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**by Sidney Davy Miller**



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July 25, 2018

Ms. Kavita Kale  
Executive Secretary  
Michigan Public Service Commission  
7109 W. Saginaw Highway, 3<sup>rd</sup> Floor  
Lansing, MI 48917

Re: Upper Michigan Energy Resources Corporation  
2018-2019 GCR Plan  
MPSC Case No. U-20247

Dear Ms. Kale:

Enclosed for electronic filing are the Application and Direct Testimony and Exhibits of Sarah R. Mead and Diane J. Mier. Also enclosed is the Appearance of Sherri A. Wellman.

Please be advised that a marked up Notice of Hearing has been e-mailed to Angela Sanderson at [sandersona2@michigan.gov](mailto:sandersona2@michigan.gov).

Should you have any questions, please kindly advise.

Very truly yours,

Miller, Canfield, Paddock and Stone, P.L.C.

By: \_\_\_\_\_  
Sherri A. Wellman

SAW/kf

Enclosures

cc: Diane J. Mier  
Sarah R. Mead  
Koby A. Bailey  
Colleen Sipiorski  
Ted Eidukas  
Mary Wolter

**STATE OF MICHIGAN**

**BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION**

\* \* \* \* \*

In the matter of the application of	)	
<b>UPPER MICHIGAN ENERGY RESOURCES</b>	)	
<b>CORPORATION</b> for approval of the gas cost	)	Case No. U-20247
recovery plan and factors for the 12-month period	)	
ending October 31, 2019, and related approvals	)	
<u>(for the WPS Rate Zone).</u>	)	

**APPLICATION**

Upper Michigan Energy Resources Corporation (“UMERC” or the “Company”) hereby applies to the Michigan Public Service Commission (“MPSC” or the “Commission”) for approval, pursuant to 1982 PA 304, MCL 460.6h(6) (“Act 304”), of the Gas Cost Recovery (“GCR”) plan and factors for the 12-month period beginning November 1, 2018 and ending October 31, 2019, and respectfully represents as follows:

1. UMERC is a public service corporation organized under the laws of Michigan with service centers located at 800 Industrial Park Drive, Iron Mountain, Michigan, and 1717 Tenth Avenue, Menominee, Michigan. By Order Approving Settlement dated December 9, 2016, in Case No. U-18061, UMERC was granted authority by the Commission to, among other things, provide retail natural gas service to the former Michigan customers of natural gas of Wisconsin Public Service Corporation (“WPS Corp”) in a service area located in Menominee County, Michigan.

2. Pursuant to Act 304 and the Commission's Opinion and Order dated August 9, 1983 in Case No. U-7506, WPS Corp incorporated a GCR clause in its Michigan rate schedules. Said GCR clause authorized WPS Corp to include in its rates each month a GCR factor authorized by the

Commission. Pursuant to the Commission's December 9, 2016 Order Approving Settlement in Case No. U-18061, UMERG adopted WPS Corp's GCR clause for natural gas service in its WPS Rate Zone.

3. The testimony and exhibits being contemporaneously filed here describe UMERG's expected sources and volumes of gas supply, and the changes in the cost of gas anticipated over the 12-month period beginning November 1, 2018, and ending October 31, 2019. Included in the testimony and exhibits is a discussion of the GCR plan. There is also an evaluation of the reasonableness and prudence of decisions to obtain gas in the manner described in light of alternative gas supplies available, and an explanation of the legal and regulatory actions taken to minimize its cost of gas.

4. The testimony and exhibits also contain a description of the major contract for gas supply for the 12-month period beginning November 1, 2018 and ending October 31, 2019, including the projected gas costs. A five-year forecast of gas requirements and associated costs for customers is also included.

5. Under the plan, a uniform base GCR factor, subject to adjustment under the monthly GCR Factor Adjustment Mechanism, equal to \$0.35796 per therm for the November 2018 through October 2019 billing months is requested. Exhibit A-4 (DJM-3), reflects proposed tariff Sheet No. D-5.00, which sets forth this base GCR factor.

6. As authorized in Case No. U-12741, UMERG also requests that the following be established: (i) a factor for Peak Day Backup (Annual Option) of \$0.72516 per month per therm of demand, (ii) a factor for Peak Day Backup (Seasonal Option) of \$.83931 per month per therm of demand, and (iii) the factor for the Backup Service Commodity Charge set equal to \$0.25988 per therm for the November 2018 through October 2019 billing months. The factor for the Backup

Service Commodity Charge will, however, be subject to adjustment under the monthly GCR Factor Adjustment Mechanism as described below. Exhibit A-5 (DJM-4) reflects proposed tariff Sheet No. E-20.00 which sets forth these factors.

7. Authority to implement a monthly Contingent GCR Factor Adjustment Mechanism for the GCR period ending October 31, 2019 is also sought. The monthly Contingent GCR Factor Adjustment Mechanism authorizes, without additional Commission action, UMERC to adjust monthly the base maximum GCR factor, and the factor for Backup Service Commodity Charge, based on the average NYMEX natural gas futures contract prices for the remaining months of the GCR plan year. Exhibit A-6 (DJM-5) reflects proposed tariff Sheets Nos. D-6.00 and D-7.00, which set forth the base GCR Factor, NYMEX Base Price and Contingent GCR Factors for the Contingent GCR Factor Adjustment Mechanism for the GCR period ending October 31, 2019.

8. Also, authority is sought to recover as booked costs of gas hedging costs as allocated pursuant to the Gas Asset Management Agreement.

9. Jurisdiction is pursuant to 1909 PA 300, as amended, MCL 462.2 et seq; 1919 PA 419, as amended, MCL 460.51 et seq; 1939 PA 3, as amended, MCL 460.1 et seq; 1969 PA 306, as amended, MCL 42.201; and the Michigan Administrative Hearing System's Administrative Hearing Rules, 2015 AC, R 792.10401 et seq.

WHEREFORE, UMERC requests that this Commission:

- A. Make and publish its order and notice of hearing, and, after notice and hearing;
- B. Determine that the decisions underlying the GCR plan are reasonable and prudent;
- C. Approve the GCR plan as proposed herein;
- D. Approve the requested base GCR factor;

- E. Approve the requested factors for Annual and Seasonal Peak Day Backup and Backup Service Commodity Charge as requested;
- F. Approve the requested monthly GCR Factor Adjustment Mechanism;
- G. Determine that the decisions underlying the five-year forecast are reasonable and prudent indicating any cost items in the five-year forecast that, on the basis of present evidence, this Commission would be unlikely to permit UMEREC to recover from its customers in rates, rate schedules, or GCR factors established in the future;
- H. Approve the request to recover as booked costs of gas hedging costs as allocated pursuant to the Gas Asset Management Agreement; and
- I. Grant such other and further authority as requested and which may be lawful and proper.

Respectfully submitted,

UPPER MICHIGAN ENERGY RESOURCES  
CORPORATION

Dated: July 25, 2018

By: \_\_\_\_\_  
Its Attorney  
Sherri A. Wellman (P38989)  
Miller, Canfield, Paddock and Stone, P.L.C.  
One Michigan Avenue, Suite 900  
Lansing, MI 48933  
(517) 483-4954

Attorney for Upper Michigan Energy Resources Corporation

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of )  
**UPPER MICHIGAN ENERGY RESOURCES** )  
**CORPORATION** for approval of the gas cost )  
recovery plan and factors for the 12-month period )  
ending October 31, 2019, and related approvals (for the )  
WPS Rate Zone). )

Case No. U-20247

DIRECT TESTIMONY AND EXHIBIT

OF

SARAH R. MEAD

July 2018

Direct Testimony of Sarah R. Mead  
Case No. U-20247

1 **Q. Please state your name, position, and business address.**

2 A. My name is Sarah R. Mead. My business address is WEC Energy Group, Inc., 700 North  
3 Adams Street, P.O. Box 19001, Green Bay, Wisconsin 54307-9001. I am the Manager of  
4 Gas Supply within the WEC Energy Group, Inc. (“WEC”), with related responsibilities  
5 for Wisconsin Public Service Corporation (“WPS Corp”) and Upper Michigan Energy  
6 Resources Corporation (“UMERC” or the “Company”). UMERC is a subsidiary of  
7 WEC.

8  
9 **Q. What are your primary duties and responsibilities as manager – gas supply?**

10 A. As Manager of Gas Supply I am responsible for the daily operational oversight and  
11 balancing of the distribution system. I am also responsible for the following: (i)  
12 developing gas supply and storage capacity strategies to provide reliable and cost-  
13 effective natural gas service; (ii) developing and implementing short- and long-term gas  
14 supply and capacity release strategies including gas purchase and hedging strategies; (iii)  
15 administering gas supply, transportation and storage contracts in accordance with  
16 prescribed legal policies, procedures, and approved plans; and (iv) acquiring daily,  
17 monthly, and annual supplies to meet system requirements. Additionally, I review and  
18 approve invoices for supply, storage, and transportation costs as incurred.

19  
20 **Q. Please summarize your education, employment and professional experience.**

21 A. I hold a Bachelor’s Degree from the University of Wisconsin Milwaukee in Business  
22 Administration, with a minor in Communication. I hold a Master of Business  
23 Administration Degree in Finance through Lakeland College, Sheboygan, Wisconsin.

1 My employment started with Integrys Energy Group (now WEC ) in the non-regulated  
2 marketing division where I worked as the Senior Sales Forecaster from May 2000 to  
3 October 2009. In this position, I forecasted natural gas and electric needs on an hourly,  
4 daily, monthly, seasonal, and yearly basis for Wisconsin, Michigan, Illinois, Minnesota,  
5 Ohio, limited areas in New England, and Alberta, Canada. In October 2009, I moved to  
6 the regulated division as a Senior Sales and Revenue Forecaster. In September 2011, I  
7 was promoted to the Manager – Gas Supply for Michigan Gas Utilities Corporation  
8 (“MGUC”) (a subsidiary of WEC), and in October 2015 added the responsibilities of  
9 Minnesota Energy Resources Corp (a subsidiary of WEC). In July 2016, I was promoted  
10 to the Manager – Gas Supply for WPS Corp, UMER, and Generation assets.  
11

12 **Q. Have you previously testified in any regulatory proceedings?**

13 A. Yes, I have testified before the Public Service Commission of Wisconsin on behalf of  
14 WPS Energy Services, Inc. in Case No. 05-UR-102 and on behalf of Integrys Energy  
15 Services, Inc. in Case Nos. 6690-GR-101 and 6690-UR-119. I was Integrys Energy  
16 Services, Inc.’s representative and an active member in the Retail Energy Supply  
17 Association until October 2009, and actively participated in Case No. U-15953 before the  
18 Michigan Public Service Commission (“MPSC”). I submitted rebuttal testimony in  
19 MPSC Case Nos. U-16481 and U-16513 on behalf of MGUC in June 2011. I have  
20 submitted direct and rebuttal testimony and responded to data requests in MPSC Case  
21 Nos. U-16481-R, U-16920, U-16920-R, U-17130, U-17130-R, U-17331, U-17331-R, U-  
22 17690, U-17940 and U-18400. I have submitted direct and rebuttal testimony and  
23 responded to data requests in Minnesota Public Utilities Commission in docket No.  
24 G011/M-15-895. I have submitted direct testimony in MPSC Case U-18112.  
25

26 **Q. What is the purpose of your testimony in this proceeding?**

27 A. The purpose of my testimony is to describe UMER’s gas supply plan for the 12-month

1 period ending October 31, 2019.

2

3 **Q. Are you sponsoring any exhibits in this proceeding?**

4 A. Yes. I will be sponsoring the following exhibit:

5 Exhibit A-1 (SRM-1) Asset Management Arrangement (“AMA”) between WPS  
6 Corp and UMERC

7

8 **Q. Was this exhibit prepared by you or under your direction?**

9 A. Yes, it was.

10

11 **Q. Please describe the location of UMERC’s natural gas service territory and the  
12 composition of the gas customer base as served by UMERC.**

13 A. UMERC serves part of the Upper Peninsula of Michigan in and around the city of  
14 Menominee, Michigan. UMERC is physically served by natural gas deliveries from  
15 ANR’s Menominee No. 2 gate station, located in Menominee County, Michigan.

16

17 **Q. Please describe UMERC’s relationship to WPS Corp.**

18 A. Pursuant to a Settlement Agreement approved by the Commission on December 9, 2016,  
19 in Case No. U-18061 (“U-18061 Settlement Agreement”), UMERC was established as a  
20 Michigan regulated utility providing service only to electric and natural gas customers in  
21 the Upper Peninsula of Michigan in the former Michigan service territories of Wisconsin  
22 Electric Power Company and WPS Corp. Pursuant to the U-18061 Settlement  
23 Agreement, UMERC was granted authority by the Commission to, among other things,

1 provide natural gas service to the former Michigan natural gas customers of WPS Corp.

2

3 **Q. Does UMEREC have any firm transportation contracts with pipelines or with third**  
4 **party suppliers to support ANR related services?**

5 A. Yes. UMEREC holds a firm transportation contract with ANR of 9,600 Dth/day that, as  
6 part of the asset management agreement (“AMA”), is released to WPS Corp annually.

7

8 **Q. Is there a North American Energy Standards Board (“NAESB”) Base Contract and**  
9 **Special Provisions in place between UMEREC and WPS Corp?**

10 A. Yes, the Base Contract is based on the North American Energy Standards Board  
11 (“NAESB”) form agreement and covers the “legal” ends if the AMA is violated or for  
12 non-performance of either party. The NAESB form is commonly used in the wholesale  
13 gas industry and is widely accepted by many buyers and sellers. WPS Corp uses the  
14 NAESB form for most of its gas supply purchases and sales. UMEREC will use WPS  
15 Corp’s usual form, including special provisions. These remain unchanged since the last  
16 filing.

17

18 **GCR PLAN**

19 **Q. What is UMEREC’s GCR Plan?**

20 A. As has been the case for prior GCR period, UMEREC contracts with WPS Corp with an  
21 AMA. The AMA is a full requirements agreement between UMEREC and WPS Corp  
22 where WPS Corp performs the gas supply function. This includes natural gas  
23 commodity, transportation, hedging, storage and balancing assets.

1 WPS Corp allocates costs for the natural gas commodity, transportation, hedging, storage  
2 and balancing services to UMERC using a monthly ratio of UMERC's Actual Net GCR  
3 Sales to Total (UMERC plus WPS Corp) Actual Net GCR Sales. The cost ratio has  
4 historically been under 2%.

5  
6 The 9,600 Dth/day of ANR capacity represents the pipeline capacity required to support  
7 UMERC's GCR customers' gas demand under winter peak day weather conditions, plus  
8 about a 5% pipeline capacity reserve margin. This release complies with Federal Energy  
9 Regulatory Commission's ("FERC") rules and the terms and conditions of ANR's FERC  
10 Gas Tariff. UMERC releases that capacity to WPS Corp under the AMA annually. The  
11 AMA is also subject to FERC's requirements for such arrangements. Under the AMA  
12 between WPS Corp and UMERC, WPS Corp will: (1) manage this capacity, (2) contract  
13 for gas commodity, (3) deliver the gas to the Menominee No. 2 gate station, and (4)  
14 perform balancing and other essential gas supply services on UMERC's behalf. Under  
15 the AMA, WPS Corp supplies UMERC's full requirements.

16  
17 **Q. Why is it prudent for UMERC to purchase gas supplies from WPS Corp?**

18 A. UMERC's purchase of gas supplies from WPS Corp is reasonable and prudent because  
19 UMERC is receiving a complete package of "one-stop" gas supply services as part of the  
20 AMA with WPS Corp. This complete package, billed at WPS Corp's actual cost,  
21 includes the following:

- 22 • WPS Corp provides all Gas Supply Portfolio Planning services.
- 23

Direct Testimony of Sarah R. Mead  
Case No. U-20247

- 1 • WPS Corp procures natural gas supplies through a competitive bid process and  
2 provides gas supply from WPS Corp's gas storage assets.  
3
- 4 • WPS Corp delivers natural gas to the ANR Menominee No. 2 gate station.  
5
- 6 • WPS Corp provides balancing services.  
7
- 8 • WPS Corp assumes the role of "Delivery Point Operator" for the ANR  
9 Menominee No. 2 gate station.  
10
- 11 • WPS Corp provides all Gas Transportation customer balancing and billing  
12 functions.  
13
- 14 • WPS Corp ensures there is sufficient interstate pipeline capacity and gas supply to  
15 provide firm natural gas supplies for all of UMERC's GCR customers under  
16 Winter Peak Day conditions.  
17

18 Additionally, since WPS Corp purchases natural gas from multiple suppliers and supply  
19 basins, the risk of losing part of the gas supply delivered to the ANR Menominee No. 2  
20 gate station due to supply cuts, force majeure events, etc. is significantly reduced. In  
21 summary, UMERC in essence receives a "slice" of the WPS Corp system.  
22

23 **Q. Please describe how WPS Corp contracts for gas supplies.**

24 A. WPS Corp conducts a comprehensive gas supply bid solicitation and negotiation process  
25 to secure its firm gas supplies. This process begins by establishing a base set of bid  
26 specifications WPS Corp desires in its new gas supply contracts. Key components of  
27 these specifications are term, volume, purchase obligations, nomination change  
28 flexibility, warranty of supply, balancing obligations, operational flexibility and pricing.  
29 Bid specifications will vary depending on the particular needs of each purchase.  
30

31 Bids are solicited from a target list of gas suppliers that have negotiated and executed

1 master contracts or NAESB agreements with WPS Corp. At present, WPS Corp has  
2 executed master contracts or NAESB agreements with more than 50 different gas  
3 suppliers.

4  
5 Shortly after the bid invitations are sent out, gas supply personnel will interview the  
6 targeted suppliers to further discuss the bid requirements if needed and to answer any  
7 questions. The gas supply proposals received in response to the bid solicitation are then  
8 reviewed to determine the most competitive bidders. Final selections of suppliers are  
9 then made based on the results of any additional information with individual suppliers.

10  
11 Once agreement is reached on all terms, a transaction confirmation sheet is prepared  
12 summarizing the agreement reached between both parties. The transaction confirmation  
13 identifies the primary terms and conditions agreed to, and serve as an exhibit to the  
14 master contract or NAESB agreement. Final management approval from both  
15 organizations for the transaction confirmation sheet is then secured and the transaction is  
16 put into effect.

17  
18 **Q. How does UMERC's GCR Plan relate to WPS Corp Gas Supply Plan?**

19 A. Each year when WPS Corp files its Gas Supply Plan with the Public Service Commission  
20 of Wisconsin, it includes UMERC volumes as part of WPS Corp volumes for all aspects  
21 (demand, commodity, storage,etc). After the initial forecast, UMERC is not separated  
22 out for any reason and appears as part of WPS Corp plan and, therefore, receives the  
23 benefits of the plan.

1

2 **Q. Is this supply plan reasonable and prudent?**

3 A. Yes. WPS Corp has contracted for its winter gas supplies under firm, warranted supply  
4 contracts from reliable gas suppliers. WPS Corp has carefully selected a mix of firm  
5 transportation and storage services. This mix of services provides the flexibility required  
6 to respond to both colder-than-normal and warmer-than-normal winter weather.

7

8 WPS Corp conducts a comprehensive bid solicitation process to ensure it contracts with  
9 highly reliable, creditworthy and competitively priced gas suppliers.

10

11 As evidenced through the actions described above this plan will ensure a reliable gas  
12 supply for UMERC's customers at reasonable costs, and as such, these GCR plans are  
13 reasonable and prudent.

14

15 **Q. Does this conclude your pre-filed direct testimony?**

16 A. Yes, it does.

**TRANSACTION CONFIRMATION: # 45613 (WPSC) / 45614 (UMERC)**  
**Date: December 22, 2016**  
**(Description: Gas Asset Management Agreement – ANR Menominee No.2 Gate)**

**THE PARTIES EXPRESSLY AGREE THAT THIS TRANSACTION CONFIRMATION IS SUBJECT TO AND SHALL BE MADE PART OF THE BASE CONTRACT FOR SALE AND PURCHASE OF NATURAL GAS BETWEEN UPPER MICHIGAN ENERGY RESOURCES CORPORATION (“BUYER”) AND WISCONSIN PUBLIC SERVICE CORPORATION (“SELLER”) DATED DECEMBER 22, 2016 (“BASE CONTRACT”).**

**1. TRANSACTION CONFIRMATION CONTACT INFORMATION:**

**BUYER:**

**UPPER MICHIGAN ENERGY RESOURCES**

**CORPORATION**

700 North Adams Street, PO Box 19001

Green Bay, WI 54307-9001

Attn: Sarah Mead, Manager Gas Supply

Phone: 920-433-7647

**SELLER:**

**WISCONSIN PUBLIC SERVICE CORPORATION**

700 North Adams Street, PO Box 19001

Green Bay, WI 54307-9001

Attn: Sarah Mead, Manager Gas Supply

Phone: 920-433-7647

- 2. TRANSACTION TYPE:** Full Requirements Asset Management Agreement  
Firm Transportation Fixed

- 3. TRANSACTION TERM:** January 1, 2017 to December 31, 2017 [One-year term]. At the end of the one-year term of this Transaction Confirmation, the Transaction Confirmation will rollover for successive one-year terms unless either Buyer or Seller provides the other with 45 days prior written notice of its intent to permit the Transaction Confirmation to expire; provided, however, this Transaction Confirmation will terminate, without further notice, if and when Seller is no longer the Asset Manager and replacement shipper for the Released Pipeline Capacity, as described in Paragraphs 5 and 9 of this Transaction Confirmation.

**4. POINTS:**

**A. POINT OF SALE:**

ANR PIPELINE COMPANY

Point ID: #11703

Description: ANR Menominee No. 2 Gate

**B. POINT OF RECEIPT**

ANR PIPELINE COMPANY

Point ID: #11703

Description: ANR Menominee No. 2 Gate

5. **RELEASED CAPACITY:** Buyer appoints Seller “Asset Manager” (as provided in 18 C.F.R. § 284.8) and, as such, agrees to release to Seller, at a rate of \$4.858/dth month (or prevailing reservation rate in the capacity agreement) with recall rights, the following natural gas pipeline transportation capacity for the initial Transaction Term and then for any and each one-year extension of the initial Transaction Term (any rollover rights or rights of first refusal remain with Buyer).

Service Agreement #129005 (January 1, 2017 – January 31, 2017)

#129019 (February 1, 2017 – March 31, 2019)

The released capacity identified above shall be referred to herein as “Released Pipeline Capacity.” The release shall conform to the provisions of ANR Pipeline Company’s FERC Gas Tariff. It is Buyer’s intent, however, only to exercise its pipeline capacity recall rights if Seller is a Defaulting Party under the Base Contract or if Buyer suspends or terminates service under the Base Contract or if Buyer suspends or terminates this Transaction Confirmation.

6. **QUANTITY:**

**Firm (Fixed Quantity)** 9,600 Dth/day

7. **COMMODITY PRICE:** Costs for the gas commodity will be priced at Seller’s actual average monthly Weighted Actual Cost of Gas. Gas commodity is as measured by flow (excluding end use transportation volumes) through the ANR Menominee No. 2 Gate.
8. **NON-COMMODITY COSTS:** Costs for gas transportation, gas storage, and balancing services will be allocated to Buyer each month using the ratio of actual net monthly Michigan sales of Seller to Buyer to the total Seller actual net monthly sales to Michigan and Wisconsin.
9. **ASSET MANAGEMENT ARRANGEMENT:** Buyer and Seller agree that this Transaction Confirmation shall be treated as an Asset Management Arrangement (“AMA”) between Buyer and Seller for purposes of compliance with 18 C.F.R. § 284.8, as it may be amended throughout the Transaction Term.

A. Seller will (1) be responsible for the management of transportation capacity, including nominations, scheduling, resolution of imbalances, payment of transportation fees, surcharges, penalties, fees, and any other matters pertaining to the Released Pipeline Capacity; and (2) hold Buyer harmless from the incurrence of all such transportation costs. Seller shall have the absolute right to receive any FERC-ordered refunds or rebates allocated to Service Agreements 129005 and 129019 associated with any period when it is the replacement shipper.

B. Seller will be responsible for all commodity costs and provide all gas supply planning and contracting services, including winter peak day analysis, winter and summer gas supply planning, gas price risk managing planning, monthly/daily gas supply planning, annual gas sales forecasting, and any other essential services to provide reliable and safe gas supply service.

C. Seller will perform all billing functions.

D. Seller will ensure there is sufficient pipeline capacity and gas supply to provide firm natural gas supplies for all of Buyer's firm sales customers under winter peak day conditions.

E. Seller will assume the role of "Delivery Point Operator," such that it will balance all gas supplies through the Menominee No. 2 Gate.

F. Buyer shall have the right to call upon the Seller to deliver to Buyer up to 100 percent of the daily contract demand (9,600 dth) of the released transportation during a minimum period of five months of the initial Transaction Term and of any and each one-year extension of the initial Transaction Term.

10. **REGULATORY CONTINGENCY.** In addition to the rights set forth in Section 15.6 of the Base Contract, in the event this Agreement is rejected by any regulatory body with jurisdiction to do so, this Agreement shall be null and void and neither Party shall be liable to the other for any costs or claims arising from such termination.

Buyer:

Upper Michigan Energy Resources Corporation

By: 

Title: DIRECTOR GAS SUPPLY & CONTROL

Date: 12-22-16

Seller:

Wisconsin Public Service Corporation

By: 

Title: DIRECTOR OF GAS SUPPLY & CONTROL

Date: 12-22-16

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

\* \* \* \* \*

In the matter of the application of )  
**UPPER MICHIGAN ENERGY RESOURCES** )  
**CORPORATION** for approval of the gas cost )  
recovery plan and factors for the 12-month period )  
ending October 31, 2019, and related approvals (for )  
the WPS Rate Zone). )

---

Case No. U-20247

DIRECT TESTIMONY AND EXHIBITS

OF

DIANE J. MIER

July 2018

**Part I - Qualifications**

1 **Q. Please state your name, position and business address.**

2 A. My name is Diane J. Mier, and my business address is 700 North Adams Street, Green  
3 Bay, Wisconsin 54307-9001. I am testifying in this case on behalf of Upper Michigan  
4 Energy Resources Corporation (“UMERC” or the “Company”) which is a wholly owned  
5 subsidiary of WEC.  
6

7 **Q. Please describe your educational and business experience.**

8 A. I have a Bachelor of Science Degree from the University of Wisconsin -Green Bay, in  
9 Managerial Accounting. I have been employed by Wisconsin Public Service Corporation  
10 (“WPS Corp”), WPS Corp’s predecessor, or WEC since December of 2003, and have  
11 held various positions in the Non-Regulated and Corporate Risk Departments. In  
12 November 2014, I transferred to the Regulatory Affairs Department where I currently  
13 hold the position of Project Specialist 2. In my current position, my primary duties are the  
14 calculation and administration of natural gas rates for WPS Corp and UMERC.  
15

16 **Q. Have you previously filed testimony with the Michigan Public Service Commission**  
17 **(“MPSC” or the “Commission”)?**

18 A. Yes. I have previously submitted testimony and exhibits with the Michigan Public  
19 Service Commission (“MPSC” or the “Commission”) in Case Nos. U-17279, U-17890,  
20 U-18018, U-18112, U-18336, U-18400, U-20066 and U- 20110.  
21

**Part II**

1 **Q. What is the purpose of your testimony in this proceeding?**

2 A. The purpose of my testimony is to support UMERC's Gas Cost Recovery ("GCR") plan  
3 for the 12-month period ending October 31, 2019.

4  
5 **Q. Are you sponsoring any exhibits in this proceeding?**

6 A. Yes, I am. I am sponsoring the following exhibits:

7

8 Exhibit A-2 (DJM-1) A calculation of cost of gas and the proposed uniform base  
9 factor.

10  
11 Exhibit A-3 (DJM-2) Annual Requirements Forecast, a Peak Day Forecast for  
12 winter extreme conditions, a Peak Day Forecast for April  
13 extreme conditions, and a five-year forecast of required gas  
14 supplies and projected gas costs.

15  
16  
17 Exhibit A-4 (DJM-3) Tariff Sheet No. D-5.00 stating a uniform base GCR factor,  
18 subject to adjustment pursuant to the proposed Contingent  
19 GCR Factor Adjustment Mechanism.

20  
21  
22 Exhibit A-5 (DJM-4) Tariff Sheet No. E-20.00 stating a Peak Day Backup  
23 (Annual Option) factor of \$0.72516 per month per therm of  
24 demand, a Peak Day Backup (Seasonal Option) factor of  
25 \$0.83931 per month per therm of demand, and a Backup  
26 Service Commodity Charge factor of \$0.25989 per therm  
27 for the November 2018 through October 2019 billing  
28 months. The factor for the Backup Service Commodity  
29 Charge will be subject to adjustment under the monthly  
30 Contingent GCR Factor Adjustment Mechanism. This  
31 exhibit is being submitted pursuant to the authority granted  
32 by the Commission in Case No. U-12741, which authorized  
33 WPS Corp to use annual GCR plan filings as the  
34 mechanism to change rate factors associated with Peak Day  
35 Backup Service and Annual Supply Backup Service, and  
36 consistent with the requested approvals in Case No. U-  
37 18061.

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Exhibit A-6 (DJM-5) Tariff Sheet Nos. D-6.00 and D-7.00 which set forth the monthly Contingent GCR Factor Adjustment Mechanism.

Exhibit A-7 (DJM-6) A summary of prices for alternate heating fuels in UMERC's gas service territory.

Exhibit A-8 (DJM-7) A summary of federal regulatory cases which may impact the cost or reliability of gas service to UMERC's customers.

**Q. Were these exhibits prepared by you or under your direction?**

A. Yes

**Q. Turning to Exhibit A-2 (DJM-1), please briefly explain what it contains.**

A. Reflective of the UMERC GCR plan as described by Witness Mead, Exhibit A-2 (DJM-1) reflects the calculation of the cost of gas and the proposed uniform base GCR factor for UMERC's 2018-2019 GCR Plan. Page 1 of 2 details the calculation of the proposed uniform base GCR factor by cost of gas component. Page 2 of 2 shows a consolidation of all of the cost of gas components, and lists the proposed uniform base GCR factor by month.

**Q. Please describe Exhibit A-3 (DJM-2).**

A. Exhibit A-3 (DJM-2), Page 1 of 4 is a five-year forecast of UMERC's annual gas requirements by sales and transportation customer classes. Page 2 of 4 is a five-year

1 forecast of UMERC's Peak Day load for a winter extreme weather condition. Page 3 of 4  
2 is a five-year forecast of UMERC's Peak Day load for an April extreme weather  
3 condition. Page 4 of 4 is a five-year forecast of required gas supplies and projected gas  
4 costs. The gas commodity and annual demand (D-2) prices used in the five-year forecast  
5 were inflated at 3% per year. The transportation rates and reservation fees were held  
6 constant, with peak day capacity costs increasing due to projected increases in corporate  
7 peak day capacity needs. The load growth increases correspond to the sponsored  
8 corporate annual gas load forecast.

9  
10 **Q. Does UMERC plan to conduct any sales to out-of-state customers?**

11 A. No, UMERC does not plan to make any sales to out-of-state customers.

12  
13 **Q. How are the corporate Gas Lost and Unaccounted For volumes calculated?**

14 A. Losses Per the Gas AMA (Asset Management Agreement), Gas Lost and Unaccounted  
15 For volumes used in this GCR plan were allocated based on UMERC sales divided by the  
16 sum of UMERC and WPS sales volumes. . The forecasted amount for the plan year is  
17 23,500 Therms, or approximately \$5,760.

18  
19 **Q. Are any contracted gas supplies or contracted interstate pipeline transportation  
20 services dedicated for use by UMERC gas transportation customers?**

21 A. No. There are no contracted gas supplies or contracted interstate pipeline transportation  
22 services dedicated for use by any UMERC gas transportation customer.

23

1 **Q. Are there revenues that are expected to be collected from gas transportation**  
2 **customers that will affect the GCR reconciliation of this case?**

3 A. Yes. In accordance with UMERC's Commission-approved gas transportation tariff,  
4 UMERC collects revenue from gas transportation customers via the Daily Balancing  
5 Service and Daily Cashout. The estimated revenue from the Daily Balancing Service,  
6 based on historical data, has been included in the calculation of the proposed GCR factors  
7 in this plan. The estimated revenue from the Gas Commodity Daily Cashout has not been  
8 included in the calculation of the proposed GCR factors in this plan because of the  
9 difficulty in forecasting this amount. All revenues and expenses associated with these  
10 two services will be reflected in the annual GCR reconciliation.

11  
12 **Q. UMERC offered Annual Supply Backup Service for the winter of 2017-2018. Is**  
13 **Annual Supply Backup Service being offered for the GCR period ending October**  
14 **31, 2019?**

15 A. Yes, UMERC has Annual Supply Backup Service available. The proposed rates for the  
16 backup service are found in Exhibit A-5 (DJM-4), Tariff Sheet No. E-20.00. UMERC  
17 provides its gas transportation customers with Annual Supply Backup Service in  
18 conjunction with Peak Day Backup Service. For the GCR period ending October 31,  
19 2019, no transportation customers have requested Peak Day Backup Service, which  
20 means that, although Annual Supply Backup Service is available, it will not be used by  
21 gas transportation customers.

22  
23 **Q. If Peak Day Backup and Annual Supply Backup Service will not be used by**

1 **UMERC's gas transportation customers, why is the Company filing for new rates**  
2 **for these services?**

3 A. Although UMEREC's gas transportation customers have chosen not to participate in these  
4 services at this time, the new rates are filed in the event that customers choose to  
5 participate in these services in the future. The Peak Day Backup and Annual Supply  
6 Backup Service rates are calculated based on current gas transportation and gas supply  
7 costs. The rates are being updated to reflect the costs in the instant GCR filing.

8  
9 **Q. How were the proposed factors for Peak Day Backup (Annual Option), Peak Day**  
10 **Backup (Seasonal Option) calculated?**

11 A. The proposed factors for Peak Day Backup (Annual Option), Peak Day Backup (Seasonal  
12 Option) were calculated in accordance with Sheet No. E-6.00 of UMEREC's gas tariff,  
13 which states:

14 "The annual rate shall be equal to the Company's annual D1 costs, divided by the  
15 Company's interstate pipeline winter peak day maximum daily quantity, and  
16 divided by 12. The seasonal rate shall be equal to the Company's November -  
17 March D1 costs, divided by the Company's interstate pipeline winter peak day  
18 maximum daily quantity, and divided by 5."  
19

20 **Q. How were the proposed factors for Annual Supply Backup calculated?**

21 A. The proposed factors for Annual Supply Backup were calculated in accordance with  
22 Sheet No. E-6.00 of UMEREC's gas tariff, which states:

23 "This rate will be equal to the maximum authorized gas cost recovery factor, less  
24 the D1 rate. "  
25

26 **Q. Has any amount of forecasted net GCR over-recovery or under-recovery been**

1 **included in the calculation of the GCR factors proposed here?**

2 A. No. UMERG is anticipating that by the end of the current GCR period it will not have a  
3 significant over or under collection.  
4

5 **Q. Please discuss the proposed uniform base GCR factors.**

6 A. Reflective of the UMERG GCR Plan, I have prepared Exhibit A-2 (DJM-1), which shows  
7 the computation of the uniform base GCR factor for the November 2018 through October  
8 2019 billing months. As shown in Page 1 of Exhibit A-4 (DJM-3), the Company is  
9 proposing a uniform base GCR factor of \$0.35796 per therm. This base factor will be  
10 subject to the monthly Contingent GCR Factor Adjustment Mechanism.  
11

12 **Q. Is the monthly Contingent GCR Factor Adjustment Mechanism proposed herein the**  
13 **same as approved in Case No. U-18400?**

14 A. Yes. The need for a monthly Contingent GCR Factor Adjustment Mechanism has not  
15 changed. The Contingent GCR Factor Adjustment Mechanism will be self-implemented  
16 if the Commission does not issue its final order in this proceeding before the billing  
17 month of November 2018.  
18

19 **Q. How does the monthly Contingent GCR Factor Adjustment Mechanism, as reflected**  
20 **in Exhibit A- 6 (DJM-5) operate?**

21 A. The uniform base GCR factor that is filed with and approved by the Commission is  
22 reviewed monthly by the Company and will be adjusted based on changes in the  
23 NYMEX natural gas futures contract prices for the remaining months of the GCR period.

1 The monthly Contingent GCR factor adjustment, on a per-therm basis, is equal to the  
2 Fractional Multiplier x (“NYMEX Natural Gas Futures Contract Average Price” for the  
3 remaining months of the GCR period less the “NYMEX Natural Gas Futures Contract  
4 Base Price” for the remaining months of the GCR period) for Flowing gas and Storage  
5 gas.

6  
7 The “NYMEX Natural Gas Futures Contract Average Price” for the remaining months of  
8 the GCR period is equal to the simple average of the actual monthly NYMEX natural gas  
9 futures contract prices for the remaining months of the GCR period. The calculation is  
10 conducted at least 15 days, but no more than 30 days, prior to the beginning of the  
11 upcoming month.

12  
13 The “NYMEX Natural Gas Futures Contract Base Price” for the remaining months of the  
14 GCR period is equal to the average monthly NYMEX natural gas futures prices for the  
15 first five business days of a specified month, in this case July 2018. For the GCR period  
16 ending October 31, 2019, UMERG used the monthly NYMEX natural gas futures  
17 contract settlement prices on July 2, 3, 5, 6, and 9, 2018. The simple average of the  
18 monthly NYMEX natural gas futures contract prices for the remaining months in the  
19 GCR period are as follows:

20	First Month	(November 2018 – October 2019):	\$2.801 per MMBtu
21	Second Month	(December 2018 – October 2019):	\$2.794 per MMBtu
22	Third Month	(January 2019 – October 2019):	\$2.774 per MMBtu
23	Fourth Month	(February 2019 – October 2019):	\$2.741 per MMBtu
24	Fifth Month	(March 2019 – October 2019):	\$2.704 per MMBtu
25	Sixth Month	(April 2019 – October 2019):	\$2.670 per MMBtu
26	Seventh Month	(May 2019 – October 2019):	\$2.672 per MMBtu

Direct Testimony of Diane J. Mier  
Case No. U-20247

1	Eighth Month	(June 2019 – October 2019):	\$2.682 per MMBtu
2	Ninth Month	(July 2019 – October 2019):	\$2.689 per MMBtu
3	Tenth Month	(August 2019 – October 2019):	\$2.690 per MMBtu
4	Eleventh Month	(September 2019 – October 2019):	\$2.687 per MMBtu
5	Twelfth Month	(October 2019 – October 2019):	\$2.696 per MMBtu

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The calculation of the adjustment and revised Sheet Nos. D-5.00 and E-20.00 are filed with the Commission at least 15 days prior to the beginning of the month. (See Exhibits A-4 (DJM-3) and A-5 (DJM-4). The adjusted GCR factors are then implemented without additional Commission approval. (See Exhibit A-6 (DJM-5) The adjusted GCR factors represent the maximum GCR factors that could be billed, but a lower GCR factor will be billed if the Company found itself in an over-recovery situation.

**Q. Will the contingent GCR Factor Adjustment Mechanism eliminate over- or under-recoveries?**

A. No, it will not eliminate over- or under-recoveries, but it is expected to significantly mitigate them. There are many other factors besides gas commodity price that can lead to over- or under-recoveries. For example, a cold winter could lead to increased sales which in turn would lead to over-recovery of the demand cost components in the GCR. A warm winter would have the opposite effect. Further, forecasted gas supply costs may significantly differ from actual costs. All of these factors will affect the over/under-recovery. However, at this time, changes in the commodity cost of gas are the biggest contributor to large under-recoveries.

**Q. Please explain how UMEREC's winter Peak Day Forecast was developed.**

A. The result of UMEREC's Winter Peak Day Forecast is shown in Exhibit A-3 (DJM-2).

1 The current method relies on using daily data from the most recent three years. The  
2 winter design day is estimated using daily data from December, January, and February.  
3 The warmest 25% of the data is removed in order to use just the coldest wind chill days  
4 to forecast the design peak.

5  
6 The regression results provide both a regression line equation and a measure of the  
7 possible variability of the actual data around the regression line. Points on the regression  
8 line provide “point estimates” of firm load for a given set of independent variable values,  
9 including design peak day conditions. There is a 50% chance that actual data points will  
10 be above and a 50% chance that they will be below the regression line point estimate.  
11 The measure of the possible variability of the actual data around the regression line is  
12 called the standard error. The higher the standard error, the further the actual data points  
13 are spread around the regression line.

14  
15 In order to provide a certain confidence level that an actual data point will not exceed a  
16 forecast, there must be an allowance for the possible spread, or variability, of actual data  
17 points around the regression line. This spread represents both sampling and modeling  
18 error. Statisticians have quantified the number of standard errors (also called sigmas) that  
19 must be added to a point estimate in order to provide a forecast with a specific confidence  
20 level that actual occurrence will not exceed that forecast. The risk preference of UMER  
21 management requires a 97.5% confidence level that the actual firm load occurring under  
22 design conditions will not exceed the forecast.

23

1 Since the audit conducted by the Public Service Commission of Wisconsin (“PSCW”)  
2 staff in November of 1997, the PSCW’s definition of design day conditions has been used  
3 for GCR purposes by UMEREC’s predecessor, WPS Corp. The PSCW chose January  
4 18, 1994 as the day WPS Corp should use as its coldest day. The PSCW chose this date  
5 since it was the date most other utilities in the state experienced their coldest conditions in  
6 the last 20 years. The design condition of this variable, based on the current 9am to 9am  
7 gas day that was experienced on January 18, 1994, is  $-44.15^{\circ}$  F or a wind chill heating  
8 degree day of 99.15. On January 18, 1994, the 9am to 9am average temperature was  $-$   
9  $23.58^{\circ}$  F and the average wind speed was 9.08 MPH. On the previous day, January 17,  
10 1994, WPS Corp experienced a 9am to 9am average temperature of  $-14^{\circ}$  F and wind  
11 speeds of 10.25 MPH with a wind chill of  $-33.53^{\circ}$  F. For purposes of this plan UMEREC  
12 decided to continue to use/rely on this weather data, based on the current 9am to 9am gas  
13 day, for the peak day model.

14  
15 The model predicts no change in the firm sales UMEREC is predicting, and total  
16 interruptible gas sales will also be flat over the forecast period. No change in the  
17 Transport portion of the winter peak is predicted for the same time period. The final  
18 result is a Firm Sales Peak Day load of 471,421 Dth for the 2018-2019 winter season, no  
19 peak day backup service was requested for the 2018-2019 winter season.

20 Data is not available to perform a regression analysis to obtain a winter Peak Day  
21 Forecast amount specifically for UMEREC.

22

1 **Q. Please explain WEC's involvement in federal regulatory proceedings that may**  
2 **impact the cost or reliability of gas service to UMERC's customers.**

3 A. WEC and its subsidiaries take a very active role intervening in ANR, Guardian, and other  
4 pipeline rate cases and filings which may impact the cost or reliability of service. WEC's  
5 subsidiaries participate both on an individual basis and as a member of the Wisconsin  
6 Distributor Group ("WDG"). The WDG is an ad hoc group of Wisconsin Local  
7 Distribution Companies ("LDCs") who have organized together to take an active role in  
8 Federal Energy Regulatory Commission ("FERC") proceedings in which they have a  
9 common interest, particularly in ANR and other pipeline proceedings. Members of the  
10 WDG include, but are not limited to, WPS Corp, WE Energies, Alliant-WP&L, Madison  
11 Gas and Electric Company, and City Gas Company. The WDG retains the Washington  
12 law firm of Bracewell & Giuliani LLP to monitor all ANR and other pipeline company  
13 filings at FERC and to represent the group at FERC hearings and court appeals. When  
14 the companies' positions do not align with the WDG, participation may be on an  
15 individual basis using WEC internal FERC counsel.

16

17 **Q. What specific dockets are the WDG and WPS Corp presently participating in at the**  
18 **federal regulatory level which may impact the cost or reliability of gas service to**  
19 **UMERC's customers?**

20 A. Exhibit A-8 (DJM-7) summarizes the various federal gas regulatory matters in which the  
21 WDG and WPS Corp are or were active participants.

22

23 **Q. Does this complete your direct testimony?**

Direct Testimony of Diane J. Mier  
Case No. U-20247

1 A. Yes, it does.

**WISCONSIN PUBLIC SERVICE CORPORATION**  
 Gas Cost Recovery Plan  
 Rate Schedule Distribution  
 (Michigan)

	<b>COMMODITY</b> ----(1)----	<b>ACQ (D-2)</b> <b>DEMAND</b> ----(2)----	<b>BALANCING</b> ----(3)----	<b>Projected</b> <b>(Over)/Under</b> <b>Recovery</b> ----(4)----	<b>ANNUAL</b> <b>SUPPLY</b> <b>BACKUP</b> ----(5)----	<b>PK DAY (D-1)</b> <b>DEMAND</b> ----(6)----	<b>GCR</b> <b>FACTOR</b> ----(7)----
<b>Nov 2018</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Dec 2018</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Jan 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Feb 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Mar 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Apr 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>May 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Jun 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Jul 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Aug 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Sep 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>
<b>Oct 2019</b>	\$0.24512	\$0.01161	\$0.00118	\$0.00198	<b>\$0.25989</b>	\$0.09807	<b>\$0.35796</b>

**WISCONSIN PUBLIC SERVICE CORPORATION**  
 Gas Cost Recovery Plan  
 Calculation of System Per Therm Rates  
 (Michigan)

	-----Commodity-----			-----Peak Day (D-1)-----			-----Ann Dmnd (D-2)-----		
	Costs ----(1)---	Sales ----(2)---	Rate ----(3)---	Costs ----(4)---	Sales ----(5)---	Rate ----(6)---	Costs ----(7)---	Sales ----(8)---	Rate ----(9)---
Nov 2018	\$148,410	603,084	\$0.24512	\$68,570	603,084	\$0.09807	\$7,641	603,084	\$0.01161
Dec 2018	\$260,553	985,950	\$0.24512	\$69,719	985,950	\$0.09807	\$8,365	985,950	\$0.01161
Jan 2019	\$304,879	1,161,985	\$0.24512	\$66,856	1,161,985	\$0.09807	\$8,045	1,161,985	\$0.01161
Feb 2019	\$278,334	1,021,383	\$0.24512	\$61,689	1,021,383	\$0.09807	\$7,412	1,021,383	\$0.01161
Mar 2019	\$201,218	827,168	\$0.24512	\$58,972	827,168	\$0.09807	\$6,587	827,168	\$0.01161
Apr 2019	\$81,074	483,595	\$0.24512	\$42,702	483,595	\$0.09807	\$6,438	483,595	\$0.01161
May 2019	\$49,303	246,551	\$0.24512	\$35,790	246,551	\$0.09807	\$5,701	246,551	\$0.01161
Jun 2019	\$29,966	154,207	\$0.24512	\$36,858	154,207	\$0.09807	\$3,593	154,207	\$0.01161
Jul 2019	\$20,984	120,717	\$0.24512	\$38,147	120,717	\$0.09807	\$1,975	120,717	\$0.01161
Aug 2019	\$20,721	112,407	\$0.24512	\$37,133	112,407	\$0.09807	\$2,690	112,407	\$0.01161
Sep 2019	\$37,354	151,029	\$0.24512	\$41,135	151,029	\$0.09807	\$5,793	151,029	\$0.01161
Oct 2019	\$87,046	332,384	\$0.24512	\$50,478	332,384	\$0.09807	\$7,738	332,384	\$0.01161
<b>Total</b>	<b>\$1,519,842</b>	<b>6,200,460</b>	<b>\$0.24512</b>	<b>\$608,049</b>	<b>6,200,460</b>	<b>\$0.09807</b>	<b>\$71,979</b>	<b>6,200,460</b>	<b>\$0.01161</b>

	-----Balancing (Bal)-----			-----Projected (Over)/Underrecovery-----		
	Costs ----(10)---	Sales ----(11)---	Rate ----(12)---	Costs ----(13)---	Sales ----(14)---	Rate ----(15)---
Nov 2018	\$1,818	603,084	\$0.00118		603,084	\$0.00198
Dec 2018	\$1,864	985,950	\$0.00118		985,950	\$0.00198
Jan 2019	\$1,731	1,161,985	\$0.00118		1,161,985	\$0.00198
Feb 2019	\$1,458	1,021,383	\$0.00118		1,021,383	\$0.00198
Mar 2019	\$1,335	827,168	\$0.00118		827,168	\$0.00198
Apr 2019	\$1,058	483,595	\$0.00118		483,595	\$0.00198
May 2019	(\$15)	246,551	\$0.00118		246,551	\$0.00198
Jun 2019	(\$601)	154,207	\$0.00118		154,207	\$0.00198
Jul 2019	(\$1,051)	120,717	\$0.00118		120,717	\$0.00198
Aug 2019	(\$852)	112,407	\$0.00118		112,407	\$0.00198
Sep 2019	\$11	151,029	\$0.00118		151,029	\$0.00198
Oct 2019	\$531	332,384	\$0.00118		332,384	\$0.00198
<b>Total</b>	<b>\$7,287</b>	<b>6,200,460</b>	<b>\$0.00118</b>	<b>\$0</b>	<b>6,200,460</b>	<b>\$0.00198</b>

**Upper Michigan Energy Resources Corporation**  
UMERC Gas Cost Recovery Plan  
Natural Gas Annual Requirements Forecast  
(in 000's Dth, ANR Pressure Base)

	<u>Sales</u>			<u>Transportation</u>	<u>Total</u>
	<b>Firm</b>	<b>Interruptible</b>	<b>Total</b>	<b>Transportation</b>	<b>Total</b>
2018-2019	616,589	0	616,589	1,222,851	1,839,440
2019-2020	617,706	0	617,706	1,225,143	1,842,849
2020-2021	613,004	0	613,004	1,228,068	1,841,072
2021-2022	611,342	0	611,342	1,250,443	1,861,785
2022-2023	616,160	0	616,160	1,233,430	1,849,589

**Upper Michigan Energy Resources Corporation**  
UMERC Gas Cost Recovery Plan  
Natural Gas Winter Peak Day Forecast  
(in Dth, ANR Pressure Base)

	<u>Sales</u>			<u>Transportation</u>	<u>Total</u>
	<b>Firm</b>	<b>Interruptible</b>	<b>Total</b>	<b>Transportation</b>	<b>Total</b>
2018/19	9,466	0	9,466	6,773	16,239
2019/20	9,466	0	9,466	6,773	16,239
2020/21	9,466	0	9,466	6,773	16,239
2021/22	9,466	0	9,466	6,773	16,239
2022/23	9,466	0	9,466	6,773	16,239

**Upper Michigan Energy Resources Corporation**  
UMERC Gas Cost Recovery Plan  
Natural Gas April Peak Day Forecast  
(in Dth, ANR Pressure Base)

	<u>Sales</u>			<u>Transportation</u>	<u>Total</u>
	Firm	Interruptible	Total	Transportation	Total
2019	5,140	0	5,140	4,989	10,129
2020	5,140	0	5,140	4,989	10,129
2021	5,140	0	5,140	4,989	10,129
2022	5,140	0	5,140	4,989	10,129
2023	5,140	0	5,140	4,989	10,129

**Upper Michigan Energy Resources Corporation**  
 UMERC Gas Cost Recovery Plan  
 5 YEAR FORECAST

<b>Year</b>	<b>Total UMERC Requirement</b>	<b>Flowing Gas Volume</b>	<b>Flowing Gas Fuel</b>	<b>Storage Gas City Gate Volume</b>	<b>City Gate Purchase Volume</b>	<b>City Gate Deliveries</b>
-----	----(1)----	----(2)----	----(3)----	----(4)----	----(5)----	----(6)----
2018-2019	970,390	739,684	(13,903)	244,609	0	970,390
2019-2020	970,390	739,684	(13,903)	244,609	0	970,390
2020-2021	972,148	741,023	(13,928)	245,052	0	972,148
2021-2022	964,748	735,383	(13,822)	243,187	0	964,748
2022-2023	962,132	733,388	(13,784)	242,527	0	962,132

NOTE: All columns are expressed in Dekatherms (DTH), using ANR pressure base.

----Corporate-----

<b>Year</b>	<b>Commodity (Comm) Charges</b>	<b>Peak Day Demand (D-1) Charges</b>	<b>Annual Demand (D-2) Charges</b>	<b>Balancing (Bal) Charges</b>	<b>Hedging (Hed) Charges</b>	<b>Total Charges</b>
-----	----(6)----	----(7)----	----(8)----	----(9)----	----(10)----	----(11)----
2018-2019	\$2,260,731	\$879,819	\$125,821	\$43,858	\$38,812	\$3,349,041
2019-2020	\$2,328,553	\$879,819	\$129,596	\$43,858	\$39,977	\$3,421,802
2020-2021	\$2,402,752	\$879,819	\$133,725	\$43,858	\$41,251	\$3,501,405
2021-2022	\$2,455,998	\$879,819	\$136,689	\$43,858	\$42,165	\$3,558,528
2022-2023	\$2,522,817	\$879,819	\$140,408	\$43,858	\$43,312	\$3,630,213

M.P.S.C. No. 1 – Natural Gas  
Upper Michigan Energy Resources Corporation

xx<sup>st</sup> Rev. Sheet No. D-5.00  
Replaces xx<sup>th</sup> Rev. Sheet No. D-5.00  
Schedule GCRFM

**SECTION D**  
**RATE SCHEDULES**

**D2. GAS COST RECOVERY FACTORS**

**NATURAL GAS**

<b>Billing Months</b>	<b>Base GCR Factor \$/Therm</b>	<b>MAX GCR Factor \$/Therm</b>	<b>Actual Factor Billed \$/Therm</b>
November, 2018	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
December, 2018	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
January, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
February, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
March, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
April, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
May, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
June, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
July, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
August, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
September, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm
October, 2019	\$0.35796 per Therm	\$0.00000 per Therm	\$0.00000 per Therm

The company will file a revised Sheet No. D-5.00 monthly or as necessary to reflect the factor to be billed the following month.

The Base GCR Factor is subject to adjustment pursuant to the Contingent GCR Factors on Sheet Nos. D-6.00 and D-7.00.  
The Maximum GCR Factor Allowed is based upon changes in the NYMEX and adjusted according to Sheet No. D-7.00.  
The adjusted GCR Factors per the Contingent GCR Factors are the maximum GCR Factors the Company may charge. The actual GCR Factor charged in any month may be less than the adjusted GCR Factor.

The Company will file by July 31, 2019 for maximum Gas Cost Recovery factors for November 2019 – October 2020. The Gas Cost Recovery Factor to be charged beginning November 2017 is authorized pursuant to §6(h)(9) of 1982 PA 304, as amended, MCL 460.6h et seq.

(Continued on Sheet No. D-6.00)

Issued xx-xx-xx  
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Vice-President,  
Milwaukee, Wisconsin

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Mich Public Service Comm  
Dated xx-xx-xx  
In Case No. U-20247

**E3. GAS TRANSPORTATION SERVICE-RATES**

**NATURAL GAS**

GAS TRANSPORTATION SERVICE

	<u>Distribution Charge</u>	<u>Take-or-Pay Rate</u>	<u>Effective Rate</u>
<u>Cg-TM</u>	\$	\$	\$
Monthly Customer Charge*	--	--	4.8493/147.50
Rate Per Therm	0.08514	0.00000	0.08514
 <u>Cg-TL</u>			
Monthly Customer Charge*	--	--	6.9698/212.00
Rate Per Therm	0.06214	0.00000	0.06214
 <u>Cg-TSL</u>			
Monthly Customer Charge*	--	--	6.9698/212.00
Rate Per Therm	0.03000	0.00000	0.03000

\* This charge includes a \$140.00 per month Administrative Charge.

PEAK DAY BACKUP SERVICE AND ANNUAL SUPPLY BACKUP SERVICE

Demand Charge - Per Therm of Demand Per Month (Annual Option)	\$0.72516
Demand Charge - Per Therm of Demand Per Month (Seasonal Option)	\$0.83931
Commodity Charge - City Gate Rate Per Therm**	\$0.25989
D1 Rate (Case No. U-18400)	\$0.09633

\*\* Rate at the Company's city gate. The transportation Distribution Charge corresponding to the customer's rate class (from above) must be added to calculate the effective rate for deliveries to the customer's meter. This rate is subject to adjustment pursuant to the GCR Factor Adjustment Mechanism on Sheet No. D-6.00.

ANR-WPSC PRESSURE BASE CORRECTION:

(14.73/14.60) = 1.0089

DAILY BALANCING SERVICE

<u>% Difference From Nomination</u>	<u>Floor Rate Per Therm</u>	<u>Ceiling Rate Per Therm</u>	<u>Effective Rate Per Therm</u>
>0.0% up to 8.0%	\$0.0020	\$0.0519	\$0.0175
>8.0% \$0.0323	\$0.0842	\$0.0370	

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M.P.S.C. No. 1 – Natural Gas  
Upper Michigan Energy Resources Corporation

xx<sup>rd</sup> Rev. Sheet No. D-6.00  
Replaces xx<sup>nd</sup> Rev. Sheet No. D-6.00  
Schedule GCRFM

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**SECTION D**  
**RATE SCHEDULES**  
(Continued on Sheet No. D-5.00)

**D2. GAS COST RECOVERY FACTORS**

**NATURAL GAS**

**CONTINGENT GAS COST RECOVERY (“GCR”) FACTORS**

Pursuant to the Commission’s order approving the settlement in Case No. U-20247, the 2018-19 GCR factors listed on Sheet No. D-5.00 will be increased or decreased on a monthly basis, contingent upon NYMEX futures prices for natural gas increasing to a level above that which was incorporated in the calculation of the Commission approved GCR factor ceiling prices. Commission mandated downward adjustments can reduce the monthly maximum GCR factor back down to base GCR factor, but will never cause the factor to go below original base factor that was requested in the plan filing, or that was approved by the Commission.

At least fifteen days before the beginning of each month, the Company shall file with the Michigan Public Service Commission an updated tariff Sheet, if NYMEX futures prices increase to a level allowing for the implementation of a higher contingent GCR price ceiling. The informational filing shall include the monthly five-day average and the dates used to calculate the new ceiling price. The filing shall be incorporated in the GCR Plan docket U-20247 with notice of filing provided to all interveners.

**DEFINITIONS:**

The Contingent Gas Cost Recovery Factors shown in the table on Sheet No. D-7.00 are authorized for the November 2018 through October 2019 GCR Plan period and include any changes due to flowing gas as well as known changes from the GCR plan for hedged gas and storage gas. For purposes of determining the authorized Contingent Gas Cost Recovery Factors, the following relationships apply:

$\text{NYMEX Increase} = (X - X_{\text{plan}})$  (This equation is applicable to all sources of gas supply with some modifications for storage gas and fixed price gas.)

X = the simple average of the actual NYMEX monthly natural gas futures contract prices, (\$/Mmbtus), for the 12 month period during which this plan case will be in effect. Once a month is no longer being traded, it does not need to be included, just the remaining months of the 12 month period still trading (averaged over first five trading days of the month prior to implementation).

$X_{\text{plan}}$  = the 12 month NYMEX average, incorporated in the calculation of the base GCR factor.

(Continued on Sheet No. D-7.00)

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**SECTION D**  
**RATE SCHEDULES**  
 (Continued from Sheet No. D-6.00)

**D2. GAS COST RECOVERY FACTORS**

**NATURAL GAS**

		Nov-Oct			Nov-Oct
<b>Fractional Mult.</b>		0.0639	<b>Fractional Mult.</b>		0.0639
<b>F<sub>m</sub></b>			<b>F<sub>m</sub></b>		
<b>Plan NYMEX</b>		2.8011/Dth	<b>Plan NYMEX</b>		2.8011/Dth
<b>(X<sub>plan</sub>)</b>			<b>(X<sub>plan</sub>)</b>		
<b>Base GCR Factor</b>		\$0.35796	<b>Base GCR Factor</b>		\$0.35796
<b>NYMEX Increase</b>		<b>Incremental Contingent GCR Factor</b>	<b>NYMEX Increase</b>		<b>Incremental Contingent GCR Factor</b>
Greater than	But Less		Greater than	But Less	
Or Equal to	than		Or Equal to	than	
		<b>\$/therm</b>			<b>\$/therm</b>
\$0.00	\$0.05	<b>\$0.0000</b>	\$1.55	\$1.60	<b>\$0.0990</b>
\$0.05	\$0.10	<b>\$0.0032</b>	\$1.60	\$1.65	<b>\$0.1022</b>
\$0.10	\$0.15	<b>\$0.0064</b>	\$1.65	\$1.70	<b>\$0.1054</b>
\$0.15	\$0.20	<b>\$0.0096</b>	\$1.70	\$1.75	<b>\$0.1086</b>
\$0.20	\$0.25	<b>\$0.0128</b>	\$1.75	\$1.80	<b>\$0.1118</b>
\$0.25	\$0.30	<b>\$0.0160</b>	\$1.80	\$1.85	<b>\$0.1149</b>
\$0.30	\$0.35	<b>\$0.0192</b>	\$1.85	\$1.90	<b>\$0.1181</b>
\$0.35	\$0.40	<b>\$0.0224</b>	\$1.90	\$1.95	<b>\$0.1213</b>
\$0.40	\$0.45	<b>\$0.0255</b>	\$1.95	\$2.00	<b>\$0.1245</b>
\$0.45	\$0.50	<b>\$0.0287</b>	\$2.00	\$2.05	<b>\$0.1277</b>
\$0.50	\$0.55	<b>\$0.0319</b>	\$2.05	\$2.10	<b>\$0.1309</b>
\$0.55	\$0.60	<b>\$0.0351</b>	\$2.10	\$2.15	<b>\$0.1341</b>
\$0.60	\$0.65	<b>\$0.0383</b>	\$2.15	\$2.20	<b>\$0.1373</b>
\$0.65	\$0.70	<b>\$0.0415</b>	\$2.20	\$2.25	<b>\$0.1405</b>
\$0.70	\$0.75	<b>\$0.0447</b>	\$2.25	\$2.30	<b>\$0.1437</b>
\$0.75	\$0.80	<b>\$0.0479</b>	\$2.30	\$2.35	<b>\$0.1469</b>
\$0.80	\$0.85	<b>\$0.0511</b>	\$2.35	\$2.40	<b>\$0.1501</b>
\$0.85	\$0.90	<b>\$0.0543</b>	\$2.40	\$2.45	<b>\$0.1533</b>
\$0.90	\$0.95	<b>\$0.0575</b>	\$2.45	\$2.50	<b>\$0.1565</b>
\$0.95	\$1.00	<b>\$0.0607</b>	\$2.50	\$2.55	<b>\$0.1597</b>
\$1.00	\$1.05	<b>\$0.0639</b>	\$2.55	\$2.60	<b>\$0.1628</b>
\$1.05	\$1.10	<b>\$0.0671</b>	\$2.60	\$2.65	<b>\$0.1660</b>
\$1.10	\$1.15	<b>\$0.0702</b>	\$2.65	\$2.70	<b>\$0.1692</b>
\$1.15	\$1.20	<b>\$0.0734</b>	\$2.70	\$2.75	<b>\$0.1724</b>
\$1.20	\$1.25	<b>\$0.0766</b>	\$2.75	\$2.80	<b>\$0.1756</b>
\$1.25	\$1.30	<b>\$0.0798</b>	\$2.80	\$2.85	<b>\$0.1788</b>
\$1.30	\$1.35	<b>\$0.0830</b>	\$2.85	\$2.90	<b>\$0.1820</b>
\$1.35	\$1.40	<b>\$0.0862</b>	\$2.90	\$2.95	<b>\$0.1852</b>
\$1.40	\$1.45	<b>\$0.0894</b>	\$2.95	\$3.00	<b>\$0.1884</b>
\$1.45	\$1.50	<b>\$0.0926</b>	\$3.00	above	<b>\$0.1916</b>
\$1.50	\$1.55	<b>\$0.0958</b>			

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 1982 PA 304, Section 6h(9) and  
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 Dated xxxxxxxx  
 in Case No. U-20247

**UPPER MICHIGAN ENERGY RESOURCES CORPORATION**  
 UMERC Corp Gas Cost Recovery Plan  
 Type and Prices of Alternative Fuels Available

**Conversion Factors**

#2 Oil	139,000 BTU Per Gallon
Propane	91,600 BTU Per Gallon
Electricity	3,412 BTU Per Kwh

**Alternative Fuel Prices**

<u>Type</u>	<u>Unit Rate</u>	<u>Equivalent</u>
	\$	Per Therm
		\$
<b>#2 Fuel Oil (per gallon)</b>		
Residential	2.55	1.84
Commercial/Industrial	2.04	1.47
<b>Propane (per gallon)</b>		
Residential	1.70	1.85
Commercial/Industrial	0.99	1.08
<b>Electricity - Residential (per kwh)</b>		
Regular	0.1114	3.27
Time-of-Use		
On-Peak	0.2448	7.17
Off-Peak	0.0602	1.76
<b>WPSC Natural Gas - Residential (per Therm)</b>		0.4553

NOTES: -Residential electric rates reflect June 2018 WPSC Michigan rates.  
 -#2 fuel oil, propane and natural gas rates are average rates for the 2017/2018 winter heating season.  
 -#2 fuel oil & propane pricing data obtained from U.S. Energy Information Agency (EIA) website.

UPPER MICHIGAN ENERGY RESOURCES  
GCR Year for the 12 Months Ending June 30, 2018

Participation of UMERC in Federal Regulatory Matters

**DOCKET**

**SUBJECT/ ISSUES INVOLVED**

CP17-9	ANR Application to Implement Wisconsin South Exp. Project Filing
RP18-490	ANR Tariff Fuel Reimbursement Adjustment and EPC Charges Filing
CP09-465	NNG Section 7 Application for Cunningham Storage Boundary Expansion
CP16-472	NNG Application to Build and Operate Pipeline in Minnesota Filing
CP16-487	NNG Application to Construct and Operate 7.86 Miles of 20' Pipeline Facilities in Dakota County, MN Filing
CP17-76	NNG to Install and Operate New Compressor Station in Iowa Filing