Minnesota Public Utilities Commission
Staff Briefing Papers

Meeting Date: August 24, 2017 ....* Agenda Item #6

Company: Minnesota Energy Resources Corporation (MERC)

Docket Nos. **G-011/M-16-650**
In the Matter of a Petition by Minnesota Energy Resources Corporation (MERC-Northern Natural Gas (NNG)) for Approval of Changes in Contract Demand Entitlements for the 2016-2017 Heating Season

G-011/M-16-651
In the Matter of a Petition by Minnesota Energy Resources Corporation (MERC-Consolidated) for Approval of Changes in Contract Demand Entitlements for the 2016-2017 Heating Season

G-011/M-16-652
In the Matter of a Petition by Minnesota Energy Resources Corporation (MERC-Albert Lea) for Approval of Changes in Contract Demand Entitlements for the 2016-2017 Heating Season

Issue: Should the Commission approve MERC's proposed demand entitlement capacity (levels) and cost changes to meet its Design Day and Reserve Margin requirements as described in the listed dockets, effective November 1, 2016?

Staff: Bob Brill 651-201-2242

Relevant Documents

G-011/M-16-650 (MERC-NNG)
MERC Initial Petition and Schedules .... August 1, 2016
Department of Commerce (Department) Comments .... October 28, 2016
MERC Revised Petition and Updated Schedules – Compliance Filing .... November 1, 2016
MERC Reply Comments & Attachments .... November 7, 2016
MERC – Letter, Modification to Storage Contract .... May 31, 2017
Department Supplemental Comments .... June 2, 2017

G-011/M-16-651 (MERC-Consolidated)
MERC Initial Petition and Schedules .... August 1, 2016
Department of Commerce (Department) Comments .... October 28, 2016
MERC Revised Petition and Updated Schedules – Compliance Filing .... November 1, 2016
MERC – Letter, Regarding City Gate delivered Supplies .... November 16, 2016
MERC – Letter, Modification to Storage Contract .... April 20, 2017
Department Supplemental Comments .... June 2, 2017

The attached materials are workpapers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless otherwise noted.

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July 26, 2017

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Statement of the Issue

Should the Commission approve MERC's proposed demand entitlement capacity (levels) and cost changes to meet its Design Day and Reserve Margin requirements as described in the listed dockets, effective November 1, 2016?

Introduction

MERC has entered into natural gas supply and interstate pipeline contracts (demand entitlements) to provide retail natural gas sales services to its customers. MERC annually reviews and updates these contracts to ensure continued system reliability of its natural gas supply.

MERC's annual demand entitlement[1] petitions request Commission approval to recover certain cost and capacity changes in these entitlements, other demand and commodity related contract costs, and to implement the rate impact of these changes through its Purchased Gas Adjustment (PGA)[2] charges.

MERC's three PGA areas are:

- MERC-NNG PGA area. This area includes all of MERC's customers in the old Peoples Natural Gas (PNG) service area, except the Interstate Power & Light (IPL) customers located in the Albert Lea area, that receive delivered natural gas through the Northern Natural Gas Company (NNG) interstate pipeline.
- MERC-Consolidated PGA area. This area combines all of MERC's customers that receive delivered natural gas through the Viking Gas Transmission (VGT), Great Lakes Gas Transmission (GLGT), and Centra interstate pipelines.
- MERC-NNG Albert Lea area. This area includes the old IPL customers that receive delivered natural gas through NNG.[3]

Staff notes that MERC's NNG and NNG-Albert Lea PGA areas were consolidated into one PGA area on July 1, 2017, pursuant to the Commission's October 31, 2016 Order in Docket No. 15-736.

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[1] D*emand entitlements* can be defined as reservation charges paid by the Local Distribution Company (LDC) to an interstate natural gas pipeline to reserve pipeline capacity used to store and transport the natural gas supply for delivery to its system and contract charges associated with the LDC procuring its gas supply; these costs are recovered through the LDC's PGA.

[2] The Purchased Gas Adjustment is a mechanism used by regulated utilities to recover its cost of energy. Minn. Rules 7825.2390 through 7825.2920 enable regulated gas and electric utilities to adjust rates on a monthly basis to reflect changes in its cost of energy delivered to customers based upon costs authorized by the Commission in the utility's most recent general rate case.

[3] Pursuant to the Commission's Order in Docket No.14-107 dated December 8, 2014, the Commission authorized MERC's acquisition of IPL's natural gas assets and customer base. MERC was required to maintain a separate PGA area for IPL customers until MERC filed its next general rate case. In Docket No. 15-736, MERC's subsequent general rate case, MERC requested that the Commission allow it to consolidate its two NNG PGA areas.

PUC staff reviewed MERC's 2016-2017 Demand Entitlement petitions, and the *Comments* filed by the Department and MERC. The Department and MERC have resolved the majority of issues raised by the Department. The Department recommended to the Commission that it approve MERC's 2016-2017 demand entitlement petitions.

PUC staff generally agrees with the Department's recommendations, but provides additional discussion for the Commission to consider.

For these briefing papers, PUC staff combined MERC's three PGA areas into one discussion, but discusses issues related to a particular PGA area separately.

Minnesota Rules

Minnesota Rule, part 7825.2910, subpart 2 require gas utilities to make a filing whenever there is a change to its demand-related entitlement services provided by a supplier or transporter of natural gas. [4]

MERC – Initial Filings

MERC's Design Day (DD) Requirements

MERC's calculation of its DD requirements was similar to the process that it had used in previous demand entitlement filings. MERC performed its regression analysis by pipeline and weather station. Because of its telemetry program, MERC was able to perform its regression analysis with daily-metered interruptible customer data.[5] MERC calculated its 2016-2017 DD requirements at 317,586 Mcf/day (for 5,435 Mcf/day difference from MERC's 2015-2016 demand entitlement petition, see Table 1 and Table 5 in the below Department discussion.

Table 1 – Design Day requirements by PGA area and interstate pipeline (in Mcf/day): [6]

Pipeline	Total	MERC-Consolidated	MERC-NNG	MERC-Albert Lea[7]
GLGT	29,808	29,808		
Viking	16,588	16,588		
Centra	9,132	9,132		
NNG	262,058		248,796	13,262
Total	317,586	55,528	248,796	13,262

[4] Filing upon a change in demand, is included in the Automatic Adjustment of Charges rule parts 7825.2390 through 7825.2920 and requires gas utilities to file to increase or decrease demand, to redistribute demand percentages among classes, or to exchange one form of demand for another.

[5] Approved by the Commission in Docket No. 08-835, MERC's 2008 general rate case, see the Commission's June 29, 2009 Order

[6] Includes Transportation entitlements only, does not include Storage entitlements.

[7] Reflects MERC's November 7, 2016 Reply Comments demand entitlement Albert Lea levels (Docket No. 16-652).

MERC's Demand Entitlement Contract Levels

To transport its DD requirements, MERC uses a series of interstate pipeline contracts (for both transportation and storage services) for each of its PGA areas, i.e. demand entitlements. The 2016-2017 transportation demand entitlement contract levels were modified from the previous year's levels (for 2015-2016), which resulted in 321,216 Mcf/day (see Table 2) of available interstate pipeline transportation capacity, a decrease of 550 Mcf/day, see Table 2 and Table 6 in the below Department discussion.

Table 2 – Transportation Demand Entitlements by PGA area (reflected in Mcf/day): [8]

Total MERC	MERC-Consolidated	MERC-NNG	MERC-Albert Lea
321,216	54,899	252,127	14,190

[PUC staff note: The transportation demand entitlements reflected in Table 2 do not include the 50,000 Mcf/d Bison and NBPL interstate pipeline contracts (these contracts are "upstream" from NNG).]

MERC's Reserve Margin

The Reserve Margin is the difference between MERC's transportation demand entitlements and DD requirements. MERC stated that its reserve margin in each PGA area is appropriate given the need to balance the uncertainty of DD conditions, customer demand during these peak conditions, and the need to protect against firm gas supply loss to maintain system reliability.

Table 3 - Reserve Margins by PGA areas: [9]

	MERC-Consolidated	MERC-NNG	MERC-Albert Lea[10]
Transportation Demand Entitlements	54,899	252,127	14,190
Design Day Requirements	55,528	248,796	13,262
Reserve Margin:			
Quantities in Mcf[11]	(629)	3,331	928
As a Percentage[12]	(1.13%)	1.34%	7.00%

Table 4 - Reserve Margin – MERC total system:

All Dockets-Total MERC	Quantities in Mcf
Total MERC Reserve Margin (Mcf/day)	3,630
Total MERC DD requirements (Mcf/day)	317,586
Reserve Margin as a percentage	**1.14%**

[8] Ibid.
[9] See Appendix A for calculation
[10] See MERC November 7, 2016 Reply Comments, pp. 1-3 for revised calculations.
[11] Calculated by taking the Total Demand Entitlements contracts and subtracting the total DD requirements
[12] Calculated by dividing the difference between the total Demand Entitlements contracts and the total DD requirements by the total DD requirements

Department - Comments

The Department reviewed MERC's proposed Design Day (DD) requirements, demand entitlements, calculated reserve margins, and the miscellaneous changes that occurred since MERC's 2016-2016 demand entitlement petitions.

The Department summarized MERC's proposed 2016-2017 DD requirements by PGA area, for a total increase of 5,435 Mcf/day, see Table 5:

Table 5 – Design Day (DD) requirements:

PGA area	2015-2016	2016-2017	Difference	% increase/(decrease)
MERC-Consolidated	53,075	55,528	2,453	4.62%
MERC-NNG	245,263	248,796	3,533	1.44%
MERC-Albert Lea	13,813	13,262	(551)	(3.99%)
Total	312,151	317,586	5,435	1.74%

The Department noted that MERC's DD analysis was similar to MERC's previously used process. MERC's model included the use of daily metered interruptible data. In the Company's 2008 rate case, in Docket No. 08-835, MERC was ordered to incorporate in its interruptible tariff, language that required all interruptible customers to upgrade their meters that would provide daily interruptible throughput data. MERC first used the daily interruptible data in its 2015-2016 demand entitlement petitions (represented the first year that 3-years of data was available).[13]

The Department summarized MERC's proposed changes to its 2016-2017 demand entitlement requirements and Reserve Margin levels, see Tables 6, 7, and 8.

Table 6 – Demand Entitlements requirements:

PGA area	2015-2016	2016-2017	Difference	% increase/(decrease)
MERC-Consolidated	55,449	54,899	(550)	(0.99%)
MERC-NNG	252,127	252,127	0	0.00%
MERC-Albert Lea	14,190	14,190	0	0.00%
Total	321,766	321,216	(550)	(0.17%)

Table 7 – Reserve Margin Comparison by PGA area:

PGA area	2015-2016 Demand Entitlement Filing	2016-2017 Demand Entitlement Filing	Difference
MERC-Consolidated	4.47%	(1.13%)	(5.60%)
MERC-NNG	2.80%	1.34%	(1.46%)
MERC-Albert Lea[14]	2.73%	7.00%	4.27%

[13] However, for MERC-Albert Lea PGA area, the daily metered interruptible data is not available.
[14] Ibid.

Table 8 – DD requirements, Demand Entitlements, and Reserve Margin[15] by interstate pipeline:

PGA Area	DD Requirements	Demand Entitlements	Difference	Reserve Margin
Viking	16,588	15,591	(997)	(6.01%)
GLGT	29,808	29,808	0	0.00%
Centra	9,132	9,500	368	4.03%
NNG-PNG	248,796	252,127	3,331	1.34%
NNG-AL	13,262	14,190	928	7.00%
Total	317,586	321,216	3,630	1.14%

The Department concluded that each of MERC's three PGA areas' DD calculation, transportation demand and storage entitlements and reserve margin calculations were not unreasonable. Generally, the Department believes a Reserve Margin of up to 5 percent is not unreasonable. MERC's NNG Reserve Margin has consistently been below 5 percent in recent years, but given the potential for added capacity in 2018-2019, the Department did not challenge the reasonableness of MERC's current Reserve Margin of less than 2 percent.

In addition, the Department stated on p. 6 of its June 2nd supplemental comments that

> … in contrast to the electric utility industry, natural gas reserve margins are utility-specific rather than regionally specific, as more fully discussed in Attachment 4. However, given Minnesota's efforts to expand natural gas use in under- and unserved areas, and the increasing use of natural gas for electricity generation, there is a growing need to more closely examine reserve margins and to integrate natural gas supply planning with electric resource planning. In light of this recognition, the Department has issued information requests (see Attachment 5) and will review those responses, in addition to information provided in the annual service quality and annual automatic adjustment reports, to ascertain, among other things, the number and timing of interruptions (curtailments) that have occurred in the past 5 years, and the causes of those curtailments, as a first step in assessing whether the demand entitlements procured, including reserve margins in place at those times were sufficient or justified, and to begin monitoring the growing inter-relationship between the natural gas and electric industries.

PUC Staff Comment

PUC staff reviewed MERC's 2016-2017 demand entitlement petitions for its three PGA areas and appreciates the parties' comments. Staff believes that the Department's analysis covered most of the relevant factors and that any issue has been resolved.[16]

PUC staff has summarized MERC's DD requirements and transportation demand entitlements in ***Appendix A*** and its transportation demand entitlement costs in ***Appendices B and C***.

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[15] In previous dockets, the Department has stated that a typical Reserve Margin range is between 5% - 7%.

[16] See the Department's October 28, 2016 Comments and June 2, 2017 Reply Comments.

The Department recommended that the Commission approve MERC's Petitions (Docket Nos. 16-650, 16-651, and 16-652), as modified in its November 1, 2016 Update and November 7, 2016 Reply Comments (see Tables 5 – 8, above), and allow MERC to recover the associated gas supply costs through the monthly purchased gas adjustment (PGA) mechanism, effective November 1, 2016 (impacts both demand and commodity PGA factors).[17]

PUC staff generally agrees with the Department's recommendations, but provides additional discussion for Commission consideration.

Has MERC complied with previous Commission Order requirements in the 2016-2017 demand entitlement petitions?

In previous dockets, the Commission required MERC to comply with certain requirements, for example in its April 28, 2016 Order in Docket Nos. 15-722, 15-723, and 15-724, the Commission required MERC to address certain concerns in its 2016-2017 demand entitlement petitions.

- Order Point 6 - Required MERC to fully justify its selection of the Rochester weather station as opposed to Albert Lea in its Design Day calculation in its next NNG-Albert Lea demand entitlement petition (Docket No. 16-652).

- Order Point 8 - Required MERC to explain changes made in its compliance petitions that are different from its original petitions, and provide a red-line version of both petitions identifying changes.

- Order Point 9 - Required MERC to separate its summer and winter demand entitlements as reflected in Attachment 4 of its petitions, rather than combining the data as reflected on Attachment 3 of its petitions.

- Order Point 10 - Required MERC to verify its regression analysis results in future demand entitlement filings to ensure the results are consistent with the underlying theory the analysis attempts to explain.

- Order Point 12 - Required MERC to explain the reason that its Demand Day requirements increased over its 2015-2016 demand entitlements for its MERC-Consolidated and MERC-Albert Lea PGA area in a compliance filing within 30 days of the order.

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[17] For Docket No. 16-650 (MERC NNG), see rate impacts reflected in MERC's June 2, 2017 Reply Comments, pp. 6-7, Attachment 4, p. 1. For Docket No. 16-651 (MERC Consolidated), see rate impacts reflected in MERC's June 2, 2017 Reply Comments, p. 8. For Docket No. 16-652 (MERC NNG-Albert Lea), see rate impacts reflected in MERC's June 2, 2017 Reply Comments, p. 6, and Attachment 3.

The Department reviewed the Commission Orders and was satisfied that MERC was in compliance with Docket Nos. 15-722, 15-723, and 15-724 Order requirements, in that:

- MERC appropriately adjusted its regression models by removing autocorrelation.[18]
- In its Reply Comments in Docket No. 16-652, MERC changed its weather station data collection from the Rochester to Albert Lea pursuant to the Commission's Order in Docket No. 15-724. MERC stated this change led to better DD calculation results in Docket No. 16-652 (Order Point 6).[19]
- MERC complied with Commission Orders by providing its explanation of changes made in its compliance petitions that were different from its original petitions, and provided a red-line version of both petitions identifying changes (Order Point 8).
- MERC complied with Commission Orders in that it provided separate data for winter and summer demand entitlements (Order Point 9).[20]
- MERC complied with the Commission Order in Docket No. 15-723, in that it carefully reviewed the results of its regression analysis and verified that the results are consistent with the underlying theory the analysis attempts to explain (Order Point 10).[21]
- In its May 31, 2016 Compliance Filing in Docket Nos. 15-722, 15-723, and 15-724, MERC provided its explanation for demand entitlement changes for MERC-Consolidated and MERC NNG-Albert Lea PGA areas. The Department stated that it believed MERC complied with the Order requirements (Order Point 12).

[PUC Staff Note: In its October 31, 2016 Order in Docket No. 15-736,[22] the Commission approved MERC's request to consolidate its NNG and NNG-Albert Lea PGA areas, effective on July 1, 2017. MERC has consolidated these PGA areas in its monthly July 2017 PGA filing. This consolidation will be reflected in MERC's 2017-2018 demand entitlement petitions. Staff believes that the Commission's April 28, 2016 Order Point 11 will be addressed in these future filings.]

In Docket Nos. 15-722, 15-723, and 15-724, the Commission's April 28, 2016 Order Point 13 requested the Department to review and confirm how the other Minnesota natural gas utilities use metered daily interruptible data in the development of their Design Day requirements and provide a discussion explaining its conclusions. This review should determine if similar interruptible service tariff language requiring telemetering is already in each natural gas utilities' tariff for interruptible sales and transportation service and, if so, whether data from telemetering is being used effectively, and, if not, should a telemetering requirement be incorporated into their tariffs, and this data be used to possibly reduce costs.

In the current dockets, the Department's comments do not appear to address the Commission's questions about the use of telemetering to improve efficiency and reduce costs. The Commission may wish to inquire from the Department the status of this analysis, whether the analysis has been completed or if the analysis is forthcoming.

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[18] Pursuant to the Commission's February 4, 2015 Order in Docket Nos. 12-1192, 12-1193, 12-1194, and 12-1195.
[19] MERC obtained and verified historical Albert Lea weather station data to incorporate in the regression analysis.
[20] See MERC's petitions, Attachment 3.
[21] See the Department's Comments and Reply Comments.
[22] MERC's last general rate case.

Should the Commission approve MERC's changes to its demand entitlement levels, DD calculations and Reserve Margins?

Changes to MERC-NNG PGA area

MERC did not propose demand entitlement changes. MERC's 2016-2017 demand entitlement level was 252,127 Dth/day – equal to the 2015-2016 demand entitlement level. MERC did adjust its DD requirements from 245,263 Dth/day to 248,796 Dth/day, or an increase of 3,533 Dth/day. The result of this change was to decrease its NNG PGA area reserve margin from 2.80% to 1.34% (see Appendix A, p. 2).

The Department believed these changes were not unreasonable and recommended approval. The Department did comment on the NNG reserve margin of 1.34%, but did not indicate whether it believes the 1.34% reserve margin was reasonable or unreasonable.

In Docket No. 08-835, MERC was ordered to incorporate in its interruptible tariff, language that required all interruptible customers to upgrade their meters that would provide daily interruptible throughput data. MERC completed its telemetry program and currently has more than three years of historical daily interruptible data to use in its DD regression analysis for its Consolidated and NNG PGA areas.[23] In Docket No. 15-723, PUC staff believed that the daily interruptible data availability enhanced MERC's ability to calculate its DD requirements, which led to an interstate pipeline capacity reduction, and saved MERC's ratepayers approximately $1.1 million in demand entitlement costs.[24] In this docket, staff believes that MERC customers continue to save the $1.1 million amount, for accumulative savings of $2.2 million.

In the 2015-2016 demand entitlement petitions (Docket No. 15-723) there was an increase to MERC's customer count, thus leading staff to believe the demand entitlement cost savings were related to MERC having more accurate data available for its DD requirements calculation. In these dockets, the MERC customer counts continue to increase without a corresponding demand entitlements increase. Staff continues to believe the availability and use of daily interruptible data is saving MERC customers' money.

Changes to MERC-Consolidated PGA area

For its Centra Pipeline entitlements, MERC proposed to increase its demand entitlements capacity by 400 Dth/day, which produced a positive reserve margin of 4.03% as opposed to the 4.91% reserve margin in its previous demand entitlement petition.

For its Great Lakes Transmission Pipeline entitlements, MERC acquired an additional 50 Dth/day on Great Lakes Gas Transmission, but its demand entitlements equal its DD calculation resulting in a reserve margin of 0.00% as opposed its last demand entitlement petition's reserve margin of 4.26%.

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[23] For the winter heating season of 2012-2013, 2013-2014, 2014-2015, and 2015-2016.

[24] Calculated by multiplying MERC's demand entitlement reduction of 14,383 Dth/day by 5 months by NNG's TFX-5 max rate of $15.1530 = $1,089,728.

For its Viking Gas Transmission (VGT) Pipeline entitlements, MERC's DD calculation exceeded its demand entitlements resulting in a negative reserve margin of 6.01% as opposed to MERC's last demand entitlement petition's 4.62% positive reserve margin. MERC was unable to acquire enough Viking interstate pipeline capacity to cover its DD requirements. To cover its DD requirements, MERC contracted for gas supply deliveries at its city-gate (staff assumes with a marketer). MERC stated that this contract does not impact its demand entitlement levels or its interstate pipeline contract costs. The city-gate delivered gas supply cost includes the commodity cost of natural gas as well as any related transportation costs. This cost would be included in MERC's monthly PGA gas costs and recovered through the commodity PGA charge as opposed to the demand PGA charge.

Staff was not able to determine based on the information in this record if this contracting methodology cost MERC's Viking customers more (or less) money or caused any other harm, e.g. reduced reliability. The Commission may wish to consider the Department's recommendation that would require MERC to submit a compliance filing explaining MERC's future plans to acquire additional interstate pipeline capacity, ensuring that MERC has adequate demand entitlements to cover its DD requirements. (Please also see the below discussion on the Department's recommendation).

Changes to MERC-Albert Lea PGA area

MERC's DD analysis included using the Albert Lea weather station as opposed to using the Rochester weather station as in the previous year. The Albert Lea weather station use led to calculating a better DD requirement result. MERC did not propose to increase the demand entitlement levels for the Albert Lea PGA area. MERC decreased its Albert Lea PGA areas' DD requirement by 285 Dth/day, which increased the reserve margin to 4.89% from the previous year level of 2.73%.

The Department believes these changes are reasonable and recommended approval. PUC staff agrees with the Department recommendations. As previously noted, MERC has the ability to calculate its DD requirements using daily interruptible customer data for its MERC-Consolidated and MERC-NNG PGA areas, but this data is not yet available for its MERC-Albert Lea PGA area.

In its December 8, 2014 Order in Docket No. 14-107 where it approved the IPL asset sale to MERC, the Commission ordered that the former IPL customers must comply with MERC's tariff. Each of MERC's interruptible service tariff sheets include the following language:

> *7. Telemetry: Customers other than farm tap customers must install telemetry equipment. Customer shall reimburse Company for all costs incurred by Company to install and maintain telemetry equipment or other related improvements. Any such equipment and improvements shall remain the property of Company.*

The purchase of the IPL assets (the Albert Lea service area) resulted in MERC acquiring 38 interruptible customers with only one customer capable of daily measurement. The Commission Order directed that the former IPL interruptible customers must comply with MERCs interruptible service tariff within 18 months from the Commission's Order date.[25] MERC anticipated having this conversion completed by June 2016, but the work may not have been completed.

MERC's last general rate case was Docket No. 15-736 and its base cost of gas was also adjusted in Docket No. 15-748. MERC proposed to consolidate its NNG and NNG-Albert Lea PGA areas. The Commission's October 31, 2016 Order approved the consolidation proposal, effective July 1, 2017. The 2017-2018 demand entitlement petitions should reflect this consolidation, but MERC will not have three years of Albert Lea interruptible data for another two-years, assuming the meter conversion was completed in June 2016.

Pursuant to its April 28, 2016 Order in Docket Nos. 15-722, 15-723, and 15-724 - Order Point 11, the Commission directed MERC to work with the Department to develop an appropriate design day methodology for subsequent demand entitlement petitions. This docket's record is void of any discussion of this effort. The Commission may wish to inquire from MERC at the August 10th Agenda meeting about the status of MERC's meter conversions efforts and any proposed Albert Lea DD calculation methodology.

If MERC has not completed the interruptible meter conversion program, the Commission may wish to require MERC to complete its meter conversion program by a specified date. If MERC has not had discussions with the Department concerning its consolidated NNG PGA area DD calculation, the Commission may wish to require MERC and Department to meet and develop an acceptable DD calculation methodology to be used until MERC has three years of interruptible Albert Lea data available for its DD calculation.

Because of MERC's small or negative reserve margins within its PGA areas, the Department further recommended that the Commission require MERC to submit an explanation regarding how MERC plans to mitigate the risk of being unable to secure incremental winter capacity on all interstate pipelines which MERC currently contracts for natural gas capacity, as a compliance filing within 10 days of the date of the Order in the present docket.

Should the Commission approve MERC's demand entitlement costs, effective November 1, 2016?

In Docket Nos. 15-722, 15-723, and 15-724, the Commission approved MERC's 2015-2016 demand entitlement costs of $40,683,656.[26] Based on the information in this record, MERC proposed to recover 2016-2017 demand entitlement costs of $40,604,828, a decrease of $78,828, see Table 9.[27]

[25] To be in compliance with MERC's existing tariff book as ordered by the Commission.
[26] MERC's 2015-2016 demand entitlement petitions were approved at the April 28, 2016 Commission Agenda meeting, the Commission approved a demand entitlement cost of $40,683,656.
[27] See Appendix B, p. 3.

Table 9 - Transportation Demand Entitlement Costs

PGA area	2015-2016 Demand Entitlement Costs, with Bison and NBPL	2016-2017 Demand Entitlement Costs, with Bison and NBPL	Difference
MERC-Consolidated	$3,693,517	$3,610,489	(83,028)
MERC-NNG	$35,659,208	$35,663,408	4,200
MERC-Albert Lea	$1,330,931	$1,330,931	$0
Total	**$40,683,656**	**$40,604,828**	**(78,828)**

[Staff note: Both MERC and staff's calculated amounts included Bison demand entitlement cost at $10,493,760 and NBPL demand entitlement costs at $4,197,480.]

The Department believed that MERC should be permitted to recover these costs, effective November 1, 2016. Staff agrees.

Bison/NBPL Contract

PUC staff believes that this issue is resolved and no further discussion is needed.[28]

Assigning storage demand charges to firm and interruptible customers

Pursuant to the Commission's August 6, 2014 Order in Docket Nos. 07-1402 through 07-1405, all of MERC's storage costs were assigned to the PGA commodity factor instead of its PGA demand factors, effective November 1, 2014, this includes the IPL storage contracts purchased by MERC, approved by the Commission in its December 8, 2014 Order.[29, 30]

PUC staff believes that this issue is resolved and no further discussion is needed.

[28] For further discussion, see Staff's Briefing Papers in Docket Nos. 15-722, 15-723, and 15-724 dated April 5, 2016.
[29] Includes storage reservation costs, capacity costs, and injection/withdrawal costs.
[30] For further detail, see the July 15, 2014 PUC staff briefing papers for Docket Nos. 07-1402, 07-1403, 07-1404, and 07-1405.

Decision Alternatives

For all three dockets

(Docket No. G-011/M-16-650 (MERC- NNG (PNG), Docket No. G-011/M-16-651 (MERC-Consolidated), and Docket No. G-011/M-16-652 (MERC- NNG (Albert Lea))

1. Accept MERC's design-day analysis, as modified in the November 1st Update and the November 7th Update. (Department and MERC); and

2. Approve MERC's proposed level of demand entitlement and proposed recovery of associated demand costs effective November 1, 2016, as modified in the November 1st Update and the November 7th Update. (Department and MERC).

Other Department recommendation

3. Require MERC to submit an explanation regarding how MERC plans to mitigate the risk of being unable to secure incremental winter capacity on all pipelines through which MERC currently contracts for natural gas capacity, as a supplement to its change in demand entitlements filings for the 2017-2018 heating season, within 10 days of the date of the Order in the present dockets. (Department, modified)

Additional PUC staff recommendations

If MERC has not completed the Albert Lea interruptible meter conversion program

4. Require MERC to complete its meter conversion program by a specified date and make a compliance filing within these dockets explaining the completion.

If the Department has not begun the investigation, requested in Commission Order Point 13, in Docket Nos. 15-722, 15-723, and 15-724, into how other natural gas utilities acquire and use daily customer usage data:

5. Request the Department to review and confirm how the other Minnesota natural gas utilities use metered daily interruptible data in the development of their Design Day requirements and provide a discussion explaining its conclusions. This review should determine if similar interruptible service tariff language requiring telemetering is already in each natural gas utilities' tariff for interruptible and transportation service and, if so, whether data from telemetering is being used effectively, and, if not, should a telemetering requirement be incorporated into their tariffs, and this data be used to possibly reduce costs.

If the Department has begun or completed its investigation into how other natural gas utilities acquire and use daily customer usage data:

6. Request the Department to submit a status report or its investigation findings in a compliance filing within 20 days of the date of the Order in the present dockets.

Transportation Demand Entitlements Changes

MERC-Consolidated	12-1192&1194&1195	13-669	14-661	15-722	16-651	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
	Mcf	Mcf	Mcf	Mcf	Mcf	Mcf
						(5) - (4)
GLGT FT FT0016	10,130	10,130	10,130	10,130	10,130	0
GLGT FT (12) FT0155	3,600	3,600	0	0	0	0
GLGT FT (5) FT0155	3,638	3,638	0	0	0	0
GLGT FT FT15782	9,000	9,000	9,000	9,000	9,000	0
GLGT FT (12) FT17891	0	0	3,600	3,600	3,600	0
GLGT FT (5) FT17891	0	0	3,638	3,728	3,728	0
GLGT FT (5) FT18462	0	0	0	3,300	3,350	50
VGT FT-A AF0012	12,493	12,493	12,493	12,493	12,493	0
VGT FT-A AF0209	1,098	1,098	1,098	1,098	1,098	0
VGT FT-A AF0102	2,000	2,000	2,000	2,000	2,000	0
VGT FT-A AF0229	0	0	0	1,000	0	(1,000)
VGT FA-A	0	1,500	0	0	0	0
Wadena Delivered Option	3,500	0	0	0	0	0
Centra FT-1	9,500	9,500	9,500	9,100	9,500	400
Total Demand Entitlements	54,959	52,959	51,459	55,449	54,899	(550)
Total DD Requirements	52,289	50,048	48,706	53,075	55,528	2,453
Surplus/Deficient	2,670	2,911	2,753	2,374	(629)	(3,003)
Reserve Margin	**5.11%**	**5.82%**	**5.65%**	**4.47%**	**-1.13%**	

Transportation Demand Entitlements Changes

MERC-NNG	12-1193&1195	13-670	14-660	15-723	16-650	Difference
	(1) Mcf	(2) Mcf	(3) Mcf	(4) Mcf	(5) Mcf	(6) Mcf (5) - (4)
TF-12 Base and Variable	75,316	76,079	76,079	75,316	75,316	0
TF5	32,278	31,515	31,515	32,278	32,278	0
TFX-12	32,297	32,297	32,297	32,297	32,297	0
TFX-5	90,183	93,084	123,084	108,701	108,701	0
Bison	50,000	50,000	50,000	50,000	50,000	0
NBPL	50,000	50,000	50,000	50,000	50,000	0
Northwest Gas (Windom)	2,500	2,500	2,500	2,500	2,500	0
NW Energy (Ortonville)	910	910	910	1,035	1,035	0
NNG Zone Delivery Call Opt	0	20,000	0	0	0	0
Total Demand Entitlement	233,484	256,385	266,385	252,127	252,127	0
Total DD Requirements	**225,788**	**245,878**	261,002	245,263	248,796	3,533
Surplus/Deficient	7,696	10,507	5,383	6,864	3,331	(3,533)
Reserve Margin	**3.41%**	**4.27%**	**2.06%**	**2.80%**	**1.34%**	

[PUC staff note: The Bison and NBPL are used to deliver Rockies supply into NNG - does not add incremental capacity deliveries for MERC's design day demand entitlements.]

Transportation Demand Entitlements Changes

MERC-Albert Lea	12-1193&1195	13-670	14-660	15-723	16-652	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
	Mcf	Mcf	Mcf	Mcf	Mcf	Mcf
						(5) - (4)
TF-12 Base and Variable				9,393	9,393	0
TF5				3,997	3,997	0
TFX-12				800	800	0
Total Demand Entitlement				14,190	14,190	0
Total DD Requirements				**13,813**	**13,528**	**(285)**
Surplus/Deficient				377	662	285
Reserve Margin				**2.73%**	**4.89%**	

Transportation Demand Entitlements PGA Costs, as adjusted

MERC-Consolidated	12-1192&1194&1195	13-669	14-661	15-722	16-651	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
	$	$	$	$	$	$
						(5) - (4)
VGT FT-A AF0012	519,774	510,212	630,921	655,223	655,223	0
VGT FT-A AF0209	11,420	11,211	13,863	14,397	14,397	0
VGT FT-A AF0102	83,210	81,680	101,003	109,457	109,457	0
VGT FT-A AF0229	0	0	0	23,754	0	(23,754)
VGT FA-A	0	16,669	0	0	0	0
Wadena Delivery Option	12,597	0	0	0	0	0
GLGT FT FT0016	420,355	467,886	467,886	467,886	467,886	0
GLGT FT (12) FT0155	149,385	166,277	0	0	0	0
GLGT FT (5) FT0155	62,901	70,013	0	0	0	0
GLGT FT FT15782	373,464	415,693	415,693	415,693	415,693	0
GLGT FT (12) FT17891	0	0	166,277	166,277	166,277	0
GLGT FT (5) FT17891	0	0	70,013	71,746	71,746	0
GLGT FT (5) FT18462	0	0	0	63,509	64,471	962
Balancing Service	55,656	0	0	0	0	0
Centra FT-1	662,537	826,161	1,439,535	1,350,566	1,269,253	(81,313)
Centra MN Pipelines	202,692	202,692	370,614	355,009	376,086	21,077
Total Demand Entitlement	**2,553,991**	**2,768,494**	**3,675,805**	**3,693,517**	**3,610,489**	**(83,028)**

Transportation Demand Entitlements PGA Costs

MERC-NNG	12-1193&1195	13-670	14-660	15-723	16-650	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
	$	$	$	$	$	$
						(5) - (4)
TF-12 Base and Variable	7,318,086	7,347,063	7,265,315	7,394,090	7,394,090	0
TF5	2,416,728	2,387,734	2,387,734	2,445,543	2,445,543	0
TFX-12	2,185,889	2,955,980	2,955,980	2,955,980	2,955,980	0
TFX-5	6,300,130	6,527,363	9,139,991	8,050,263	8,050,263	0
Bison	10,488,000	10,493,750	10,493,750	10,493,760	10,493,760	0
NBPL	4,195,200	4,197,500	4,197,500	4,197,480	4,197,480	0
TFX 112486	11,366	11,366	11,366	11,366	11,366	0
TFX 112486	11,366	11,366	11,366	11,366	11,366	0
TFX7 111866	0	0	0	0	0	0
Windom	0	0	0	0	0	0
Ortonville	87,360	87,360	87,360	99,360	103,560	4,200
NNG Zone GDD Call Option	0	54,000	0	0	0	0
LSP Peaking Service	0	0	0	0	0	0
Total Demand Entitlement	**33,014,125**	**34,073,482**	**36,550,362**	**35,659,208**	**35,663,408**	**4,200**

Transportation Demand Entitlements PGA Costs

MERC-Albert Lea	12-1193&1195	13-670	14-660	15-723	16-652	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
	$	$	$	$	$	$
						(5) - (4)
TF-12 Base and Variable	0	0	967,486	967,486	967,486	0
TF5	0	0	302,833	302,833	302,833	0
TFX-12	0	0	60,612	60,612	60,612	0
Total Demand Entitlement	**0**	**0**	**1,330,931**	**1,330,931**	**1,330,931**	**0**

Summary of Transportation demand entitlement costs-all PGA areas

PGA Area	12 Total Costs	13 Total Costs	14 Total Costs	15 Total Costs	16 Total Costs	Difference
	(1)	(2)	(3)	(4)	(5)	(6)
	$	$	$	$	$	$
						(5) - (4)
MERC-Consolidated (NMU)	2,553,991	2,768,494	3,675,805	3,693,517	3,610,489	(83,028)
MERC-NNG (PNG)	33,014,125	34,073,482	36,550,362	35,659,208	35,663,408	4,200
MERC-NNG (Albert Lea)	0	0	1,330,931	1,330,931	1,330,931	0
Total Demand Entitlement	**35,568,116**	**36,841,976**	**41,557,098**	**40,683,656**	**40,604,828**	**(78,828)**

Appendix C

MERC
PUC staff Adjusted Demand Entitlement Cost

Contract Type	Contract Number	Monthly Entitlement	Months	Rate	Contract Costs
MERC-Consolidated					
	(1)	(3)	(4)	(5)	(6)
		Dth		$	$
Viking (VGT)					
FT-A Zone 1 - 1	AF0012	12,493	12	4.3706	$ 655,223
FT-A Zone 1 - 1	AF0209	1,098	3	4.3706	$ 14,397
FT-A Zone 1 - 1	AF0102	2,000	12	4.5607	$ 109,457
Total VGT Demand					$ 779,077
Great Lakes (GLGT)					
FT Western Zone	FT0016	10,130	12	$3.8490	$ 467,886
FT Western Zone	FT15782	9,000	12	$3.8490	$ 415,693
FT Western Zone (12)	FT17891 (12)	3,600	12	$3.8490	$ 166,277
FT Western Zone (5)	FT17891 (5)	3,728	5	$3.8490	$ 71,746
FT Western Zone (5)	FT18462 (5)	3,350	5	$3.8490	$ 64,471
Total GLGT Demand					$ 1,186,073
Centra					
Conversion (103M3 x Rate(C$ 103M3)		9,500	12	$11.1338	$ 1,269,253
CENTRA MINNESOTA PIPELINES		9,500	12	$3.2990	$ 376,086
Total Centra Demand					$ 1,645,339
Total MERC-Consolidated					$ 3,610,489
MERC-NNG					
TF12B (Max Rate) Winter	112495	39,826	5	$ 10.2300	$2,037,100
TF12B (Max Rate) Summer	112495	39,826	7	$ 5.6830	$1,584,318
TF12V (Max Rate)	112495	30,290	12	$ 9.0926	$3,304,978
TF5 (Max Rate)	112495	32,278	5	$ 15.1530	$2,445,543
TF12B (Discount-Winter)	112495	5,200	12	$ 7.4951	$467,694
TFX5 (Discount)	112561	0	5	$ -	$0
TFX12 (Max Rate)	112486	10,822	12	$ 9.6288	$1,250,434
TFX Apr (Max Rate)	112486	2,000	1	$ 5.6830	$11,366
TFX Oct (Max Rate)	112486	2,000	1	$ 5.6830	$11,366
TFX5 (Max Rate)	112486	81,888 1/	5	$ 15.1530	$6,204,244
TFX5 (Discount)	112486	1,800	5	$ 10.0320	$90,288
TFX12 (Discount)	111866	1,283	12	$ 4.8640	$74,886
TFX12 (Discount)	111866	8,271	12	$ 5.4720	$543,107
TFX12 (Discount)	111866	11,921	12	$ 7.6025	$1,087,553
TFX5 (Discount)	111866	379	5	$ 4.8640	$9,217
TFX5 (Discount)	111866	2,445	5	$ 5.4720	$66,895
TFX5 (Discount)	111866	22,189	5	$ 15.1392	$1,679,619
Bison	FT0003	50,000	12	$ 17.4896	$10,493,760
NBPL	T8673F	50,000	12	$ 6.9958	$4,197,480
Total NNG					$35,559,848
Northwestern Energy		1,035	12	$ 8.3382	$103,560
Total MERC-NNG					$35,663,408
MERC-Albert Lea					
TF-12B (Max Rate) - Winter	129170	3,157	5	$ 10.2300	$161,481
TF-12B (Max Rate) - Summer	129170	9,393	7	$ 5.6830	$373,663
TF-12V (Max Rate)	129170	6,236	5	$ 13.8660	$432,342
TF-5 (Max Rate)	129170	3,997	5	$ 15.1530	$302,833
TFX-5 (Max Rate)	106082	800	5	$ 15.1530	$60,612
Total MERC-Albert Lea					$1,330,931
Total Demand Entitlement Costs					$ 40,604,828

1/ MERC erroneously stated this contract at 66,271 Dth/day

Bison and NBPL are recovered through the commodity PGA charge pursuant to Docket No. 10-1166-68