MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	April 8, 2021		Agenda Item 2*
Company	Minnesota Energy Resources Corporation (MERC)		
Docket No.	**G-011/M-20-833** **In the Matter of the Petition of Minnesota Energy Resources Corporation for Extension of Rule Variances to Recover the Costs of Financial Instruments Through the Purchased Gas Adjustment**		
Issues	Should the Commission approve MERC's petition for a four-year extension of variances allowing the recovery of costs of financial instruments through the purchased gas adjustment (PGA)?		
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✓ **Relevant Documents**	**Date**
MERC - Initial Filing	November 17, 2020
MERC - Initial Filing, Attachment A - spreadsheet	November 17, 2020
DOC-DER Comments	January 19, 2021
MERC Reply Comments	January 29, 2021

I. Statement of the Issue

Should the Commission approve MERC's petition for a four-year extension of variances allowing the recovery of costs of financial instruments through the purchased gas adjustment (PGA)?

II. Background

On November 17, 2020, Minnesota Energy Resources Corporation (MERC) filed a petition for a four-year extension of variances allowing the recovery of costs of financial instruments used for hedging purposes in procuring natural gas supplies for its Minnesota customers.

On January 19, 2021, the Minnesota Department of Commerce, Division of Energy Resources (the Department) filed comments recommending Commission approval of MERC's petition.

On January 29, 2021, MERC filed reply comments stating it agreed with the Department and that there were no remaining open issues. MERC requested, therefore, that the Commission grant the extension of variances to the PGA rules which otherwise would expire on June 30, 2021.

III. Parties' Comments

A. MERC – Petition

1. Background

This Petition for the approval of variances to the Commission's automatic adjustment of charges rules is the seventh such request since the original petition was submitted on July 10, 2007, in Docket No. G-007,011/M-06-1358. The first five petitions were for two-year variances and extensions and the sixth was for four years. This Petition, which requests another four-year extension, is consistent with prior approvals and continues with the same conditions and reporting requirements. As in the most recent extension's Order,[1] this Petition continues with the same requirements including:

- Leaves the cap on the amount of financial hedging set at 30 percent of total projected heating-season sales volumes for the combined MERC system.
- Continues the accounting practices required by the existing variance.
- Requires the Company to continue to include information on the costs and benefits of financial instruments in its monthly PGA filings and annual Demand Entitlement and Annual Automatic Adjustment filings.
- Require the Company to provide, in its Annual Fuel Report filed yearly on or about September 1st, a full post-mortem analysis of its hedged volumes for the preceding

[1] In the Matter of the Petition of Minnesota Energy Resources Corporation for Extension of Rule Variances to Recover the Costs of Financial Instruments through the Purchased Gas Adjustment, Docket No. G-011/M-17-85 (May 8, 2017)

heating season compared to other hedging strategies and the prevailing market prices strategy.
- Required the Company, in its next request for a PGA rule variance, to demonstrate that ratepayers benefit from hedging and that there is not an undue price penalty

2. MERC's Proposal

MERC proposes an extension of variances to Minn. R. 7825.2400, 7825.2500, and 7825.2700, to continue to recover the costs of financial instruments such as futures and options contracts through the PGA to mitigate the risks of price volatility for retail gas customers.

With the current extension expiring June 30, 2021, MERC's newly proposed extension would expire June 30, 2025, thus covering an additional four heating seasons. The extension would be conditional on MERC's continued reporting, as specified in Docket Nos. G-007,011/M-03-821, G-007,011/M-06-1358, G-007,011/M-09-262, G-007,011/M-13-207, G-011/M-15-231, and G-011/M-17-85, which allow the Department and the Commission to review MERC's use of financial instruments. If the Commission finds that this variance is resulting in excessive costs to ratepayers, it continues to have the authority to disallow the costs or terminate the variance prior expiration on June 30, 2025.

MERC would continue to record costs associated with financial instrument hedging to FERC account 804, and recover these costs through the commodity portion of the gas cost recovery rates.

Permitted financial instruments would continue to include fixed-price, index-price, and swing contracts. MERC would be permitted to employ put options only in combination with call options to construct a "collar". Any other use of put options would require Commission approval. Financial hedging activities would continue to be allowed up to a maximum of 30% of projected heating season sales volumes.

3. Ratepayer benefit

A new feature in this petition, as specified in the May 8, 2017 Order issued in Docket No. G-011/M-17-85, required MERC to demonstrate that ratepayers benefit from financial hedging activity without incurring an undue price penalty. MERC shows that for the period July 2010 to June 2020, winter price volatility decreased by 10.9 percent while the cost of financial hedging accounted for only 1.7 percent of the total cost of gas over the same time period. For the five-year period ending June 2020, MERC improved its hedging performance by reducing price volatility by 10.7 percent.

A reduction in price volatility is meaningful to ratepayers because it provides increased price certainty, which is useful for budgeting and planning purposes. Call options represent up to 20 percent of MERC's financial hedging activity while natural gas futures contracts represent up to 10 percent. In other words, for the relatively low cost of hedging, MERC can protect its ratepayers from price volatility and large winter price swings.

4. Application of variance standards

For MERC to employ financial hedging instruments, the Commission must approve variances from three Minnesota Rules relating to the definition of the cost of the natural gas as a commodity and as a final good delivered to the customer.[2]

Under Minn. R. 7829.3200, Other Variances, the Commission may grant a variance to its rules if the following three conditions are satisfied:

a) Enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule;
b) Granting the variance would not adversely affect the public interest; and
c) Granting the variance would not conflict with standards imposed by law.

Regarding the first condition, MERC argues that the volatile nature of the natural gas market due to factors beyond its control such as weather and pipeline emergencies have a significant probability of imposing an excessive burden on it and ratepayers.

On the second condition, the responsible use of financial hedging instruments is in the public interest because price volatility is reduced for ratepayers at a reasonable cost.

Lastly, the proposed variances do not conflict with standards imposed by law because the Commission previously granted the variances to MERC in its six prior instances. Furthermore, the Commission has granted similar variances to other Minnesota gas utilities.

5. Effect on MERC'S Revenue

The extension would allow for the recovery of financial hedging instrument costs from its retail natural gas customers through the monthly PGA and the annual PGA true-up (as a pass through of costs), and thus have no effect on MERC's earnings.

B. Department – Comments

The Department's comments begin with an overview of the benefits of financial hedging activities in the natural gas market for utilities and ratepayers. Although recently lower natural gas prices have been beneficial for both consumers and the utilities, price volatility risk is still present. Because of the inherent risks in the natural gas market, the Department concludes that the extension of this variance is appropriate, given that the financial hedging cost remains reasonable.

[2] Minn. R. 7825.2400, subp. 12; Minn. R. 7825.2500(B); and Minn. R. 7825.2700

1. Appropriateness of hedging under current market conditions

According to the Department, since the approval of MERC's last variance in 2017, natural gas spot prices have remained in a narrow band, ranging from $1.63 to $4.09 per Dekatherm (DTh) at the Henry Hub.[3] The related spread of $2.46 is relatively less important since prices are historically low.

The Department views MERC's rational for financial hedging, and the associated cost to ratepayers, as reasonable.

The Department observes that many of the fundamentals of the natural gas market have significantly changed since the first approval of variances in 2007. In 2007, the increase in supply due to the transition to shale gas had not yet taken place. However, despite prices being higher then, the sources of volatility remain the same today. The DOC continues to believe that hedging is an effective tool to manage MERC's natural gas volatility.

MERC's hedging performance, as measured by cost per dekatherm (Dth), has improved over the last 14 years. In the first of three verification tests, the Department found that MERC's hedging costs fell with volatility and price levels in the last five years ending with the 2019-2020 heating season. The cost of hedging depends largely on the volatility of the underlying price.

In the second test, the Department calculated the cost of hedging and presented the difference as a percentage of total gas costs. Variations in cost efficiency depended on the subsequent price trends after the hedges were placed. If, during a harsh winter, market prices trended higher than the hedged price, then the cost of the hedge would be minimal, representing transaction or premium costs. This was the case in the 2013-2014 and 2018-2019 heating seasons. Alternatively, in the case of warm winter seasons such as 2015-2016, the hedged price locked in higher costs while market prices decreased. In this case, MERC's ratepayers received no benefit from lower market prices.

In the third test, the Department examined whether MERC's hedged price of natural gas remained within the expected range of variation at the 95% confidence level, which represented statistically insignificant price moves. The Department concluded that MERC's historical hedging costs have easily remained within the 95% confidence level, and were expected to continue to do so if recent price levels continued.

2. Department Analysis of MERC's Petition

MERC has asked for a second 4-year extension of hedging variances through June 30, 2025, which would be conditioned on its continued reporting of hedging activities. If hedging activity costs were to become too excessive, the Commission could exercise its right to revoke the

[3] Henry Hub: A pipeline hub on the Louisiana Gulf coast. It is the delivery point for the natural gas futures contract on the New York Mercantile Exchange (NYMEX). US DOE, Energy Information Administration, Glossary. [Glossary - U.S. Energy Information Administration (EIA)]

variance. The Department has also concluded that MERC's accounting proposal continues unchanged from the last variance extension.

No changes are proposed regarding the types of financial hedging instruments, which include fixed-price, index-price, and swing contracts. Put and call options continue to be permitted only to place price collars. Other uses of put options are not permitted, unless granted by the Commission. The Department concluded that MERC's hedging instrument proposal is reasonable.

Limits on MERC's portfolio of hedging instruments continue unchanged. The portfolio composition, based on projected heating season volumes, is the following: 30 percent financial hedging instruments, 30 percent from physical storage, and the remaining 40 percent from first of the month (FOM) market indexes. MERC's AAA report further clarifies that this 30 percent from storage in the heating season represents market priced purchases spread evenly from May to October for the physical storage build in advance of the winter heating season.[4]

The Department recommended approval of the continuation of the existing reporting requirements, which have been in effect over the last five variance requests. The reporting requirements are listed below among the Department's recommendations.

The Department also believes that extension of the rule variances that permit cost recovery through the PGA is reasonable and beneficial. It stresses the importance of understanding the benefits of using financial hedging instruments in terms of an insurance against (extreme or perhaps even catastrophic) price volatility at a reasonable cost to ratepayers as measured by average cost of gas over time. Price stability, however, is not considered to be the primary objective of hedging activities, although it may be an additional benefit.

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[4] Please see p. 1, MERC Annual Automatic Adjustment Report, Docket No. G-999/AA-20-172, August 31, 2020.

> During the winter season (November 2019 through March 2020), MERC utilized a 40%/30%/30% strategy to mitigate price volatility and provide reasonably priced natural gas. The strategy consists of 40% of normal winter supply requirements purchased at a FOM index price, 30% supplied by physical storage, and 30% covered by financial hedges (10% futures and 20% call options).
>
> Storage supply and financial products were purchased evenly from May through October 2017.
>
> This approach provided MERC customers with 60% of the portfolio protected from increasing market prices via storage, call options, and futures. It also provided the ability to participate in a decreasing market with 60% of the portfolio comprised of call options or FOM purchases.
>
> In non-winter months, natural gas was purchased at FOM index or in the spot market when necessary.

The Department believes that the current variance extension should be approved, and MERC's request meets the criteria and conditions listed in Minnesota Rule 7829.3200. Rule variance requirements are briefly discussed here.

1. Enforcement of the Rules would Impose an Excessive Burden Upon the Applicant or Others Affected by the Rules

This means that absent the rule variance, MERC and its rate payers would effectively hold or "own" more price risk and volatility, which would result in greater exposure to fluctuating prices. Without financial hedging instruments, MERC would pass through greater price volatility to its customers through the PGA.

2. Granting the Variance Would not Adversely Affect the Public Interest

This means that no harm will come to MERC's ratepayers if the Commission grants MERC's request to continue the variances and that MERC employs financial hedging instruments under the authority of the Commission. If MERC's hedging costs become too great, the Commission may revoke its authority to use these instruments.

3. Granting the Variance Would Not Conflict with Standards Imposed by Law

The Commission has granted variances for six prior requests, and also for other Minnesota gas utilities. These variances to the PGA rules were determined to not be in conflict with Minnesota law (just the PGA rules) and may be extended if the first two conditions of the variances rule are met

3. Department Recommendation

In conclusion, the Department recommended the Commission extend the variances to Minnesota Rules 7825.2400, 7825.2500, and 7825.2700, originally granted in Docket No. G-007,011/M-06-1358, for four years, until June 30, 2025; and

A. Direct MERC to continue the accounting practices required by the existing variance;
B. Allow MERC to continue using the financial instruments allowed in previous hedging variances;
C. Leave the hedging cap unchanged at 30 percent of MERC's total projected heating season sales volumes;
D. Require MERC to include, in its annual request for approval of changes in demand entitlements, the following:
    a. a list of all financial-instrument arrangements entered into for the upcoming heating season;
    b. the cost premium associated with each contract;
    c. the size (in dekatherms) of each contract;
    d. the contract date;
    e. the contract price;

   f. an attachment that details the projected total system sales estimates for the upcoming heating season, including all supporting data and assumptions used when calculating the sales forecast, and the total number of volumes hedged using financial instruments for the upcoming heating season; and
   g. a detailed discussion of the anticipated benefits to ratepayers related to MERC's financial-instrument contracts.

E. Require MERC to include data on the relative benefits of price-hedging contracts, including the average cost per dekatherm for natural gas purchased under financial instruments compared to the comparable monthly and daily spot index prices, in the Company's yearly Automatic Annual Adjustment (AAA) reports due on September 1 of each year, together with:
   a. a list of each hedging instrument entered into;
   b. the total volumes contracted for in each instrument; and
   c. the net gain or loss, including all transaction costs for each instrument in comparison to the appropriate monthly and daily spot prices.

F. Require MERC to provide, in its AAA report, a full post-mortem analysis of its hedged volumes for the preceding heating season compared to other hedging strategies and the prevailing market prices strategy.

G. Require MERC, in its next request for a PGA rule variance, to demonstrate that ratepayers benefit from hedging and that there is not an undue price penalty.

C. MERC – Reply Comments

Because there were no outstanding issues, and the two parties were in agreement, MERC requested that the Commission grant extensions to the PGA Rule variances, subject to the conditions listed by the Department.

IV. Staff Analysis

MERC has clearly laid out its Petition for the seventh extension of the PGA Rule variances. The Petition itself is nearly identical to the prior four-year extension.

The passage of time has provided more data on MERC's performance in its deployment of hedging strategies. An additional four years of data are now available for the benefit of all parties. This data shows that abundant supplies of natural gas continue to dominate long-term price trends with the advent of technological advances in shale gas production. Over the last seven years, gas prices have been relatively low and stable compared to the early years of these petitions when volatility was much higher. Generally, lower prices tend to accompany lower levels of volatility, which is a beneficial combination for ratepayers.

It is important to note, however, that this petition and the Department's comments were submitted prior to the historic spike in natural gas prices in February 2021 over the Presidents Day weekend.

In Comments, the Department pursued a useful line of inquiry into the effectiveness and efficiency of MERC's hedging program. As stated, the purpose of the hedging program was to reduce natural gas price volatility, and accordingly, fluctuations in the commodity cost passed on to ratepayers. Reduced price volatility translates into the benefit of greater bill stability for ratepayers.

On the question of efficiency, the Department examined the cost of MERC's hedging operations. As the hedged share of the energy portfolio increases, so does the cost of hedging to ratepayers. The Department found that MERC's efficiency, as measured by declining transaction costs, improved over the years, showing that MERC improved the execution of its strategy. Part of this cost reduction may also be related to lower price levels and volatility, and corresponding lower premiums paid for certain option hedging strategies. However, the breakdown of these sources of cost reductions is unknown from the analysis.

The use of financial hedging instruments is akin to buying insurance to cover some probable event. As coverage increases, so does the cost of premiums. One may also describe hedging as the transfer of risk from one party to another. Entering into financial hedging strategies is in essence the sale of price risk to another party, the speculator. MERC sells the real risk of price volatility to the speculator since the utility is in the business of providing natural gas service, not commodity price speculation.

Specifically, MERC proposes in its Petition, as part of its 40/30/30 strategy, to employ FOM index price contracts for 40 percent of its heating season supplies, hedge with options and futures 30 percent of its natural gas commodity price risk, and hedge the remaining 30 percent with physical inventory. That is, MERC is insulated 60 percent against changing prices during the heating season. MERC does have some exposure to price volatility from May to October, the period when it makes spot market purchases for the physical inventory build and opens financial instrument contracts. However, the magnitude of this unhedged exposure is mitigated by the timing of these transactions during the non-winter season. MERC's ratepayers are ultimately exposed to price risk for approximately 40 percent of MERC's gas purchases since MERC passes on the commodity cost of gas to its ratepayers through the monthly PGA and annual true-ups under the Commission's rules for the automatic adjustment of charges.

The question arises, then, regarding the optimal hedging coverage of MERC's natural gas purchases. No hedging would expose MERC and its ratepayers to 100 percent price risk at zero transaction cost. On the other hand, total hedging of the portfolio would remove most price risk at a higher transaction cost, which is also passed on to ratepayers. A totally hedged position, of course, would prevent MERC from realizing and passing on to consumers beneficial cost reductions from lower gas prices due to a warmer winter, for example. Somewhere in-between these extremes is an optimal mix of hedged and unhedged purchases, balancing the costs and benefits of the two strategies. However, because MERC is hedging on behalf of its ratepayers, this optimal mix of hedged and unhedged may be difficult to discern because not all of MERC's customers are going to be comfortable with the same amount of exposure to price risk.

Around February 13 to 18, 2021, a strong Arctic high pressure system plunged into the center of the continental United States, bringing an unusual winter storm and extreme cold deep. The cold weather precipitated a sharp spike in natural gas and in Texas, a spike in electricity prices. In light of this extreme volatility in the natural gas spot market, Staff suggests the Commission may want to consider shortening the requested four-year extension of these rule variances (until June 30, 2025) to allow for the implementation of any new policies that may come about as a result of the Commission's investigation into the impact of the February 2021 severe weather on impacted Minnesota natural gas utilities and their customers.[5]

Some of the key issues and questions in the investigation revolve around how gas utilities plan for the gas supply and purchases, and how they assess and account for the potential impacts of increasingly frequent extreme weather. In its notice requesting initial filings and comments, the Commission asked the Minnesota LDCs that engage in natural gas price hedging using storage, physical supply contracts or financial contracts, to describe the effect this had on the company's cost of gas during this time period. Initial filings in the investigation docket are due April 9, comments are due May 10, and replies are due May 20.

Staff notes that besides MERC, CenterPoint Energy and Xcel-Gas are authorized to recover the cost of using financial instruments to hedge their cost of gas. Costs are recovered through their monthly purchased gas rate adjustments. These are multi-year rule variances and like MERC, these variances have been extended several times for each utility.

Company	Docket No.	Order	Variance expiration date
CenterPoint Energy	M-19-699	1/13/2020[6]	6/30/2024
Xcel Energy	M-19-703	2/12/2020[7]	6/30/2024

The Department's most recent review and comparison of the three utilities hedging programs was in the Department's report on fiscal-year 2018 gas costs.[8] In this report, the Department

[5] ORDER OPENING INVESTIGATION, In the Matter of a Commission Investigation into the Impact of Severe Weather in February 2021 on Impacted Minnesota Natural Gas Utilities and Customers, Docket No. G-999/CI-21-135 (March 2, 2021); and REQUEST FOR INITIAL FILINGS AND NOTICE OF COMMENT PERIOD (March 10, 2021)

[6] https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={60709F6F-0000-C71D-AC52-72F8D23F3602}&documentTitle=20201-159038-01

[7] https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={A0C63970-0000-CF1E-8992-22AB220E3CBF}&documentTitle=20202-160321-01

[8] Please see pp. 73 – 76, Department of Commerce, Division of Energy Resources, Review of 2017-2018 Annual Automatic Adjustment Reports Docket No. G999/AA-18-374 and Natural Gas Utilities' 2017-2018 Purchased Gas Adjustment - (PGA) True-Up Filings (April 25, 2019) - https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&docum

noted that MERC used a 40/30/30 hedging strategy to minimize price volatility. In this case, winter gas requirements were met by the following strategies: 40 percent purchases at first-of-month index prices, 30 percent by physical storage supplies, and 30 percent by financial hedging instruments (10 percent futures and 20 percent options).

For the fiscal year 2018, (2017-2018), MERC's hedging strategy reduced price volatility at a net loss since the winter was only slightly colder than expected. That is to say, hedging premium fees were greater than the gain between actual and locked-in prices since winter temperatures were only slightly below forecast. Such is the case for winter seasons with slightly colder temperatures. In the Department's judgment, MERC successfully reduced gas price volatility on behalf of its ratepayers.

Department Reviews and Commission Orders on the Annual Automatic Adjustment Reports

Gas Year	Docket No.	Status
Jul. '17 – Jun. '18	AA-18-374	DOC Report – 4/25/2019; Order – 11/13/2019
Jul. '18 – Jun. '19	AA-19-401	DOC Report - Expected 5/20/2021
Jul. '19 – Jun. '20	AA-20-172	DOC Report – Expected 5/20/2021
Jul. '20 – Jun. '21	AA-21-114	LDC Initial Filings Expected - 9/1/2021

entId={2090556A-0000-C355-A1D9-A2A1ABBDD2DF}&documentTitle=20194-152329-03

V. Decision Options

Should the Commission approve MERC's petition for an extension of rule variances allowing the recovery of costs of financial instruments through the purchased gas adjustment (PGA)?

1. Grant the variance to Minnesota Rules 7825.2400, 7825.2500, and 7825.2700, originally granted in Docket No. G-007,011/M-06-1358;

   A. Direct MERC to continue the accounting practices required by the existing variance;
   B. Allow MERC to continue using the financial instruments allowed in previous hedging variances;
   C. Leave the hedging cap unchanged at 30 percent of MERC's total projected heating season sales volumes;
   D. Require MERC to include, in its annual request for approval of changes in demand entitlements, the following:
      a. a list of all financial-instrument arrangements entered into for the upcoming heating season;
      b. the cost premium associated with each contract;
      c. the size (in dekatherms) of each contract;
      d. the contract date;
      e. the contract price;
      f. an attachment that details the projected total system sales estimates for the upcoming heating season, including all supporting data and assumptions used when calculating the sales forecast, and the total number of volumes hedged using financial instruments for the upcoming heating season; and
      g. a detailed discussion of the anticipated benefits to ratepayers related to MERC's financial-instrument contracts.
   E. Require MERC to include data on the relative benefits of price-hedging contracts, including the average cost per dekatherm for natural gas purchased under financial instruments compared to the comparable monthly and daily spot index prices, in the Company's yearly Automatic Annual Adjustment (AAA) reports due on September 1 of each year, together with:
      a. a list of each hedging instrument entered into;
      b. the total volumes contracted for in each instrument; and
      c. the net gain or loss, including all transaction costs for each instrument in comparison to the appropriate monthly and daily spot prices.
   F. Require MERC to provide, in its AAA report, a full post-mortem analysis of its hedged volumes for the preceding heating season compared to other hedging strategies and the prevailing market prices strategy.

G. Require MERC, in its next request for a PGA rule variance, to demonstrate that ratepayers benefit from hedging and that there is not an undue price penalty.

2. Do not grant MERC's petition for an extension of the rule variances.

If MERC's request for an extension of the rule variances is granted, then:

3. Approve MERC's request for a four-year extension of the variances until June 30, 2025.

<u>or</u>

4. Approve a three-year extension of the rule variances until June 30, 2024

<u>or</u>

5. Approve a one-year extension of variances until June 30, 2022.