52	29,052	32,127
12/19/14	44	42	40	43	42	24,852	27,549
12/20/14	40	39	38	38	39	21,991	25,875
12/21/14	36	35	34	36	35	21,745	24,354
12/22/14	33	33	29	33	32	20,496	22,768
12/23/14	35	33	38	33	35	19,775	24,386
12/24/14	37	35	41	35	38	19,436	25,498
12/25/14	41	37	43	42	41	20,732	26,980
12/26/14	52	45	56	51	53	24,541	32,179
12/27/14	63	49	58	64	59	25,960	35,315
12/28/14	75	69	75	78	75	33,057	42,367
12/29/14	79	75	75	79	77	38,741	43,201
12/30/14	75	76	72	77	75	39,621	42,134
12/31/14	58	60	52	59	57	30,259	34,009
1/1/15	65	57	56	67	61	40,754	36,133
1/2/15	50	52	49	63	53	35,121	32,335
1/3/15	80	64	83	81	79	47,499	44,282
1/4/15	91	87	83	95	89	56,901	48,485
1/5/15	79	79	75	84	79	54,223	44,050
1/6/15	86	82	79	84	83	56,369	45,769
1/7/15	80	80	75	81	78	52,733	43,827
1/8/15	78	75	74	75	76	51,660	42,601
1/9/15	78	75	72	82	76	50,688	42,996
1/10/15	71	66	66	78	70	46,422	40,194
1/11/15	78	71	74	77	75	49,155	42,568
1/12/15	77	75	80	80	78	53,834	43,803
1/13/15	66	68	67	69	67	45,537	38,794
1/14/15	51	48	51	48	50	36,919	30,969
1/15/15	53	48	41	65	51	35,696	31,496
1/16/15	52	52	43	62	51	35,792	31,539
1/17/15	42	39	42	41	41	28,983	27,055
1/18/15	43	41	41	59	46	32,334	29,161
1/19/15	41	44	33	49	40	32,465	26,724
1/20/15	42	44	41	42	42	32,264	27,472
1/21/15	57	45	55	59	55	38,248	33,408
1/22/15	48	45	43	48	46	33,119	29,187
1/23/15	35	32	31	32	33	25,225	23,120
1/24/15	42	41	41	52	44	27,595	28,294
1/25/15	44	48	42	54	46	30,924	29,256
1/26/15	39	39	33	42	37	30,522	25,306
1/27/15	39	41	39	40	39	29,869	26,270
1/28/15	46	40	43	46	44	31,193	28,364
1/29/15	65	57	58	72	63	42,498	37,002
1/30/15	54	56	49	63	55	37,535	33,203
1/31/15	73	59	73	80	73	42,448	41,474
2/1/15	74	71	74	80	75	48,833	42,293
2/2/15	63	64	57	75	63	46,359	37,101
2/3/15	66	60	64	72	66	44,331	38,125
2/4/15	73	70	71	79	73	50,277	41,480
2/5/15	54	58	53	56	55	39,739	33,145
2/6/15	55	51	41	60	51	36,206	31,266
2/7/15	44	48	43	63	49	31,088	30,361
2/8/15	49	51	55	59	54	35,460	32,786
2/9/15	48	44	49	50	48	34,437	30,134
2/10/15	62	51	57	57	58	36,809	34,456
2/11/15	82	75	79	85	81	50,393	44,923
2/12/15	71	69	67	72	70	45,191	39,954
2/13/15	77	71	73	78	75	45,296	42,429
2/14/15	80	76	76	82	79	48,442	44,008
2/15/15	69	67	63	72	67	45,614	38,865
2/16/15	75	67	69	75	72	46,443	40,890
2/17/15	85	79	81	84	83	53,748	45,795
2/18/15	91	85	80	92	87	56,737	47,604

2/19/15	76	73	69	77	73	47,369	41,625
2/20/15	65	57	60	67	63	41,228	36,802
2/21/15	85	75	83	85	83	48,013	46,025
2/22/15	89	83	84	87	86	55,277	47,253
2/23/15	63	68	59	66	63	43,631	36,973
2/24/15	69	62	60	81	68	44,995	39,210
2/25/15	80	72	76	83	78	50,155	43,935
2/26/15	76	72	74	78	75	50,622	42,521
2/27/15	63	62	65	66	64	43,002	37,466
2/28/15	58	60	59	58	59	38,100	34,993
3/1/15	64	59	58	66	62	40,620	36,315
3/2/15	57	51	52	55	54	35,877	32,711
3/3/15	71	64	71	70	70	45,892	40,082
3/4/15	82	79	74	83	79	52,358	44,234
3/5/15	65	67	60	67	64	42,983	37,398
3/6/15	47	44	39	47	44	30,150	28,180
3/7/15	41	40	33	47	39	26,854	26,215
3/8/15	32	31	28	33	31	22,922	22,238
3/9/15	26	24	21	26	24	20,449	19,228
3/10/15	29	22	23	31	26	20,262	20,339
3/11/15	24	24	15	27	22	20,798	18,134
3/12/15	19	26	18	24	21	17,880	17,712
3/13/15	28	21	27	31	28	20,803	20,931
3/14/15	11	21	6	20	13	14,680	14,094
3/15/15	15	13	8	15	12	13,227	13,998
3/16/15	40	37	38	38	38	26,312	25,714
3/17/15	36	33	29	39	34	25,419	23,676
3/18/15	29	29	28	35	30	23,110	22,030
3/19/15	28	28	30	31	29	22,438	21,721
3/20/15	48	37	45	47	45	27,444	28,897
3/21/15	41	41	35	48	40	27,557	26,654
3/22/15	34	37	32	36	34	24,661	23,778
3/23/15	33	35	36	30	34	25,820	23,574
3/24/15	30	28	36	25	31	23,700	22,228
3/25/15	46	41	38	46	42	30,463	27,618
3/26/15	50	48	46	51	49	31,467	30,519
3/27/15	41	43	31	41	38	27,781	25,538
3/28/15	29	29	22	29	27	20,984	20,525
3/29/15	31	30	21	33	28	21,640	20,916
3/30/15	26	28	20	24	24	21,626	19,169
3/31/15	17	24	8	26	17	15,879	15,962
4/1/15	15	19	13	16	15	15,608	15,190
4/2/15	42	28	37	40	38	24,977	25,610
4/3/15	40	35	34	44	38	25,529	25,574
4/4/15	38	35	33	44	37	23,291	25,128
4/5/15	35	36	31	38	34	23,833	23,962
4/6/15	35	37	29	34	33	27,364	23,422
4/7/15	29	33	26	33	29	28,138	21,726
4/8/15	24	28	19	24	23	22,598	18,743
4/9/15	27	26	21	28	25	20,121	19,780
4/10/15	19	20	9	20	16	17,718	15,602
4/11/15	12	1	12	7	9	9,200	12,494
4/12/15	23	17	20	23	21	11,914	17,785
4/13/15	17	15	8	21	14	15,460	14,900
4/14/15	10	13	1	12	8	11,523	11,896
4/15/15	15	8	9	19	13	11,798	14,228
4/16/15	16	11	12	19	15	13,119	14,993
4/17/15	19	24	11	22	17	12,195	16,277
4/18/15	29	28	22	28	26	10,962	20,143
4/19/15	40	33	34	37	36	19,861	24,749
4/20/15	39	39	33	42	38	28,039	25,560
4/21/15	37	33	31	37	34	28,880	24,009
4/22/15	35	29	32	35	33	25,899	23,248
4/23/15	27	34	20	35	27	19,834	20,638
4/24/15	22	29	13	21	19	19,993	17,173
4/25/15	22	26	12	23	19	13,520	16,976
4/26/15	18	17	10	20	15	12,968	15,281
4/27/15	19	19	11	23	17	12,037	16,145
4/28/15	17	17	11	24	16	14,093	15,822
4/29/15	8	20	2	15	9	12,400	12,522
4/30/15	7	17	2	12	8	10,498	11,889
5/1/15	1	5	0	4	2	8,145	9,293
5/2/15	15	5	8	14	11	5,568	13,448
5/3/15	18	15	12	18	15	8,224	15,241
5/4/15	14	16	1	15	10	9,631	12,904
5/5/15	4	15	2	10	6	8,243	11,247
5/6/15	11	11	9	11	10	8,584	13,119
5/7/15	28	20	29	28	27	11,851	20,701
5/8/15	27	22	26	24	25	13,850	19,757
5/9/15	25	30	24	23	25	11,726	19,574
5/10/15	31	30	29	31	30	17,508	22,027

5/11/15	26	26	22	27	25	22,185	19,539
5/12/15	25	26	12	28	21	18,192	17,912
5/13/15	16	24	9	15	14	18,290	14,945
5/14/15	15	15	11	15	13	16,615	14,482
5/15/15	14	16	5	12	10	11,793	13,134
5/16/15	6	13	14	10	10	8,198	13,137
5/17/15	32	28	35	32	32	12,746	23,044
5/18/15	25	23	22	23	24	22,631	19,047
5/19/15	19	20	12	17	16	16,014	15,665
5/20/15	15	11	8	17	12	11,047	13,952
5/21/15	12	12	6	12	10	10,058	13,037
5/22/15	7	2	4	2	4	6,620	10,376
5/23/15	9	7	4	4	6	5,282	11,123
5/24/15	10	13	6	6	8	5,224	12,172
5/25/15	7	7	2	5	5	9,565	10,623
5/26/15	0	0	0	3	1	9,128	8,714
5/27/15	0	15	0	8	4	8,396	10,180
5/28/15	17	10	15	17	15	7,830	15,162
5/29/15	21	18	20	24	21	11,565	17,836
5/30/15	14	23	13	18	16	8,586	15,563
5/31/15	12	17	1	15	10	9,258	12,750
6/1/15	1	10	0	5	3	9,191	9,654
6/2/15	4	10	2	4	4	8,514	10,350
6/3/15	1	4	0	6	2	8,675	9,444
6/4/15	2	12	0	7	4	7,484	10,148
6/5/15	7	15	0	7	6	6,721	10,922
6/6/15	1	2	0	0	1	5,797	8,648
6/7/15	1	0	0	6	2	8,225	9,176
6/8/15	0	0	0	2	0	7,462	8,608
6/9/15	5	5	0	5	3	6,255	9,960
6/10/15	1	4	0	4	2	6,497	9,197
6/11/15	1	4	0	2	1	6,389	8,982
6/12/15	0	6	0	0	1	5,549	8,764
6/13/15	6	1	1	3	3	4,712	9,753
6/14/15	12	2	4	13	8	5,750	12,129
6/15/15	16	12	12	13	13	7,745	14,397
6/16/15	6	6	4	6	6	8,647	10,889
6/17/15	9	8	3	12	7	7,870	11,744
6/18/15	4	7	0	14	5	7,329	10,803
6/19/15	3	3	0	7	3	5,365	9,752
6/20/15	0	0	0	3	1	4,768	8,708
6/21/15	6	1	0	4	3	5,980	9,615
6/22/15	1	0	0	4	1	8,434	8,964
6/23/15	0	0	0	0	0	8,024	8,383
6/24/15	2	1	0	0	1	8,239	8,710
6/25/15	0	0	0	1	0	8,110	8,488
6/26/15	0	1	0	0	0	6,757	8,446
6/27/15	0	0	0	0	0	4,855	8,383
6/28/15	0	0	0	0	0	5,593	8,383
6/29/15	3	8	0	6	3	6,747	9,936
6/30/15	7	14	0	15	7	6,954	11,730
Totals	10,566	10,065	9,298	11,076	10,171	7,506,785	7,667,155

* Volumes include interruptible and transportation volumes except for paper mills located off GLGT and Lamb Weston off of VGT.

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

Attachment 12

MINNESOTA ENERGY RESOURCES - Consolidated

Customer Counts by PGAC Class - July 1, 2014 through June 30, 2015

Rate Class	Tariff Rate Designation	Jul-14 Average Customers	Aug-14 Average Customers	Sep-14 Average Customers	Oct-14 Average Customers	Nov-14 Average Customers	Dec-14 Average Customers	Jan-15 Average Customers	Feb-15 Average Customers	Mar-15 Average Customers	Apr-15 Average Customers	May-15 Average Customers	Jun-15 Average Customers	Annual Average Customers
GS- Residential (w/ Heat)	3H801/3HS01	28,020	27,826	27,847	28,259	28,983	29,259	29,354	29,390	29,381	29,356	29,248	28,935	28,822
GS-Residential (w/o Heat)	3R801/3RS01	111	110	110	112	116	116	115	116	116	115	116	116	114
GS-C&I <1,500 therms/yr (Small)	3C805 / 3CS05 3I805 / 3IS05 3C806 / 3CS06	2,607	2,593	2,592	2,599	2,641	2,651	2,674	2,675	2,677	2,672	2,667	2,114	2,597
GS-C&I >1,500 therms/yr (Large)	3C810 / 3CS10 3I810 / 3IS10 3C812 / 3CS12 3IS12	2,508	2,506	2,508	2,520	2,572	2,590	2,601	2,602	2,601	2,599	2,594	3,127	2,611
Small Volume Interruptible (SVI)	3D820 / 3DS20 3J820 / 3JS20 3DS22	73	72	73	72	72	73	74	74	74	74	75	78	74
Small Volume Interruptible w/Joint (SVJ)	3DS30 / 3D830	5	5	5	5	5	5	5	5	5	5	5	5	5
Large Volume Interruptible (LVI)	3D840 / 3DS40 3J840 / 3JS40 3D842	7	6	8	8	7	7	7	6	6	6	6	6	7
Large Volume Interruptible w/Joint (LVJ)	3D850 / 3J850	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		33,331	33,118	33,143	33,575	34,396	34,701	34,830	34,868	34,860	34,827	34,711	34,381	34,228

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Projected Fixed Cost - November 2015 through March 2016

Futures Contracts WACOG

NNG
Futures 10,000 30 31 31

Nov-15

Deal Number	Purchase Date	Trade Number	Number Contracts	Physical Volume	Strike Price	Strike Cost	LDS Settle	LDS Settle Cost	Over/(Under Market	Premium Per Unit	Premium Cost	Total Cost
1	05/15/15	22717	12	120,000	$ 3.1940	$ 383,280	$ 2.5180	$ 302,160	$ 81,120		$ -	$ 383,280
2	06/09/15	23300	12	120,000	$ 3.0360	$ 364,320	$ 2.5180	$ 302,160	$ 62,160		$ -	$ 364,320
3	07/09/15	23926	11	110,000	$ 2.8840	$ 317,240	$ 2.5180	$ 276,980	$ 40,260		$ -	$ 317,240
4	08/07/15	25481	10	100,000	$ 2.9250	$ 292,500	$ 2.5180	$ 251,800	$ 40,700		$ -	$ 292,500
5	09/10/15	27162	9	90,000	$ 2.7590	$ 248,310	$ 2.5180	$ 226,620	$ 21,690		$ -	$ 248,310
6	10/01/15	27964	9	90,000	$ 2.4330	$ 218,970	$ 2.5180	$ 226,620	$ (7,650)		$ -	$ 218,970
7												
8												
9												
10												
11												
12												
13												
14												
15												
Total			63	630,000		$ 1,824,620		$1,586,340	$ 238,280		$ -	$1,824,620
						$ 2.8962		$ 2.5180	$ 0.3782		$ -	$ 2.8962
NNG	44	69.84%	44	440,000	$ 2.8962	$ 1,274,338	$ 2.5180	$1,107,920	$ 166,418	$ -	$ -	$1,274,338
NNG-ABL	4	6.35%	4	40,000	$ 2.8962	$ 115,849	$ 2.5180	$ 100,720	$ 15,129	$ -	$ -	$ 115,849
Other-Cons	15	23.81%	15	150,000	$ 2.8962	$ 434,433	$ 2.5180	$ 377,700	$ 56,733	$ -	$ -	$ 434,433
Total	63	100.0%	63	630,000	$ 2.8962	$ 1,824,620	$ 2.5180	$1,586,340	$ 238,280	$ -	$ -	$1,824,620

Dec-15

Deal Number	Purchase Date	Trade Number	Number Contracts	Physical Volume	Strike Price	Strike Cost	LDS Settle	LDS Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/28/15	23070	7	70,000	$ 3.0630	$ 214,410	$ 2.7320	$ 191,240	$ 23,170		$ -	$ 214,410
2	06/29/15	23735	7	70,000	$ 3.1160	$ 218,120	$ 2.7320	$ 191,240	$ 26,880		$ -	$ 218,120
3	07/29/15	25066	7	70,000	$ 3.1650	$ 221,550	$ 2.7320	$ 191,240	$ 30,310		$ -	$ 221,550
4	08/28/15	26777	5	50,000	$ 2.9390	$ 146,950	$ 2.7320	$ 136,600	$ 10,350		$ -	$ 146,950
5	09/28/15	27763	5	50,000	$ 2.8370	$ 141,850	$ 2.7320	$ 136,600	$ 5,250		$ -	$ 141,850
6	10/19/15	28664	5	50,000	$ 2.6570	$ 132,850	$ 2.7320	$ 136,600	$ (3,750)		$ -	$ 132,850
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Total			36	360,000		$ 1,075,730		$ 983,520	$ 92,210		$ -	$1,075,730
						$ 2.9881		$ 2.7320	$ 0.2561		$ -	$ 2.9881
NNG	21	58.33%	21	210,000	$ 2.9881	$ 627,509	$ 2.7320	$ 573,720	$ 53,789	$ -	$ -	$ 627,509
NNG-ABL	3	8.33%	3	30,000	$ 2.9881	$ 89,644	$ 2.7320	$ 81,960	$ 7,684	$ -	$ -	$ 89,644
Other-Cons	12	33.33%	12	120,000	$ 2.9881	$ 358,577	$ 2.7320	$ 327,840	$ 30,737	$ -	$ -	$ 358,577
Total	36	100.0%	36	360,000	$ 2.9881	$ 1,075,730	$ 2.7320	$ 983,520	$ 92,210	$ -	$ -	$1,075,730

Jan-16

Deal Number	Purchase Date	Trade Number	Number Contracts	Physical Volume	Strike Price	Strike Cost	LDS Settle	LDS Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/26/15	23008	5	50,000	$ 3.2740	$ 163,700	$ 2.8740	$ 143,700	$ 20,000		$ -	$ 163,700
2	05/26/15	23009	6	60,000	$ 3.2750	$ 196,500	$ 2.8740	$ 172,440	$ 24,060		$ -	$ 196,500
3	06/24/15	23647	11	110,000	$ 3.2570	$ 358,270	$ 2.8740	$ 316,140	$ 42,130		$ -	$ 358,270
4	07/23/15	24760	11	110,000	$ 3.2390	$ 356,290	$ 2.8740	$ 316,140	$ 40,150		$ -	$ 356,290
5	08/24/15	26432	11	110,000	$ 2.9980	$ 329,780	$ 2.8740	$ 316,140	$ 13,640		$ -	$ 329,780
6	09/23/15	27649	10	100,000	$ 2.9070	$ 290,700	$ 2.8740	$ 287,400	$ 3,300		$ -	$ 290,700
7	10/22/15	28903	8	80,000	$ 2.7210	$ 217,680	$ 2.8740	$ 229,920	$ (12,240)		$ -	$ 217,680
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15												
Total	Total		62	620,000		$ 1,912,920		$1,781,880	$ 131,040		$ -	$ 1,912,920
						$ 3.0854		$ 2.8740	$ 0.2114		$ -	$ 3.0854
NNG	41	66.13%	41	410,000	$ 3.0854	$ 1,264,995	$ 2.8740	$1,178,340	$ 86,655	$ -	$ -	$ 1,264,995
NNG-ABL	4	6.45%	4	40,000	$ 3.0854	$ 123,414	$ 2.8740	$ 114,960	$ 8,454	$ -	$ -	$ 123,414
Other-Cons	17	27.42%	17	170,000	$ 3.0854	$ 524,510	$ 2.8740	$ 488,580	$ 35,930	$ -	$ -	$ 524,510
Total	62	100.0%	62	620,000	$ 3.0854	$ 1,912,920	$ 2.8740	$1,781,880	$ 131,040	$ -	$ -	$ 1,912,920

Feb-16

Deal Number	Purchase Date	Trade Number	Number Contracts	Physical Volume	Strike Price	Strike Cost	LDS Settle	LDS Settle Cost	Over/(Under Market	Premium Per Unit	Premium Cost	Total Cost
1	05/19/15	22814	5	50,000	$ 3.3580	$ 167,900	$ 2.8810	$ 144,050	$ 23,850		$ -	$ 167,900
2	05/19/15	22815	4	40,000	$ 3.3600	$ 134,400	$ 2.8810	$ 115,240	$ 19,160		$ -	$ 134,400
3	06/15/15	23410	9	90,000	$ 3.3330	$ 299,970	$ 2.8810	$ 259,290	$ 40,680		$ -	$ 299,970
4	07/16/15	24310	2	20,000	$ 3.2530	$ 65,060	$ 2.8810	$ 57,620	$ 7,440		$ -	$ 65,060
5	07/16/15	24311	6	60,000	$ 3.2540	$ 195,240	$ 2.8810	$ 172,860	$ 22,380		$ -	$ 195,240
6	08/14/15	25954	8	80,000	$ 3.1900	$ 255,200	$ 2.8810	$ 230,480	$ 24,720		$ -	$ 255,200
7	09/14/15	27254	6	60,000	$ 3.0760	$ 184,560	$ 2.8810	$ 172,860	$ 11,700		$ -	$ 184,560
8	10/20/15	28735	6	60,000	$ 2.8260	$ 169,560	$ 2.8810	$ 172,860	$ (3,300)		$ -	$ 169,560
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Total			46	460,000		$ 1,471,890		$1,325,260	$ 146,630		$ -	$1,471,890
						$ 3.1998		$ 2.8810	$ 0.3188		$ -	$ 3.1998
NNG	28	60.87%	28	280,000	$ 3.1998	$ 895,933	$ 2.8810	$ 806,680	$ 89,253	$ -	$ -	$ 895,933
NNG-ABL	2	4.35%	2	20,000	$ 3.1998	$ 63,995	$ 2.8810	$ 57,620	$ 6,375	$ -	$ -	$ 63,995
Other-Cons	16	34.78%	16	160,000	$ 3.1998	$ 511,962	$ 2.8810	$ 460,960	$ 51,002	$ -	$ -	$ 511,962
Total	46	100.0%	46	460,000	$ 3.1998	$ 1,471,890	$ 2.8810	$1,325,260	$ 146,630	$ -	$ -	$1,471,890

Mar-16

Deal Number	Purchase Date	Trade Number	Number Contracts	Financial Volume	Strike Price	Strike Cost	LDS Settle	LDS Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/21/15	22932	19	190,000	$ 3.3190	$ 630,610	$ 2.8520	$ 541,880	$ 88,730		$ -	$ 630,610
2	06/19/15	23538	16	160,000	$ 3.2400	$ 518,400	$ 2.8520	$ 456,320	$ 62,080		$ -	$ 518,400
3	06/19/15	23539	3	30,000	$ 3.2390	$ 97,170	$ 2.8520	$ 85,560	$ 11,610		$ -	$ 97,170
4	07/21/15	24586	18	180,000	$ 3.2510	$ 585,180	$ 2.8520	$ 513,360	$ 71,820		$ -	$ 585,180
5	08/19/15	26215	18	180,000	$ 3.0490	$ 548,820	$ 2.8520	$ 513,360	$ 35,460		$ -	$ 548,820
6	09/18/15	27508	18	180,000	$ 2.9100	$ 523,800	$ 2.8520	$ 513,360	$ 10,440		$ -	$ 523,800
7	10/23/15	28987	16	160,000	$ 2.6260	$ 420,160	$ 2.8520	$ 456,320	$ (36,160)		$ -	$ 420,160
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Total			108	1,080,000		$ 3,324,140		$3,080,160	$ 243,980		$ -	$3,324,140
						$ 3.0779		$ 2.8520	$ 0.2259		$ -	$ 3.0779
NNG	83	76.85%	83	830,000	$ 3.0779	$ 2,554,663	$ 2.8520	$2,367,160	$ 187,503	$ -	$ -	$2,554,663
NNG-ABL	5	4.63%	5	50,000	$ 3.0779	$ 153,895	$ 2.8520	$ 142,600	$ 11,295	$ -	$ -	$ 153,895
Other-Cons	20	18.52%	20	200,000	$ 3.0779	$ 615,581	$ 2.8520	$ 570,400	$ 45,181	$ -	$ -	$ 615,581
Total	108	100.0%	108	1,080,000	$ 3.0779	$ 3,324,140	$ 2.8520	$3,080,160	$ 243,980	$ -	$ -	$3,324,140

Total

Deal Number	Purchase Date	%	Number Contracts	Physical Volume	Strike Price	Strike Cost	LDS Settle	LDS Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1			48	480,000	$ 3.2498	$ 1,559,900	$ 2.7563	$1,323,030	$ 236,870	$ -	$ -	$ 1,559,900
2			45	450,000	$ 3.1816	$ 1,431,740	$ 2.7498	$1,237,400	$ 194,340	$ -	$ -	$ 1,431,740
3			41	410,000	$ 3.1566	$ 1,294,200	$ 2.7542	$1,129,210	$ 164,990	$ -	$ -	$ 1,294,200
4			46	460,000	$ 3.1434	$ 1,445,980	$ 2.7729	$1,275,520	$ 170,460	$ -	$ -	$ 1,445,980
5			49	490,000	$ 2.9878	$ 1,464,000	$ 2.7869	$1,365,580	$ 98,420	$ -	$ -	$ 1,464,000
6			50	500,000	$ 2.8430	$ 1,421,520	$ 2.7889	$1,394,460	$ 27,060	$ -	$ -	$ 1,421,520
7			30	300,000	$ 2.7413	$ 822,400	$ 2.8637	$ 859,100	$ (36,700)	$ -	$ -	$ 822,400
8			6	60,000	$ 2.8260	$ 169,560	$ 2.8810	$ 172,860	$ (3,300)	$ -	$ -	$ 169,560
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15												
Total			315	3,150,000		$ 9,609,300		$8,757,160	$ 852,140		$ -	$ 9,609,300
						$ 3.0506		$ 2.7801	$ 0.2705		$ -	$ 3.0506
NNG	217	68.89%	217	2,170,000	$ 3.0506	$ 6,619,740	$ 2.7801	$6,032,710	$ 587,030	$ -	$ -	$ 6,619,740
NNG-ABL	18	5.71%	18	180,000	$ 3.0506	$ 549,103	$ 2.7801	$ 500,409	$ 48,694	$ -	$ -	$ 549,103
Other-Cons	80	25.40%	80	800,000	$ 3.0506	$ 2,440,457	$ 2.7801	$2,224,041	$ 216,417	$ -	$ -	$ 2,440,457
Total	315	100.0%	315	3,150,000	$ 3.0506	$ 9,609,300	$ 2.7801	$8,757,160	$ 852,140	$ -	$ -	$ 9,609,300
		90.48%										

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Projected Storage Cost - November 2015 through March 2016

Month/ Year	K#118657 NNG Storage	Storage K#125915 LS Power	Storage K#125916 LS Power	Total NNG Storage	WACOG Projected K#118657 NNG WACOG	WACOG Projected K#125915 K#125916 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	NNG-ABL K#22335 NNG Storage	NNG-ABL K#22335 NNG Projected WACOG	NNG-ABL K#22335 NNG Projected Cost
Nov-15	455,259	14,625	63,375	533,259	$ 2.8092	$ 2.8092	$ 1,278,932	$ 41,085	$ 178,036	$ 1,498,053	85,304	$ 2.1997	$ 187,639	34,125	$ 2.7361	$ 93,370
Dec-15	1,143,984	36,750	159,250	1,339,984	$ 2.8092	$ 2.8092	$ 3,213,726	$ 103,240	$ 447,372	$ 3,764,337	231,769	$ 2.1997	$ 509,812	85,750	$ 2.7361	$ 234,623
Jan-16	1,143,984	36,750	159,250	1,339,984	$ 2.8092	$ 2.8092	$ 3,213,726	$ 103,240	$ 447,372	$ 3,764,337	231,769	$ 2.1997	$ 509,812	85,750	$ 2.7361	$ 234,623
Feb-16	1,143,984	36,750	159,250	1,339,984	$ 2.8092	$ 2.8092	$ 3,213,726	$ 103,240	$ 447,372	$ 3,764,337	209,339	$ 2.1997	$ 460,474	85,750	$ 2.7361	$ 234,623
Mar-16	455,259	14,625	63,375	533,259	$ 2.8092	$ 2.8092	$ 1,278,932	$ 41,085	$ 178,036	$ 1,498,053	96,374	$ 2.1997	$ 211,990	34,125	$ 2.7361	$ 93,370
Total	4,342,470	139,500	604,500	5,086,470	$ 2.8092	$ 2.8092	$ 12,199,043	$ 391,889	$ 1,698,186	$ 14,289,118	854,555	$ 2.1997	$ 1,879,727	325,500	$ 2.7361	$ 890,609

Month/ Year	NNG Storage Volume	NNG Indexes Price	NNG Indexes Cost
Nov-15	533,259	$ 2.6255	$ 1,400,072
Dec-15	1,339,984	$ 2.9545	$ 3,958,983
Jan-16	1,339,984	$ 3.3265	$ 4,457,457
Feb-16	1,339,984	$ 3.3410	$ 4,476,887
Mar-16	533,259	$ 3.0370	$ 1,619,508
Total	5,086,470	$ 3.1285	$ 15,912,905
			1,623,787

Month/ Year	AECO Storage Volume	Total AECO Market WACOG	Total AECO Market Cost
Nov-15	85,304	$ 2.6955	$ 229,937
Dec-15	231,769	$ 3.0495	$ 706,780
Jan-16	231,769	$ 3.2415	$ 751,279
Feb-16	209,339	$ 3.2485	$ 680,038
Mar-16	96,374	$ 3.2995	$ 317,986
Total	854,555	$ 3.1432	$ 2,686,019
			$ 806,292

Month/ Year	NNG-ABL Storage Volume	NNG-ABL Indexes Price	NNG-ABL Indexes Cost
Nov-15	34,125	$ 2.6155	$ 89,254
Dec-15	85,750	$ 2.8620	$ 245,417
Jan-16	85,750	$ 3.1340	$ 268,741
Feb-16	85,750	$ 3.1360	$ 268,912
Mar-16	34,125	$ 2.9370	$ 100,225
Total	325,500	$ 2.9879	$ 972,548
			$ 81,939

Max NNG-MERC Storage (Storage plan withdrawals through Apr 16)	5,086,470	5,469,321	09/30/15 Storage Balance - NNG-MERC	4,425,788	80.92%	4,115,984
Max AECO Storage (Storage plan withdrawals through Apr 16)	854,555	947,820	09/30/15 Storage Balance - AECO	851,544	89.84%	767,753
Max NNG-ABL Storage (Storage plan withdrawals through Apr 16)	325,500	350,000	09/30/15 Storage Balance - NNG-ABL	280,329	80.09%	260,706

Month/ Year	K#118657 NNG Storage	Storage K#125915 LS Power	Storage K#125916 LS Power	Total NNG Storage	Projected K#118657 NNG WACOG	Projected K#125915 NNG WACOG	Projected K#125916 NNG WACOG	WACOG NNG Cost	Projected NNG Indexes Price	Projected NNG Index Cost	Additional Storage (Savings)/ Cost
Nov-15	455,259	14,625	63,375	533,259	$ 2.8092	$ 2.8092	$ 2.8092	$ 1,498,053	$ 2.6255	$ 1,400,072	$ 97,981
Dec-15	1,143,984	36,750	159,250	1,339,984	$ 2.8092	$ 2.8092	$ 2.8092	$ 3,764,337	$ 2.9545	$ 3,958,983	$ (194,645)
Jan-16	1,143,984	36,750	159,250	1,339,984	$ 2.8092	$ 2.8092	$ 2.8092	$ 3,764,337	$ 3.3265	$ 4,457,457	$ (693,119)
Feb-16	1,143,984	36,750	159,250	1,339,984	$ 2.8092	$ 2.8092	$ 2.8092	$ 3,764,337	$ 3.3410	$ 4,476,887	$ (712,549)
Mar-16	455,259	14,625	63,375	533,259	$ 2.8092	$ 2.8092	$ 2.8092	$ 1,498,053	$ 3.0370	$ 1,619,508	$ (121,455)
Total	4,342,470	139,500	604,500	5,086,470	$ 2.8092	$ 2.8092	$ 2.8092	$ 14,289,118	$ 3.1285	$ 15,912,905	$ (1,623,787)

Month/ Year	AECO Storage	AECO Storage Other WACOG	Total AECO Cost	Projected Emerson Index Price	Projected Emerson Index Cost	Additional Storage (Savings)/ Cost
Nov-15	85,304	$ 2.1997	$ 187,639	$ 2.6955	$ 229,937	$ (42,297)
Dec-15	231,769	$ 2.1997	$ 509,812	$ 3.0495	$ 706,780	$ (196,967)
Jan-16	231,769	$ 2.1997	$ 509,812	$ 3.2415	$ 751,279	$ (241,467)
Feb-16	209,339	$ 2.1997	$ 460,474	$ 3.2485	$ 680,038	$ (219,564)
Mar-16	96,374	$ 2.1997	$ 211,990	$ 3.2995	$ 317,986	$ (105,996)
Total	854,555	$ 2.1997	$ 1,879,727	$ 3.1432	$ 2,686,019	$ (806,292)

Month/ Year	NNG-ABL K#22335 NNG Storage	K#22335 NNG Projected WACOG	K#22335 NNG Projected Cost	NNG-ABL Indexes Price	NNG-ABL Indexes Cost	Additional Storage (Savings)/ Cost
Nov-15	34,125	$ 2.7361	$ 93,370	$ 2.6155	$ 89,254	$ 4,116
Dec-15	85,750	$ 2.7361	$ 234,623	$ 2.8620	$ 245,417	$ (10,794)
Jan-16	85,750	$ 2.7361	$ 234,623	$ 3.1340	$ 268,741	$ (34,118)
Feb-16	85,750	$ 2.7361	$ 234,623	$ 3.1360	$ 268,912	$ (34,289)
Mar-16	34,125	$ 2.7361	$ 93,370	$ 2.9370	$ 100,225	$ (6,855)
Total	325,500	$ 2.7361	$ 890,609	$ 2.9879	$ 972,548	$ (81,939)

MINNESOTA ENERGY RESOURCES - CONSOLIDATED

Projected Call Option Costs - November 2015 through March 2016

Call/Put Options WACOG

Contract = 10,000

Call/Put Options

Nov-15

Deal Number	Purchase Date	%	Number Contracts	Physical Volume	Strike Price	Strike Cost	Option Price	Option Cost	Pent Settle	Pent Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/22/15		16	160,000	$ 3.2500	$ 520,000	$ 2.5180	$ 402,880	$ 2.5180	$ 402,880	$ -	$ 0.2280	$ 36,480	$ 439,360
2	06/23/15		16	160,000	$ 3.0000	$ 480,000	$ 2.5180	$ 402,880	$ 2.5180	$ 402,880	$ -	$ 0.2420	$ 38,720	$ 441,600
3	07/22/15		16	160,000	$ 3.2500	$ 520,000	$ 2.5180	$ 402,880	$ 2.5180	$ 402,880	$ -	$ 0.1330	$ 21,280	$ 424,160
4	08/21/15		16	160,000	$ 3.0000	$ 480,000	$ 2.5180	$ 402,880	$ 2.5180	$ 402,880	$ -	$ 0.0900	$ 14,400	$ 417,280
5	09/21/15		16	160,000	$ 2.7500	$ 440,000	$ 2.5180	$ 402,880	$ 2.5180	$ 402,880	$ -	$ 0.0690	$ 11,040	$ 413,920
6	10/02/15		16	160,000	$ 2.5000	$ 400,000	$ 2.5000	$ 400,000	$ 2.5180	$ 402,880	$ (2,880)	$ 0.0910	$ 14,560	$ 414,560
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Total			96	960,000		$ 2,840,000		$ 2,414,400		$ 2,417,280	$ (2,880)		$ 136,480	$ 2,550,880
						$ 2.9583		$ 2.5150		$ 2.5180	$ (0.0030)		$ 0.0481	$ 2.6572
NNG	73	76.04%	73	730,000	$ 2.9583	$ 2,159,583	$ 2.5150	$ 1,835,950	$ 2.5180	$ 1,838,140	$ (2,190)	$ 0.1422	$ 103,782	$ 1,939,732
NNG-ABL	6	6.25%	6	60,000	$ 2.9583	$ 177,500	$ 2.5150	$ 150,900	$ 2.5180	$ 151,080	$ (180)	$ 0.1422	$ 8,530	$ 159,430
Other-Cons	17	17.71%	17	170,000	$ 2.9583	$ 502,917	$ 2.5150	$ 427,550	$ 2.5180	$ 428,060	$ (510)	$ 0.1422	$ 24,168	$ 451,718
Total	96	100.0%	96	960,000	$ 2.9583	$ 2,840,000	$ 2.5150	$ 2,414,400	$ 2.5180	$ 2,417,280	$ (2,880)	$ 0.1422	$ 136,480	$ 2,550,880

Dec-15

Deal Number	Purchase Date	%	Number Contracts	Physical Volume	Strike Price	Strike Cost	Option Price	Option Cost	Pent Settle	Pent Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/20/15		24	240,000	$ 3.5000	$ 840,000	$ 2.7320	$ 655,680	$ 2.7320	$ 655,680	$ -	$ 0.2410	$ 57,840	$ 713,520
2	06/17/15		24	240,000	$ 3.2500	$ 780,000	$ 2.7320	$ 655,680	$ 2.7320	$ 655,680	$ -	$ 0.3070	$ 73,680	$ 729,360
3	07/17/15		24	240,000	$ 3.2500	$ 780,000	$ 2.7320	$ 655,680	$ 2.7320	$ 655,680	$ -	$ 0.2210	$ 53,040	$ 708,720
4	08/17/15		25	250,000	$ 3.2500	$ 812,500	$ 2.7320	$ 683,000	$ 2.7320	$ 683,000	$ -	$ 0.1410	$ 35,250	$ 718,250
5	09/16/15		27	270,000	$ 3.0000	$ 810,000	$ 2.7320	$ 737,640	$ 2.7320	$ 737,640	$ -	$ 0.1390	$ 37,530	$ 775,170
6	10/01/15		27	270,000	$ 2.7500	$ 742,500	$ 2.7320	$ 737,640	$ 2.7320	$ 737,640	$ -	$ 0.0750	$ 20,250	$ 757,890
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Total			151	1,510,000		$ 4,765,000		$ 4,125,320		$ 4,125,320	$ -		$ 277,590	$ 4,402,910
						$ 3.1556		$ 2.7320		$ 2.7320	$ -		$ 0.0583	$ 2.9158
NNG	117	77.48%	117	1,170,000	$ 3.1556	$ 3,692,086	$ 2.7320	$ 3,196,440	$ 2.7320	$ 3,196,440	$ -	$ 0.1838	$ 215,086	$ 3,411,526
NNG-ABL	8	5.30%	8	80,000	$ 3.1556	$ 252,450	$ 2.7320	$ 218,560	$ 2.7320	$ 218,560	$ -	$ 0.1838	$ 14,707	$ 233,267
Other-Cons	26	17.22%	26	260,000	$ 3.1556	$ 820,464	$ 2.7320	$ 710,320	$ 2.7320	$ 710,320	$ -	$ 0.1838	$ 47,797	$ 758,117
Total	151	100.0%	151	1,510,000	$ 3.1556	$ 4,765,000	$ 2.7320	$ 4,125,320	$ 2.7320	$ 4,125,320	$ -	$ 0.1838	$ 277,590	$ 4,402,910

Jan-16

Deal Number	Purchase Date	%	Number Contracts	Physical Volume	Strike Price	Strike Cost	Option Price	Option Cost	Pent Settle	Pent Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/18/15		27	270,000	$ 3.5000	$ 945,000	$ 2.8740	$ 775,980	$ 2.8740	$ 775,980	$ -	$ 0.3770	$ 101,790	$ 877,770
2	06/11/15		28	280,000	$ 3.5000	$ 980,000	$ 2.8740	$ 804,720	$ 2.8740	$ 804,720	$ -	$ 0.3000	$ 84,000	$ 888,720
3	07/13/15		28	280,000	$ 3.5000	$ 980,000	$ 2.8740	$ 804,720	$ 2.8740	$ 804,720	$ -	$ 0.2480	$ 69,440	$ 874,160
4	08/11/15		29	290,000	$ 3.2500	$ 942,500	$ 2.8740	$ 833,460	$ 2.8740	$ 833,460	$ -	$ 0.2790	$ 80,910	$ 914,370
5	09/11/15		29	290,000	$ 3.2500	$ 942,500	$ 2.8740	$ 833,460	$ 2.8740	$ 833,460	$ -	$ 0.1730	$ 50,170	$ 883,630
6	10/19/15		30	300,000	$ 3.0000	$ 900,000	$ 2.8740	$ 862,200	$ 2.8740	$ 862,200	$ -	$ 0.1420	$ 42,600	$ 904,800
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Total	Total		171	1,710,000		$ 5,690,000		$ 4,914,540		$ 4,914,540	$ -		$ 428,910	$ 5,343,450
						$ 3.3275		$ 2.8740		$ 2.8740	$ -		$ 0.0754	$ 3.1248
NNG	131	76.61%	131	1,310,000	$ 3.3275	$ 4,359,006	$ 2.8740	$ 3,764,940	$ 2.8740	$ 3,764,940	$ -	$ 0.2508	$ 328,580	$ 4,093,520
NNG-ABL	9	5.26%	9	90,000	$ 3.3275	$ 299,474	$ 2.8740	$ 258,660	$ 2.8740	$ 258,660	$ -	$ 0.2508	$ 22,574	$ 281,234
Other-Cons	31	18.13%	31	310,000	$ 3.3275	$ 1,031,520	$ 2.8740	$ 890,940	$ 2.8740	$ 890,940	$ -	$ 0.2508	$ 77,756	$ 968,696
Total	171	100.0%	171	1,710,000	$ 3.3275	$ 5,690,000	$ 2.8740	$ 4,914,540	$ 2.8740	$ 4,914,540	$ -	$ 0.2508	$ 428,910	$ 5,343,450

Feb-16

Deal Number	Purchase Date	%	Number Contracts	Physical Volume	Strike Price	Strike Cost	Option Price	Option Cost	Pent Settle	Pent Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/27/15		26	260,000	$ 3.2500	$ 845,000	$ 2.8810	$ 749,060	$ 2.8810	$ 749,060	$ -	$ 0.3970	$ 103,220	$ 852,280
2	06/26/15		26	260,000	$ 3.2500	$ 845,000	$ 2.8810	$ 749,060	$ 2.8810	$ 749,060	$ -	$ 0.3720	$ 96,720	$ 845,780
3	07/27/15		26	260,000	$ 3.2500	$ 845,000	$ 2.8810	$ 749,060	$ 2.8810	$ 749,060	$ -	$ 0.3220	$ 83,720	$ 832,780
4	08/26/15		25	250,000	$ 3.2500	$ 812,500	$ 2.8810	$ 720,250	$ 2.8810	$ 720,250	$ -	$ 0.2370	$ 59,250	$ 779,500
5	09/25/15		26	260,000	$ 3.0000	$ 780,000	$ 2.8810	$ 749,060	$ 2.8810	$ 749,060	$ -	$ 0.2620	$ 68,120	$ 817,180
6	10/23/15		27	270,000	$ 2.7500	$ 742,500	$ 2.7500	$ 742,500	$ 2.8810	$ 777,870	$ (35,370)	$ 0.2150	$ 58,050	$ 800,550
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Total			156	1,560,000		$ 4,870,000		$ 4,458,990		$ 4,494,360	$ (35,370)		$ 469,080	$ 4,928,070
						$ 3.1218		$ 2.8583		$ 2.8810	$ (0.0227)		$ 0.0963	$ 3.1590
NNG	121	77.56%	121	1,210,000	$ 3.1218	$ 3,777,372	$ 2.8583	$ 3,458,576	$ 2.8810	$ 3,486,010	$ (27,434)	$ 0.3007	$ 363,838	$ 3,822,413
NNG-ABL	8	5.13%	8	80,000	$ 3.1218	$ 249,744	$ 2.8583	$ 228,666	$ 2.8810	$ 230,480	$ (1,814)	$ 0.3007	$ 24,055	$ 252,722
Other-Cons	27	17.31%	27	270,000	$ 3.1218	$ 842,885	$ 2.8583	$ 771,748	$ 2.8810	$ 777,870	$ (6,122)	$ 0.3007	$ 81,187	$ 852,935
Total	156	100.0%	156	1,560,000	$ 3.1218	$ 4,870,000	$ 2.8583	$ 4,458,990	$ 2.8810	$ 4,494,360	$ (35,370)	$ 0.3007	$ 469,080	$ 4,928,070

Mar-16

Deal Number	Purchase Date	%	Number Contracts	Financial Volume	Strike Price	Strike Cost	Option Price	Option Cost	Pent Settle	Pent Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1	05/14/15		22	220,000	$ 3.5000	$ 770,000	$ 2.8520	$ 627,440	$ 2.8520	$ 627,440	$ -	$ 0.3970	$ 87,340	$ 714,780
2	06/04/15		22	220,000	$ 3.2500	$ 715,000	$ 2.8520	$ 627,440	$ 2.8520	$ 627,440	$ -	$ 0.3360	$ 73,920	$ 701,360
3	07/07/15		22	220,000	$ 3.2500	$ 715,000	$ 2.8520	$ 627,440	$ 2.8520	$ 627,440	$ -	$ 0.3420	$ 75,240	$ 702,680
4	08/04/15		22	220,000	$ 3.2500	$ 715,000	$ 2.8520	$ 627,440	$ 2.8520	$ 627,440	$ -	$ 0.3080	$ 67,760	$ 695,200
5	09/02/15		22	220,000	$ 3.0000	$ 660,000	$ 2.8520	$ 627,440	$ 2.8520	$ 627,440	$ -	$ 0.3100	$ 68,200	$ 695,640
6	10/21/15		23	230,000	$ 2.7500	$ 632,500	$ 2.7500	$ 632,500	$ 2.8520	$ 655,960	$ (23,460)	$ 0.2960	$ 68,080	$ 700,580
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Total			133	1,330,000		$ 4,207,500		$ 3,769,700		$ 3,793,160	$ (23,460)		$ 440,540	$ 4,210,240
						$ 3.1635		$ 2.8344		$ 2.8520	$ (0.0176)		$ 0.1047	$ 3.1656
NNG	103	77.44%	103	1,030,000	$ 3.1635	$ 3,258,440	$ 2.8344	$ 2,919,392	$ 2.8520	$ 2,937,560	$ (18,168)	$ 0.3312	$ 341,170	$ 3,260,562
NNG-ABL	7	5.26%	7	70,000	$ 3.1635	$ 221,447	$ 2.8344	$ 198,405	$ 2.8520	$ 199,640	$ (1,235)	$ 0.3312	$ 23,186	$ 221,592
Other-Cons	23	17.29%	23	230,000	$ 3.1635	$ 727,613	$ 2.8344	$ 651,903	$ 2.8520	$ 655,960	$ (4,057)	$ 0.3312	$ 76,184	$ 728,087
Total	133	100.0%	133	1,330,000	$ 3.1635	$ 4,207,500	$ 2.8344	$ 3,769,700	$ 2.8520	$ 3,793,160	$ (23,460)	$ 0.3312	$ 440,540	$ 4,210,240

Total

Deal Number	Purchase Date	%	Number Contracts	Physical Volume	Strike Price	Strike Cost	Option Price	Option Cost	Pent Settle	Pent Settle Cost	Over/(Under) Market	Premium Per Unit	Premium Cost	Total Cost
1			115	1,150,000	$ 3.4087	$ 3,920,000	$ 2.7922	$ 3,211,040	13.857	$ 3,211,040	$ -	$ 0.3362	$ 386,670	$ 3,597,710
2			116	1,160,000	$ 3.2759	$ 3,800,000	$ 2.7929	$ 3,239,780	13.857	$ 3,239,780	$ -	$ 0.3164	$ 367,040	$ 3,606,820
3			116	1,160,000	$ 3.3103	$ 3,840,000	$ 2.7929	$ 3,239,780	13.857	$ 3,239,780	$ -	$ 0.2610	$ 302,720	$ 3,542,500
4			117	1,170,000	$ 3.2158	$ 3,762,500	$ 2.7923	$ 3,267,030	13.857	$ 3,267,030	$ -	$ 0.2201	$ 257,570	$ 3,524,600
5			120	1,200,000	$ 3.0271	$ 3,632,500	$ 2.7921	$ 3,350,480	13.857	$ 3,350,480	$ -	$ 0.1959	$ 235,060	$ 3,585,540
6			123	1,230,000	$ 2.7785	$ 3,417,500	$ 2.7438	$ 3,374,840	13.857	$ 3,436,550	$ (61,710)	$ 0.1655	$ 203,540	$ 3,578,380
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Total			707	7,070,000		$ 22,372,500		$ 19,682,950		$ 19,744,660	$ (61,710)		$ 1,752,600	$ 21,435,550
						$ 3.1644		$ 2.7840		$ 2.7927	$ (0.0087)		7.83%	$ 3.0319
NNG	545	77.09%	545	5,450,000	$ 3.1645	$ 17,246,487	$ 2.7845	$ 15,175,297	$ 2.7932	$ 15,223,090	$ (47,793)	$ 0.2482	$ 1,352,456	$ 16,527,753
NNG-ABL	38	5.37%	38	380,000	$ 3.1595	$ 1,200,615	$ 2.7768	$ 1,055,191	$ 2.7853	$ 1,058,420	$ (3,229)	$ 0.2449	$ 93,053	$ 1,148,244
Other-Cons	124	17.54%	124	1,240,000	$ 3.1656	$ 3,925,398	$ 2.7842	$ 3,452,461	$ 2.7929	$ 3,463,150	$ (10,689)	$ 0.2477	$ 307,091	$ 3,759,553
Total	707	82.5%	707	7,070,000	$ 3.1644	$ 22,372,500	$ 2.7840	$ 19,682,950	$ 2.7927	$ 19,744,660	$ (61,710)	$ 0.2479	$ 1,752,600	$ 21,435,550

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