MINNESOTA DEPARTMENT OF COMMERCE

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February 22, 2016

Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: **Response Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. G011/M-15-723

Dear Mr. Wolf:

On July 31, 2015, Minnesota Energy Resources Corporation (MERC or the Company) filed a change in demand entitlement petition (Petition) for its customers served off of the Northern Natural Gas Company (NNG or Northern) system.

In its October 15, 2015 Comments, the Minnesota Department of Commerce (Department or DOC) recommended that the Commission:

- **accept** MERC-NNG's peak-day analysis; and
- **approve** MERC-NNG's proposed level of demand entitlement and proposed recovery of associated demand costs effective November 1, 2015.

The Department also requested that MERC provide a detailed explanation in its Reply Comments of how it manages its non-heating season capacity given the fact that it appears to have a non-heating season capacity shortfall. In reference to MERC's Ortonville analysis, the Department also asked the Company to explain why it would be appropriate to use a regression model with a negative intercept term. Finally, the Department indicated that it anticipated reviewing MERC's updated cost analysis on the alternatives to the Bison contract after MERC's November 2, 2015 updated filing in the current docket.

A. OCTOBER 26 REPLY

1. Non-Heating Season Capacity Shortfall

On October 26, 2015, MERC filed Reply Comments[1] and stated the following on the non-heating season capacity shortfall:

> Attachment 3 to MERC's July 31, 2015 filing shows MERC-NNG's forecasted design day. MERC has generally not contracted for demand to cover its projected non-heating

[1] In its October 26, 2015 Reply, MERC indicated that it would submit an update to its Consolidated Demand Entitlement filing on or before November 2, 2015.

> season design day because, in the event of a non-heating season design day, MERC would be able to obtain additional capacity from NNG without issue. In comparison, if MERC were to contract for the additional demand, the additional cost to MERC-NNG ratepayers would be approximately $1.3 million. During non-heating season months, NNG has more than enough capacity available to sell to MERC as needed such that contracting for that demand would be an unnecessary cost to MERC-NNG customers.

The Department appreciates MERC's explanation that capacity from NNG is readily available during the non-heating season and its evaluation of the additional costs. In addition, utilities may sell their contracted pipeline capacity (capacity-release transactions) if the utility determines that a portion of their reserved capacity will not be needed to serve its customers. Thus, MERC would likely also have access to capacity release from other shippers during the non-heating season. In conclusion, MERC's explanation regarding the non-heating season is reasonable.

2. Ortonville

Regarding the Company's analysis for Ortonville, MERC stated the following:[2]

> MERC believes its use of a negative intercept term is reasonable under the circumstances. MERC understands the Department's comments regarding the use of a negative intercept term to be related to the forecasting process addressing load when the AHDD65 weather variable is zero, which commonly occurs in the months of July and August.
>
> MERC follows several quality control steps to ensure that its regression models appear reasonable. In addition to thoroughly reviewing input data, various steps are taken to ensure that statistical components, such as R-squared and sigma, are acceptable.
>
> The purpose of the design peak day forecast is to predict the load on a day similar to the coldest day in the last 20 years; therefore, the input data with the best predictive capabilities is selected. Data is restricted to the last three years to focus on recent demographics, and limited to the months of December, January, and February, since the coldest day has historically only occurred within one of those months. MERC's prior experience has shown that regressions with more and warmer weather data, which is further from the design peak day criteria, usually result in positive intercept terms but less statistically

[2] MERC's Reply, pages 2-3.

> predictive results. As the coldest day in the last 20 years in Ortonville was January 14, 2009, detail for that specific day is outside the scope of the input data. In this situation, and for all the other MERC areas, the results of the regressions then need to be extrapolated upward to reach the design peak day criteria. This approach is commonly followed in the utility industry and has historically provided reliable statistical results.
>
> While adding customer usage data from the warmest months would be likely to result in a positive intercept term, because the model seeks to predict customer usage during an extreme cold event, use of such data would make the regression sample data less representative of the true population containing the predicted event (customer usage on very cold days). If the sample is not representative of the population, meaningful statistical inference such as extrapolation of regression results is problematic. The same can be said for trying to forecast warm day events (such as warm day requirements for baseload supply) by looking at customer behavior and usage on very cold days.

The Department agrees with MERC that "the purpose of the design peak day forecast is to predict the load on a day similar to the coldest day in the last 20 years" and agrees with MERC that it is appropriate to use monthly data for the months of December, January, and February in its regression models to calculate the design day for the heating season. The Department further notes that, by using the historical data for the months of December, January, and February in the regression model, both the non-weather sensitive and weather sensitive portions of the load are embedded in the historical data and thus both are implicit in the forecast. Thus, the Department's concerns regarding the negative intercept term representing the non-weather sensitive portion of the load in MERC's Ortonville regression analysis model are somewhat mitigated,[3] The Department also notes that, for all of MERC's other areas where MERC performed regression analysis in a manner similar to Ortonville, the intercept term was positive, as expected.

In conclusion, the Department agrees that MERC appropriately excluded the non-winter months from its analysis. Because both the non-weather and weather sensitive needs are implicit in the December, January, and February historical data, and in light of the fact that Ortonville represents a relatively minor portion of MERC's overall capacity needs, the Department's concern regarding the negative intercept is somewhat mitigated. However, in its future demand entitlement filings, the Department recommends that MERC check the results of its regression analysis to ensure the results are consistent with the underlying theory the analysis attempts to explain. The Department appreciates MERC's reply

[3] As noted in the Department's October 15, 2015 comments and in the December 8, 2014 Comments in Docket No. G011/M-14-660, using a negative intercept term (representing what the non-weather sensitive portion of the load would be on the coldest day) implies that MERC would not need any capacity for baseload usage; rather, its customers would be providing baseload gas to MERC.

comments and continues to recommend that the Commission accept MERC-NNG's peak-day analysis.

B. NOVEMBER 2 UPDATE

1. Changes to Capacity

On November 2, 2015, MERC filed its update. The Company made no mention of whether any changes were made to its capacity since the time of its initial filing. From the Department's review of the filing, it appears that the Company simply copied its lengthy July 31, 2015 petition and added to the Bison contract discussion. In its future demand entitlement filing updates, the Department requests that MERC explain whether changes are made in the update and provide a red-line version so that changes can readily be seen. Further, it appears that no changes were made to the design day requirements.

Nevertheless, the Department found what appeared to be a change in NNG's transportation service (TF) Base (B) and Variable (V) services and TF 5-month (TF 5) service on MERC's Attachment 3 as follows:

Table 1
November 1, 2015 Filing

NNG Service	Initial Filing (Dth)	Change (Dth)	Nov. 1 (Dth)
Total TF 12 mo. B & V	76,079	(763)	75,316
TF 5 month	31,515[4]	763	32,278[5]

The Department questioned MERC on this change. The Company explained that in its initial filing, it included 763 Dth of TF5 capacity billed at a TF12 B rate with the TF12 B & V capacity to make the total cost paid tie out. The Department concludes that the change on MERC's November 1, 2015 Attachment 3 was made to show the total winter level of TF5. However, the Department notes that this would not be an issue if MERC's Attachment 3 included more detail showing the summer and winter volumes similar to its Attachment 4 rather than lumping the services on two lines as shown above.

Further, the Department requested NNG's annual November reallocation of units between TF12 B and TF12 V based on the utility's previous May through September usage. MERC stated that consistent with NNG's past practice of billing 763 Dth of TF 5 capacity at a TF12 B rate, NNG's November invoice to MERC showed the following TF amounts:

[4] This is the summer level of TF5.
[5] This is the winter level of TF5.

Table 2
December 7, 2015 Changes

NNG Service	Initial Filing (Dth)[6]	Change (Dth)	Nov. Invoice (Dth)
TF 12 mo. B	55,019	(9,993)	45,026
TF 12 mo. V	21,060	9,230	30,290
Total TF 12 B & V	76,079	(763)	75,316
TF5 month	31,515	763	32,278

As shown in Table 2, the level of TF12 B demand decreased and TF12 V increased by 9,993 Dth between MERC's initial filing and NNG's November invoice. The Company's revised demand entitlement levels would result in the following annual demand cost impacts compared to the Company's October 2015 PGA:[7]

- annual bill decrease of approximately $8.44 related to demand costs, or approximately -9.49 percent, for the average General Service customer consuming 89 Dth annually;
- annual bill decrease of $6.85 related to demand costs, or approximately -2.65 percent, for the average Small Volume Firm Joint customer consuming 5,543 Dth and 25 Dth average annual CD volumes annually;
- annual bill decrease of $20.54 related to demand costs, or approximately -2.65 percent, for the average Large Volume Firm Joint customer consuming 42,000 Dth and 75 Dth average annual CD volumes annually;
- no demand cost impacts related to MERC-NNG's interruptible rate classes.

2. Bison Contract

Regarding the alternatives to the Bison contract, MERC stated in part:[8]

> MERC is planning on utilizing the [Bison] capacity based upon which of the following receipt point(s) provide the lowest price gas option, whether its supply purchased daily, monthly or on a term basis (greater than one month), assuming supply reliability:
>
> 1. Buffalo – Cheyenne HUB index
> 2. Port of Morgan – Ventura minus index
> 3. Stateline or alternate Bakken receipt point - Ventura minus index
> 4. NNG Ventura or alternate NBPL/NNG interconnects – Ventura flat/plus index

[6] MERC's Attachment 4.
[7] MERC's November 2, 2015 filing, Attachment 11 shows the effect of this change per class with new figures for annual use for General Service, Small Volume Interruptible and Firm. On MERC's Attachment 12, the Company now estimates the change in costs to be a decrease in entitlement levels of $2,074,366 and an increase in related demand costs of $4,022.
[8] MERC's November 2, 2015 Update pages 16-17.

> Each of these receipt points will have a different pricing aspect and depending on gas costs plus the variable transportation costs (fuel, volumetric transportation commodity charges, compressor usage surcharge, ACA), MERC would choose the lowest cost of those receipt point(s), assuming supply reliability.

The Department concludes that MERC complied with the Commission's January 21, 2015 Order to provide an evaluation and analysis of available gas supply alternatives to its Bison/NBPL contracts.

C. RECOMMENDATIONS

The Department now recommends that the Commission:

- **accept** MERC-NNG's peak-day analysis; and
- **approve** MERC-NNG's level of demand entitlements including NNG's annual reallocation of units between TF 12-month Base and TF 12-month Variable services; and
- **approve** MERC's proposed recovery of associated demand costs effective November 1, 2015.

The Department requests that, in future November demand entitlement updates, MERC explain whether changes are made in the update and provide a red-line version so that changes can readily be seen, and provide sufficient detail in its future equivalent Attachment 3 showing the summer and winter volumes in the manner shown in its Attachment 4 rather than lumping the services on two lines. Finally, the Department recommends that MERC check the results of its regression analysis to ensure the results are consistent with the underlying theory the analysis attempts to explain.

The Department is available to answer any questions that the Commission may have.

Sincerely,

/s/ SACHIN SHAH
Rates Analyst

/s/ MICHELLE ST. PIERRE
Financial Analyst

SS/MS/lt
Attachment

CERTIFICATE OF SERVICE

I, Linda Chavez, hereby certify that I have this day served copies of the following document on the attached list of persons by electronic filing, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

MINNESOTA DEPARTMENT OF COMMERCE – RESPONSE COMMENTS

Docket Nos. **G011/M-15-723**

Dated this **22th** day of **February, 2016**.

/s/Linda Chavez

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