

Founded in 1852
by Sidney Davy Miller

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September 23, 2020

Ms. Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 W. Saginaw Hwy.
Lansing, MI 48917

Re: Upper Michigan Energy Resources Corporation
Case No. U-20808

Dear Ms. Felice:

Enclosed for electronic filing is the above case, please find Upper Michigan Energy Resources Corporation's Application and supporting Direct Testimony and Exhibits of John G. Guntlisbergen. Also included is the Appearance of Sherri A. Wellman.

Should you have any questions, please contact me.

Very truly yours,

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

By: _____
Sherri A. Wellman

SAW/ehk
Enclosures
cc w/enc: John Guntlisbergen
Richard Stasik
Vickie Nugent
Koby Bailey
Theodore Eidukas
John Liskey

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

In the matter of the application of)	
UPPER MICHIGAN ENERGY RESOURCES)	
CORPORATION for approval of a power supply cost)	
recovery plan and authorization of monthly power supply)	Case No. U-20808
cost recovery factors for the calendar year 2021.)	
_____)	

APPLICATION

UPPER MICHIGAN ENERGY RESOURCES CORPORATION (“UMERC” or the “Company”) applies for approval pursuant to § 6j of 1982 PA 304 (“Act 304”) of its Power Supply Cost Recovery (“PSCR”) plan and five-year forecast, and for authority to implement PSCR factors for the calendar year 2021. In support thereof, UMERC respectfully represents to the Michigan Public Service Commission (“Commission”) 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.

2. Pursuant to Order Approving Settlement Agreement dated December 9, 2016, in Case No. U-18061 (“U-18061 Order”), UMERC was granted the authority necessary by the Commission to, among other things, provide retail electric service to the former Michigan electric customers of Wisconsin Electric Power Company (“Wisconsin Electric”) (except, initially, Tilden Mining Company L.C. (“Tilden”) and the Empire Iron Mining Partnership

(“Empire”) (collectively the “Mines”)¹ in service areas located in Alger, Baraga, Delta, Dickinson, Gogebic, Houghton, Iron, Marquette, Menominee, and Ontonagon Counties (known as the “WEPCO Rate Zone”) and to the former Michigan electric customers of Wisconsin Public Service Corporation (“WPS Corp”) in a service area located in Menominee County, Michigan (known as WPSC Rate Zone”). Further, as of March 31, 2019, ensuing with the onset of operations of the RICE generation units, Wisconsin Electric ceased providing retail electric service in the State of Michigan and effective April 1, 2019, Tilden was transferred by Wisconsin Electric to be a customer of UMERC.

3. Pursuant to 1909 PA 106, as amended, MCL 460.551 et seq.; 1909 PA 300, as amended, MCL 462.2 et seq.; 1919 PA 419, as amended, MCL 460.51 et seq.; and 1939 PA 3, as amended, MCL 460.1 et seq, the Commission has jurisdiction to regulate UMERC’s retail electric business.

4. UMERC’s tariffed Michigan retail electric rates were authorized by the Commission pursuant to the U-18061 Order, and incorporated in UMERC’s tariff rate schedules are the PSCR clauses previously authorized by the Commission pursuant to Section 6j(2) of Act 304 for Wisconsin Electric and WPS Corp, respectively, pursuant to which UMERC will recover PSCR costs via separate PSCR factors for the WEPCO Rate Zone and the WPSC Rate Zone.

5. In accordance with Act 304, UMERC files the Direct Testimony and Exhibits of John G. Guntlisbergen, which constitute its 2021 PSCR plan and 5-year forecast. As fully described in Mr. Guntlisbergen’s Direct Testimony, for the WEPCO Rate Zone, UMERC

¹ The U-18061 Settlement Agreement stated that Wisconsin Electric would continue to serve the Mines until termination of both of the 2015-2019 Large Curtailable Special Contracts between Wisconsin Electric and the Mines that were approved by the Commission’s April 23, 2015 Order in Case No. U-17862 (“Mines’ Special Contracts”), at which time the Mines would be transferred as customers of UMERC. Consistent with the terms of the settlement in U-18061, the Mines’ Special Contracts have terminated and Tilden has become a customer of UMERC with Wisconsin Electric ceasing to provide retail electric service in the state of Michigan.

requests approval of a 2021 PSCR factor of (\$0.00779) per kWh, and for the WPSC Rate Zone, UMERC requests approval of a 2021 PSCR factor of (\$0.00329) per kWh.

6. UMERC represents that its 2021 PSCR plan, factors and 5-year forecast, as filed in this case, are just, reasonable and in the public interest.

7. Absent a temporary order in this case, and pursuant to MCL 460.6j(9), effective January 1, 2021, UMERC will self-implement its proposed PSCR factors in the WEPCO and WPS Corp Rate Zones.

WHEREFORE, UMERC respectfully requests that this Commission:

- A. Make and issue a notice of hearing in this case, and after notice and hearing;
- B. Issue a final order pursuant to § 6j of Act 304 authorizing the implementation of a PSCR plan and factors for the 2021 calendar year consistent with the requests made in this Application, supporting testimony and exhibits;
- C. Determine that the decisions underlying UMERC's five-year forecast are reasonable and prudent and that there are no costs unlikely to be permitted to be recovered in customer rates; and

D. Grant such other and further authority as is requested and may be lawful and proper.

Respectfully submitted,

UPPER MICHIGAN ENERGY RESOURCES
CORPORATION

Dated: September 23, 2020

By: _____
Its Attorney
Sherri A. Wellman (P38989)
MILLER, CANFIELD, PADDOCK AND STONE, PLC
One Michigan Avenue, Suite 900
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STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
UPPER MICHIGAN ENERGY RESOURCES)
CORPORATION for approval of a power supply cost)
recovery plan and authorization of monthly power supply)
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_____)

Case No. U-20808

DIRECT TESTIMONY AND EXHIBITS OF

JOHN G. GUNT LISBERGEN

ON BEHALF OF

UPPER MICHIGAN ENERGY RESOURCES CORPORATION

September 23, 2020

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

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

2 A. My name is John G. Guntlisbergen. My business address is WEC Energy Group, Inc.,
3 (“WEC”), 700 North Adams Street, P.O. Box 19001, Green Bay, Wisconsin 54307-9001.

4
5 **Q. By whom are you employed and what is your position?**

6 A. I am employed by WEC as the Manager of Electric Fuel Cost Recovery in the Regulatory
7 Affairs Department.

8
9 **Q. Please describe briefly your education, professional, and utility background.**

10 A. In 1981, I graduated from St. Norbert College - De Pere, Wisconsin, with a Bachelor of
11 Business Administration Degree in Accounting. After completing college I was
12 employed by Wisconsin Public Service Corporation (“WPS Corp”) as a Depreciation
13 Analyst and later as the Depreciation Supervisor in the Corporate Tax Department.
14 While in the Corporate Tax Department, I performed depreciation studies on utility plant
15 property, and determined book depreciation, tax depreciation and deferred taxes on an
16 actual and forecasted basis. In 1993, I moved to the Rates and Economic Evaluation
17 Department as a Rates Planner. I performed cost studies and rate impact studies for
18 generation planning and long-range corporate planning. I participated in the analysis of
19 transmission costs and the development of the transmission tariffs for filing with the
20 Federal Energy Regulatory Commission (“FERC”). I performed electric and gas cost of
21 service studies for the Michigan and Wisconsin jurisdictions. I have also worked with
22 the power supply areas for WPS Corp, Wisconsin Electric Power Company (“WEPCO”),
23 Upper Peninsula Power Company and Upper Michigan Energy Resources Corporation

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 (“UMERC” or “the Company”) to develop Power Supply Cost Recovery (“PSCR”) plans
2 and in the reconciliation of the PSCR costs to revenues.

3
4 **Q. Have you testified before a regulatory agency?**

5 A. Yes. I have testified before the Public Service Commission of Wisconsin ("PSCW") and
6 the Michigan Public Service Commission (“MPSC” or “the Commission”) on numerous
7 occasions.

8
9 **Q. On whose behalf are you testifying in this proceeding?**

10 A. I am testifying on behalf of UMERC. UMERC is a subsidiary of WEC.
11

12 **Q. Please describe UMERC.**

13 A. UMERC is a Michigan jurisdictional regulated utility authorized to serve the former
14 Michigan electric customers of WEPCO and WPS Corp and the former Michigan natural
15 gas customers of WPS Corp. Michigan approvals for UMERC to provide retail electric
16 and natural gas service in the state of Michigan were granted by the Commission in its
17 December 9, 2016 Order in Case No. U-18061. The approvals granted in Case No. U-
18 18061 included, but were not limited to, (i) the transfer of the electric distribution assets
19 of WEPCO and WPS Corp used for providing retail electric service in Michigan, (ii) (at
20 least initially, with the exception of the Tilden Mining Company, L.C. (“Tilden”) and
21 Empire Iron Mining Partnership (collectively the “Mines”)) the transfer of WEPCO’s and
22 WPS Corp’s Michigan retail tariff electric customers to UMERC, (iii) the assumption of
23 WEPCO’s and WPS Corp’s PSCR clauses, and (iv) the authority to provide electric

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 service under the current rates, terms and conditions of service set forth in WEPCO's and
2 WPS Corp's Michigan electric tariff books.

3
4 **Q. Is UMERC currently providing electric service to Tilden under a Special Contract**
5 **between UMERC and Tilden?**

6 A. Yes. Consistent with the U-18061 Settlement Agreement, upon the UMERC's
7 completion of the Upper Peninsula ("UP") generation solution and the corresponding
8 termination of both of the 2015-2019 Large Curtailable Special Contracts between
9 WEPCO and the Mines, which occurred on April 1, 2019, Tilden, the remaining Mine
10 customer, transferred to UMERC. Since the transfer to UMERC, electric service has been
11 provided to Tilden pursuant to the Special Contract between UMERC and Tilden, which
12 was most recently approved by the MPSC on October 25, 2017, in Case No. U-18224.

13
14 **Q. What is the purpose of your testimony in this proceeding?**

15 A. The purpose of my testimony is to support (i) UMERC's 2021 PSCR plan, (ii) sponsor
16 the proposed 2021 PSCR factors for the UMERC WEPCo Rate Zone and the WPSC Rate
17 Zone, and (iii) sponsor the five-year forecast. I will describe UMERC's power supply
18 sources for 2021, which include UMERC's UP generation, the Company's participation
19 in the Midcontinent Independent System Operator, Inc. ("MISO") Market and the
20 American Transmission Company LLC ("ATC") for power supply and transmission
21 services.

22

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 **Q. What PSCR bases and loss factors will be used for determining PSCR cost recovery**
2 **for the WEPCo and WPSC Rate Zones in 2021?**

3 A. As part of the approvals sought in Case No. U-18061, the PSCR clauses of WEPCO and
4 WPS Corp were transferred to UMERC. As such, this 2021 PSCR plan filing reflects that
5 UMERC will recover PSCR costs via separate PSCR clauses for the customers of the
6 WEPCo Rate Zone and WPSC Rate Zone. Thus, each rate zone has its own PSCR base
7 and factor. The WEPCo Rate Zone reflects the current loss factor of 1.04 and the PSCR
8 base of \$45.47 per MWh, and the WPSC Rate Zone reflects the current loss factor of
9 1.0276 and the PSCR base of \$40.52 per MWh. The purpose of this filing is to establish a
10 2021 PSCR factor for each rate zone.

11

12 **Q. Are you sponsoring any exhibits in the proceeding?**

13 A. Yes, I am sponsoring Exhibits A-1 (JGG-1) through A-7 (JGG-7).

14

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

16 A. Yes.

17

18 **Q. Please describe Exhibit A-1 (JGG-1).**

19 A. Exhibit A-1 (JGG-1) reflects UMERC's forecasted Monthly PSCR Sales (MWh),
20 separated into the WEPCo and WPSC Rate Zones, for the 2021 PSCR period. Since the
21 Tilden load will be served under a special contract, not subject to the PSCR factor, Tilden
22 sales have not been included in the PSCR sales.

23

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 **Q. How were the forecasted UMERC energy requirements set forth in Exhibit A-1**
2 **(JGG-1) determined?**

3 A. The general approach was to construct forecast models for the rate classes in each of the
4 rate zones that statistically relate sales to historical sales data, weather, economic and
5 demographic data (e.g. population, employment, Gross Domestic Product, industrial
6 production, etc.), and binary variables as appropriate. The models come in a variety of
7 forms, but may be generally described as regression-based econometric models or more
8 statistically based (e.g. autoregressive integrated moving average (“ARIMA”)) time
9 series models. The models are evaluated on their ability to replicate historical sales and
10 their ability to produce forecasts which reflect expected seasonal and longer term trends.
11 Statistical tests such as R^2 , T-test, and P-value are used to evaluate the various models.
12 In some cases, growth rates were used in conjunction with a moving average in order to
13 better capture recent and expected trends for the customer class in question. This method
14 was used for large customers in each rate zone, which were forecasted on an individual
15 basis according to historical data, recent trends, and projections provided by account
16 managers.

17
18 **Q. Was the effect of the Michigan Energy Waste Reduction initiative for energy**
19 **efficiency reflected in the WEPCo and WPSC Rate Zone energy sales?**

20 A. Yes, the effect has been reflected based on sales impact trends experienced since the start
21 of the initiative for the WEPCO and WPS Corp legacy Michigan service areas.

22

23 **Q. Please describe Exhibit A-2 (JGG-2).**

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JOHN G. GUNTLLISBERGEN

1 A. Exhibit A-2 (JGG-2) reflects the 5-year sales forecast for UMERC’s WEPCo and WPSC
2 Rate Zones through 2025. The forecasted requirements for 2022-2025 were developed
3 using simple growth rates.

4
5 **Q. Please describe Exhibit A-3 (JGG-3).**

6 A. Exhibit A-3 (JGG-3) shows the January through July 2020 actual over/under-recovery of
7 power supply costs as requested in item 5 of the Commission Staff Additional Filing
8 Requirements - PSCR Plans. Page 1 shows the UMERC WEPCo Rate Zone and page 2
9 shows the UMERC WPSC Rate Zone. Exhibit A-3 (JGG-3) also shows the forecasted
10 over/under-recovery of power supply costs for the remaining months of 2020. For
11 purposes of this PSCR plan filing, neither of the two rate zones is forecasted to have a
12 PSCR over/under recovery balance at the end of 2020, as shown on page 1, line 34 and
13 on page 2, line 34 of Exhibit A-3 (JGG-3).

14
15 **Q. Please describe Exhibit A-4 (JGG-4).**

16 A. Exhibit A-4 (JGG-4) shows the calculation of the uniform PSCR factors for January
17 through December 2021 for the WEPCo and WPSC Rate Zones respectively.

18
19 **Q. How were the UMERC PSCR System Costs and the UMERC System supplied
20 MWh determined?**

21 A. As shown on Exhibit A-4 (JGG-4), the UMERC PSCR System Costs (line 8) were
22 calculated by adding the total UMERC PSCR fuel, purchased power, MISO and ATC
23 costs (lines 1-4), subtracting Ancillary Service Market (“ASM”) revenue (line 5), Energy

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 for Tomorrow renewable energy premiums (line 6), and revenue from opportunity sales
2 (line 7), which include sales to Tilden for power supply.

3
4 As shown on Exhibit A-4 (JGG-4), the UMER System supplied MWh (line 13) were
5 calculated by adding the total forecasted UMER System generation and purchases MWh (lines
6 10-11), and subtracting the opportunity sales (line 12), which include sales to Tilden.

7
8 The average PSCR System cost per MWh (line 14) was then determined by dividing the
9 UMER System PSCR System Costs (line 8) by the UMER System supplied MWh (line 13).

10
11 **Q. How was the PSCR factor determined for the UMER WEPCo Rate Zone?**

12 A. The PSCR System cost per MWh of \$36.23/MWh, shown on Exhibit A-4 (JGG-4), line
13 14, was multiplied by the WEPCo Rate Zone loss factor of 1.04 (line 18), to determine
14 the PSCR cost of \$37.68/ MWh on sales (line 19). The WEPCo Rate Zone PSCR costs
15 (line 21) were determined by multiplying the PSCR cost per MWh of \$37.68/ MWh on
16 sales (line 19) times the WEPCo Rate Zone Sales (line 20). The PSCR cost per MWh on
17 sales of \$37.68/MWh (line 19), was then compared to the PSCR cost per MWh in base
18 rates of \$45.47/MWh (line 23), with the difference of (\$7.79)/MWh being the PSCR
19 factor (line 24) needed to adjust base rates to recover the forecasted PSCR System costs.
20 Adding the forecasted 2020 PSCR over/under-recovery factor (line 25) of zero to the
21 2021 PSCR factor of (\$7.79)/MWh (line 24) resulted in the combined 2021 PSCR factor
22 of (\$7.79)/MWh (line 26).

23

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 **Q. What is the proposed PSCR factor for 2021 for UMERC's WEPCo Rate Zone?**

2 A. As shown on Exhibit A-4 (JGG-4), line 26, the 2021 PSCR factor for the WEPCo Rate
3 Zone is negative \$7.79/MWh or (\$7.79)/MWh. UMERC proposes to apply this factor to
4 retail electric sales in the WEPCo Rate Zone for each month of the plan year of 2021.

5

6 **Q. How was the PSCR factor determined for the UMERC WPSC Rate Zone?**

7 A. The PSCR System cost per MWh of \$36.23/MWh, shown on Exhibit A-4 (JGG-4), line
8 14 was multiplied by the WPSC Rate Zone loss factor of 1.0276 (line 30), to determine
9 the PSCR cost per MWh of \$37.23/ MWh on sales (line 31). The WPSC Rate Zone
10 PSCR costs (line 33) was determined by multiplying the PSCR cost per MWh of \$37.23/
11 MWh on sales (line 31) times the WPSC Rate Zone Sales (line 32). The PSCR cost per
12 MWh on sales of \$37.23/MWh (line 31), was then compared to the PSCR cost per MWh
13 in base rates of \$40.52/MWh (line 35), with the difference of (\$3.29)/MWh being the
14 PSCR factor (line 36) needed to adjust base rates to recover the forecasted PSCR System
15 costs. Adding the forecasted 2020 PSCR over/under-recovery factor (line 37) of zero to
16 the 2021 PSCR factor of (\$3.29)/MWh (line 36) resulted in the combined 2021 PSCR
17 factor of (\$3.29)/MWh (line 38).

18

19 **Q. What is the proposed PSCR factor for 2021 for UMERC's WPSC Rate Zone?**

20 A. As shown on Exhibit A-4 (JGG-4), line 38, the proposed 2021 PSCR factor for the
21 WPSC Rate Zone is negative \$3.29/MWh or (\$3.29)/MWh. UMERC proposes to apply
22 this factor to retail electric sales in the WPSC Rate Zone for each month of the plan year
23 of 2021.

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 **Q. Please describe Exhibit A-5 (JGG-5).**

2 A. Exhibit A-5 (JGG-5) shows the forecasted UMEREC System Power Supply costs (line 9)
3 broken down by Mihm fuel costs (line 1), Kuester fuel costs (line 2), MISO market
4 purchased power costs (line 3), MISO market other charges and credits (line 4), ATC and
5 MISO transmission charges (line 5), MISO ASM revenue (line 6), Renewable Energy
6 revenue (line 7), and opportunity sales (line 8), which include Tilden sales, for the years
7 2021 through 2025. Line 15 shows the associated forecasted UMEREC System MWh,
8 made up of Mihm generation (line 11), Kuester generation (line 12), MISO purchased
9 power (line 13), and less opportunity sales (line 14), which include Tilden sales, for the
10 years 2021 through 2025. The resulting average costs per MWh are shown for Mihm
11 generation (line 17), Kuester generation (line 18), MISO market purchases (line 19),
12 opportunity sales (line 20), and the overall PSCR system cost per MWh on the net MWh
13 supplied (line 21) for the years 2021 through 2025.

14
15 Exhibit A-5 (JGG-5), lines 24-28, show the determination of the UMEREC WEPCo Rate
16 Zone PSCR cost per MWh (line 26), multiplied by the UMEREC WEPCo Rate Zone sales
17 (line 27), and the resulting UMEREC WEPCo Rate Zone PSCR costs (line 28) for the
18 years 2021 through 2025.

19
20 Exhibit A-5 (JGG-5), lines 31-35, show the determination of the UMEREC WPSC Rate
21 Zone PSCR cost per MWh (line 33), multiplied by the UMEREC WPSC Rate Zone sales
22 (line 34), and the resulting UMEREC WPSC Rate Zone PSCR costs (line 35) for the years
23 2021 through 2025.

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

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Q. Please describe Exhibit A-6 (JGG-6).

A. Exhibit A-6 (JGG-6) shows the comparison of power supply costs approved in the UMERC 2020 PSCR Plan to the forecasted power supply costs included in this 2021 PSCR Plan filing. For both the 2020 and 2021 PSCR Plans, all power supply for UMERC was forecasted to be from its owned generation and the MISO market and ATC.

The 2021 costs per MWh for generation from the Mihm and Kuester generating units are higher than 2020, primarily due to forecasted higher prices for natural gas. According to the U.S. Energy Information Administration, natural gas prices are forecasted to be higher due to increased use of natural gas-fired electric generation, increasing demand for LNG exports, and lower natural gas production.

The 2021 cost per MWh for MISO purchased power is higher than 2020, mainly due to higher forecasted Locational Marginal Prices (“LMP”), which are reflective of the higher prices for natural gas.

The 2021 revenue per MWh for the opportunity sales is higher than 2020, due to recovery of forecasted higher transmission and natural gas costs for generation.

As shown on line 22 of Exhibit A-6 (JGG-6), the forecasted average UMERC PSCR System cost for 2021 is \$36.23/MWh as compared to the 2020 PSCR cost of \$39.82/MWh, which is \$3.59/MWh lower. This is primarily due to forecasted higher

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 credits from the MISO market for Ancillary Services, lower transmission charges from
2 the ATC, and higher revenue for opportunity sales, including sales to the Mines.

3
4 **Q. Please describe Exhibit A-7 (JGG-7).**

5 A. Exhibit A-7 (JGG-7), page 1 of 2 is the PSCR schedule Sheet No. D-3.00 of UMERC's
6 Michigan rate book for the WEPCo Rate Zone revised to reflect the proposed 2021 PSCR
7 credit factor of (\$0.00779) per kilowatt-hour and an estimate of the Prior Period PSCR
8 reconciliation factor of \$0.00000 per kilowatt-hour. Exhibit A-7 (JGG-7) also shows the
9 sum of the 2021 PSCR Plan factor and the Prior Period PSCR over/under-recovery factor,
10 for a proposed PSCR negative factor of (\$0.00779) per kilowatt-hour to be applied for all
11 billing months during 2021.

12 Page 2 of 2 is the PSCR schedule Sheet No. D-100.00 of UMERC's Michigan rate book
13 for the WPSC Rate Zone revised to reflect the proposed 2021 PSCR factor of a credit of
14 (\$0.00329) per kilowatt-hour and an estimate of the Prior Period PSCR reconciliation
15 factor of \$0.00000 per kilowatt-hour. Exhibit A-7 (JGG-7) page 2 of 2 also shows the
16 sum of the 2021 PSCR Plan factor and the Prior Period PSCR over/under-recovery factor,
17 for a proposed PSCR credit factor of (\$0.00329) per kilowatt-hour to be applied for all
18 billing months during 2021.

19
20 **UMERC UP GENERATION**

21 **Q. Please describe UMERC's owned UP generation currently operating in the UP.**

22 A. UMERC is currently operating reciprocating internal combustion engines ("RICE") as

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 natural gas-fired generation at the following two facilities in the UP: (i) the Kuester
2 Power Plant, with seven generators each with a capacity of 18 MW, and (ii) the Mihm
3 Power Plant, with three generators each with a capacity of 18 MW.

4
5 **Q. How is UMERC recovering the PSCR costs related to its RICE generation and its**
6 **participation in the MISO Market and the ATC for power supply and transmission**
7 **services?**

8 A. As is typical, fuel costs relating to the RICE generation, costs for participation in the
9 MISO, and transmission costs relating to ATC are being recovered from the WEPCo Rate
10 Zone and WPSC Rate Zone customers via the PSCR mechanism.

11
12 **Q. Please provide a general overview of the Special Contract between UMERC and**
13 **Tilden, and describe its impact on the PSCR case.**

14 A. As a customer of the Company, Tilden is paying UMERC for fuel costs to operate the
15 RICE units for its load, purchases and sales of power from MISO for its load, and
16 transmission costs for transmission services for its load, per the terms of the approved
17 Tilden Special Contract. UMERC credits the monthly revenues billed by the Company to
18 Tilden for energy and transmission to the total UMERC PSCR fuel, purchased power,
19 MISO and ATC costs.

20
21 **Q. Please continue.**

22 A. The total UMERC generation and purchases MWh are reduced by the opportunity sales
23 including the Tilden load requirements, resulting in the UMERC WEPCo and WPSC

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 Rate Zone load requirements. The PSCR cost per MWh are determined by dividing the
2 remaining PSCR cost by the UMERL WEPCo and WPSC Rate Zone load requirements.
3 Both Rate Zones are charged the same PSCR cost per MWh. However, as discussed
4 earlier, the WEPCo Rate Zone loss factor of 1.04 is applied to the PSCR cost per MWh
5 and is compared to the PSCR Base of \$45.47/MWh to determine the WEPCo Rate Zone
6 PSCR factor. For the WPSC Rate Zone, the loss factor of 1.0276 is applied to the PSCR
7 cost per MWh and is compared to the PSCR Base of \$40.52/MWh to determine the
8 WPSC Rate Zone PSCR factor.

9
10 **Q. What is the Company's forecast for natural gas costs in 2021?**

11 A. The Company forecasts natural gas costs in 2021 at \$2.86/MBtu, for a total estimated
12 cost of approximately \$19 million for operating the RICE units in 2021. Price estimates
13 were based upon the July 29, 2020 closing NYMEX natural gas futures price. The
14 forecasted natural gas costs are based on the forecasted natural gas prices and the
15 resulting economic dispatch of the Kuester and Mihm generating units in the MISO
16 Market as described later in this testimony.

17
18 **Q. How is the Company procuring natural gas for generation at its facilities?**

19 A. UMERL employs a mix of supply options when operationally and economically feasible:
20 (1) Term supplies, which are supplies for longer than one month and priced at an index,
21 (2) first of the month ("FOM") base-load supplies, priced at an index, and (3) daily
22 purchases, which may be priced at an index or fixed price. In addition, UMERL
23 considers asset management agreements if they can be negotiated with reasonable terms

DIRECT TESTIMONY AND EXHIBITS OF
JOHN G. GUNTLLISBERGEN

1 to supply the RICE units. The Company does not currently have any asset management
2 agreements in place at this time for 2021.

3

4 **Q. Please describe the Company's pipeline transportation assets.**

5 A. The Company has firm transportation contracts with Northern Natural Gas Pipeline
6 ("NNG") with a daily capacity of 24,610 Dth and a reservation rate of \$0.48/dth/day.

7 The firm transportation contracts are for a 20 year term beginning on November 1, 2019.

8 These contracts were approved by FERC and include reservation fees and a NNG

9 approved tariff gas transportation rate. UMERC contracts for capacity on the release

10 market to support the units. Contracting for capacity in the release market is dependent

11 on what the market is bearing at the time of the contract. At this time, UMERC plans to

12 evaluate its needs on a month to month basis in 2021 and acquire additional capacity

13 when appropriate.

14

15 **Q. Please describe the Company's pipeline balancing services.**

16 A. The Company has a contract for System Management Service ("SMS") with NNG for

17 4,000 dth/day. The contract is at tariff rates for a five year term commencing November

18 1, 2019.

19

20 **Q. Please explain why the Company contracts for firm transport from the pipelines.**

21 A. The interstate pipelines serving the UMERC area has much of its firm transportation

22 capacity sold and allocated to the various shippers for multiple years. During severe or

23 colder-than-normal weather consumption increases dramatically for many and it is likely

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1 that contracted firm transportation capacity will be fully utilized. Unlike firm
2 transportation, released capacity or interruptible capacity is typically subject to recall
3 under such conditions, therefore any supplier relying on interruptible or released capacity
4 would likely be unable to deliver its supply to the Company's service territory. The
5 Company secures firm transportation capacity to provide reliable transportation of
6 supply, rather than relying on interruptible or released capacity, which may be potentially
7 cheaper but which also carries the risk of being unavailable when it is most needed.

8
9 **Q. Does UMERG have base contracts in place with any counterparties??**

10 A. Yes, UMERG has 20 North American Energy Standards Board base contracts ("NAESB
11 agreements") in place and is actively in negotiations with additional counterparties. These
12 contracts are standard in the natural gas industry and put the governing terms of
13 transactions in place so that natural gas supply deals can be done more expediently when
14 natural gas supplies are needed. The Company does not currently have any natural gas
15 supply contracted for in 2021 under these NAESB agreements.

16
17 **Q. Will the Company utilize a risk management hedging program in order to mitigate
18 and protect against price spikes in its natural gas procurement plans?**

19 A. No. Since Tilden is expected to be responsible for a significant portion of the cost of
20 natural gas used as fuel for the RICE units, the Company does not expect to utilize a risk
21 management hedging program at this time. Therefore no costs for a risk management
22 hedging program have been included in this PSCR Plan filing. The PSCR customers have
23 minimal exposure to natural gas prices related to the RICE units.

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1 **MISO ENERGY MARKET TRANSACTIONS**

2 **Q. How were the generation and cost projections developed from the sales forecasts?**

3 A. The Company used the PROMOD security-constrained production cost model to project
4 how its generating resources could be utilized economically and reliably under the MISO
5 dispatch given the generating unit operating characteristics, fuel costs, planned outage
6 schedules, and transmission availability. The PROMOD scheduling simulation is, in
7 turn, used to estimate fuel costs, generator revenue and associated margin, projected
8 LMPs, and the cost of hourly net energy purchases from and sales to MISO. The use of
9 PROMOD has been accepted in past Michigan PSCR and Wisconsin fuel cases. The
10 Company believes that PROMOD provides a reasonable projection of unit utilization
11 within its modeling footprint.

12

13 **Q. Please describe how the Company operates in the MISO market on an actual basis.**

14 A. The Company's Power Traders in the Wholesale Energy and Fuels Department forecast
15 Day-Ahead and Real-Time system loads, evaluate generation availability and market
16 opportunities, and develop generation resource offers and demand bids to reliably meet,
17 at minimal system costs, the real time electric load requirements of the Company.

18

19 **Q. How do the Power Traders project what load conditions will occur over the next 24-**
20 **hour period?**

21 A. The Power Traders use a variety of load-forecasting programs that integrate forecasted
22 weather and historic data and simulate and calculate the various factors and conditions
23 which affect load levels. The programs produce hour-by-hour projections of system load

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1 levels for the next seven days. The Power Traders develop load forecasts using the
2 output of these programs along with adjustments based on current conditions, weather
3 expectations and experience.

4
5 **Q. Please describe how the energy forecasts are utilized in the MISO Market and the**
6 **role these transactions play in UMEREC's overall cost of power supply.**

7 A. Under the MISO Energy Market, the Company is required to offer all available
8 generation into both Day-Ahead and Real-Time energy and operating reserve markets
9 and bid its load into the Day-Ahead market. MISO pays the Company for energy
10 generated and operating reserves carried at the hourly LMP for each product, and charges
11 the Company hourly for energy consumed at each load node. The MISO financial
12 settlement for each operating day nets these payments and charges along with other
13 charges and credits. The net of hourly generation revenue and load cost represents short-
14 term energy purchases or sales within the MISO energy market.

15
16 **Q. How do the Power Traders minimize the cost of meeting electric load requirements?**

17 A. This is done by effectively and continuously assessing and utilizing available resources,
18 including company-owned assets, load assets, MISO energy market transactions, virtual
19 bids and offers, transmission resources, and load management programs. The Power
20 Traders are supported by sophisticated computer hardware and software programs that
21 produce updated generator offer price matrices using recent fuel cost data and perform
22 analyses on large amounts of market operations data. These programs consider such
23 factors as unit heat rates, unit fuel costs, ramp rates, maximum and minimum operating

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1 levels, and historic market operations data. Power Traders use these programs and tools
2 to create demand bids in the UMER C load zone and develop and adjust generation
3 resource offers for each generator owned by UMER C. This information is submitted to
4 the MISO Market, a bid/offer-based energy market, using security constrained economic
5 dispatch, to produce LMPs for the MISO market footprint.

6
7 **Q. You have described how the Power Traders plan for the Day-Ahead operation. How**
8 **do they operate in the Real-Time?**

9 A. The Power Traders monitor current and projected generation status, load, and market
10 conditions, along with the operating plan represented by the Day-Ahead schedule,
11 modifying resource offers or, in some cases, utilizing load management programs as
12 necessary to minimize the overall cost to serve load. Aided by the computerized,
13 automatic generation control system, the Power Traders work with Electric System
14 Operations personnel to schedule the generating units both on- and off-line according to
15 actual and anticipated MISO energy market results. In response to increases and
16 decreases in load, and changes in the MISO generator set point instructions, the
17 automatic generation control system adjusts loading on generating units consistent with
18 the MISO energy market and reliability standards in order to achieve minimum system
19 production costs while maintaining the reliability of the electric power grid.

20
21 **Q. Is it your evaluation that the Company's decisions to provide power supply in the**
22 **manner described in your testimony are reasonable and prudent?**

23 A. Yes, in my opinion such decisions are reasonable and prudent.

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Q. What is the Company’s projection for the net of MISO generation revenue and load cost for 2021?

A. Exhibit A-4 (JGG-4) provides the Company’s fuel run, which is a forecast of generation and energy market transactions necessary to meet the load requirements of its customers. As mentioned earlier in my testimony, the fuel run is developed using the PROMOD security-constrained production cost model. This exhibit shows how much generation will be required by MISO plus how much additional energy the Company will purchase from MISO at market prices in order to meet the forecasted load requirements.

Q. Please describe any other impacts on power supply costs related to the MISO Energy Market in the PSCR plan.

A. In addition to energy transactions (sales and purchases) with MISO, other MISO costs and revenues associated with operating in the energy and Ancillary Service Market (“ASM”) are included in Exhibit A-4 (JGG-4). Those elements include Day-Ahead and Real-Time Revenue Sufficiency Guarantee (“RSG”) uplift charges and Make-Whole Payment (“MWP”) revenues, Financial Transmission Rights (“FTR”) and Auction Revenue Rights (“ARR”) sales revenues, and ASM charges and revenues, to name a few.

Q. How were the FTR and MWP revenues determined?

A. FTR and MWP revenues are calculated based upon the specific hourly congestion and dispatch predicted by the PROMOD model. This ensures that the same transmission topology and transmission events used to calculate the plan year dispatch and pricing are

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1 used to value the FTR and MWP revenues. It also matches the LMPs used to calculate
2 generator revenue and load costs to the LMPs used to calculate the plan year FTR and
3 MWP revenues. Specifically, the marginal congestion component of the hourly LMPs
4 calculated in the PROMOD dispatch forecast is used to determine the value of each
5 specific FTR path. Applying the estimated value of each specific FTR path to the actual
6 FTR quantities obtained in the most recent FTR auction provides the total FTR revenue
7 estimate for the test year. For units offered as economic, MWP revenues are assumed to
8 be realized for any dispatch hours in which the unit cost exceeds the hourly LMP.

9
10 **Q. Does UMERC purchase any power supply from customer owned generation?**

11 A. Yes. UMERC purchases a small amount of its power supply from customer owned
12 generation under customer owned generation and parallel generation tariffs.

13
14 **TRANSMISSION COSTS**

15 **Q. What amount has UMERC included in the 2021 PSCR Plan for MISO and ATC**
16 **transmission services?**

17 A. As shown on line 4 of Exhibit A-4 (JGG-4), UMERC has included \$19.6 million of
18 transmission costs in the 2021 PSCR Plan. The total transmission costs include \$12.8
19 million of network transmission costs and \$6.8 million of non-network transmission
20 costs.

21
22 **Q. Will UMERC make any firm sales to out-of-state customers?**

23 A. No.

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1 **Q. Do the amounts of projected power supply costs include any items of cost that the**
2 **Commission could reasonably anticipate disallowing under Section 6j(13) of Act**
3 **304?**

4 A. No.

5

6 **Q. What is your evaluation of the reasonableness and prudence of UMERC's proposed**
7 **2021 PSCR plan?**

8 A. I believe that UMERC's 2021 PSCR plan is reasonable and prudent. I base this
9 conclusion on sources of capacity and energy that will be available to UMERC in 2021
10 and on my knowledge of UMERC's actions to meet its power supply requirements and to
11 manage its power supply costs.

12

13 **Q. Does this conclude your direct testimony at this time?**

14 A. Yes it does.

**Upper Michigan Energy Resources Corporation
 Monthly PSCR Sales
 2021 (MWhs)**

Line
 No.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Total</u>
1 WEPCO Rate Zone													
2													
3 Residential	15,992	14,358	13,389	12,502	11,871	12,198	14,237	12,251	11,267	11,641	15,624	16,285	161,614
4 Small Commercial & Industrial	8,832	7,658	8,267	8,148	8,118	7,909	8,803	8,334	8,062	7,823	8,196	7,935	98,085
5 Large Commercial & Industrial	7,782	6,747	7,284	7,179	7,152	6,968	7,756	7,343	7,104	6,893	7,221	6,992	86,422
6 Street Lighting	191	202	207	186	204	177	193	204	162	229	175	192	2,322
7 Michigan Retail Requirement Sales	<u>32,797</u>	<u>28,965</u>	<u>29,147</u>	<u>28,015</u>	<u>27,344</u>	<u>27,252</u>	<u>30,988</u>	<u>28,132</u>	<u>26,594</u>	<u>26,586</u>	<u>31,217</u>	<u>31,404</u>	<u>348,442</u>
8 Distribution Losses	<u>1,275</u>	<u>1,131</u>	<u>1,117</u>	<u>1,066</u>	<u>1,034</u>	<u>1,038</u>	<u>1,187</u>	<u>1,065</u>	<u>1,000</u>	<u>1,008</u>	<u>1,221</u>	<u>1,240</u>	<u>13,384</u>
9 Michigan Retail Sales with Losses	<u>34,071</u>	<u>30,097</u>	<u>30,264</u>	<u>29,081</u>	<u>28,379</u>	<u>28,290</u>	<u>32,176</u>	<u>29,197</u>	<u>27,594</u>	<u>27,594</u>	<u>32,438</u>	<u>32,644</u>	<u>361,826</u>
10													
11 WPSC Rate Zone													
12													
13 Residential	7,001	5,693	5,577	5,187	4,838	4,464	6,958	6,496	5,096	4,096	5,957	6,695	68,057
14 Small Commercial & Industrial	2,235	2,148	2,266	2,223	2,171	2,254	2,217	2,373	2,295	2,021	2,089	2,276	26,568
15 Large Commercial & Industrial	14,456	13,890	14,652	14,374	14,038	14,577	14,340	15,346	14,840	13,072	13,511	14,716	171,812
16 Street Lighting	80	64	63	52	47	42	45	51	57	66	71	78	716
17 Michigan Retail Requirement Sales	<u>23,772</u>	<u>21,795</u>	<u>22,558</u>	<u>21,835</u>	<u>21,095</u>	<u>21,337</u>	<u>23,560</u>	<u>24,266</u>	<u>22,287</u>	<u>19,256</u>	<u>21,628</u>	<u>23,765</u>	<u>267,154</u>
18 Distribution Losses	<u>915</u>	<u>839</u>	<u>868</u>	<u>841</u>	<u>812</u>	<u>821</u>	<u>907</u>	<u>934</u>	<u>858</u>	<u>741</u>	<u>833</u>	<u>915</u>	<u>10,285</u>
19 Michigan Retail Sales with Losses	<u>24,687</u>	<u>22,634</u>	<u>23,426</u>	<u>22,676</u>	<u>21,907</u>	<u>22,158</u>	<u>24,467</u>	<u>25,200</u>	<u>23,145</u>	<u>19,997</u>	<u>22,461</u>	<u>24,680</u>	<u>277,439</u>
20													
21 Company Use	37	34	35	34	32	33	32	32	29	30	32	32	392
22 UMERC PSCR System Requirements	<u>58,796</u>	<u>52,764</u>	<u>53,725</u>	<u>51,791</u>	<u>50,318</u>	<u>50,482</u>	<u>56,675</u>	<u>54,429</u>	<u>50,768</u>	<u>47,621</u>	<u>54,932</u>	<u>57,356</u>	<u>639,657</u>

**Upper Michigan Energy Resources Corporation
 Annual PSCR Sales
 2021-2025 (MWhs)**

Line
 No.

WEPCO Rate Zone					
	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
1					
2					
3 Residential	161,614	161,614	161,614	161,614	161,614
4 General Secondary	98,085	98,085	97,594	97,106	96,621
5 General Primary	86,422	86,422	86,422	86,422	86,422
6 Public Authority	2,322	2,317	2,313	2,308	2,303
7 Michigan Retail Requirement Sales	<u>348,442</u>	<u>348,438</u>	<u>347,942</u>	<u>347,450</u>	<u>346,960</u>
8 Distribution Losses	<u>13,384</u>	<u>13,383</u>	<u>13,363</u>	<u>13,342</u>	<u>13,322</u>
9 Michigan Retail Sales with Losses	<u>361,826</u>	<u>361,821</u>	<u>361,305</u>	<u>360,792</u>	<u>360,281</u>
10					
WPSC Rate Zone					
	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
12					
13 Residential	68,057	68,057	68,057	68,057	68,057
14 Small Commercial & Industrial	26,568	26,568	26,435	26,303	26,172
15 Large Commercial & Industrial	171,812	171,812	171,812	171,812	171,812
16 Street Lighting	716	715	714	712	711
17 Michigan Retail Requirement Sales	<u>267,154</u>	<u>267,153</u>	<u>267,019</u>	<u>266,885</u>	<u>266,752</u>
18 Distribution Losses	<u>10,285</u>	<u>10,285</u>	<u>10,280</u>	<u>10,274</u>	<u>10,269</u>
19 Michigan Retail Sales with Losses	<u>277,439</u>	<u>277,438</u>	<u>277,298</u>	<u>277,159</u>	<u>277,021</u>
20					
21 Company Use	392	392	392	392	392
22 UMERC PSCR System Requirements	<u>639,657</u>	<u>639,650</u>	<u>638,995</u>	<u>638,343</u>	<u>637,694</u>

Upper Michigan Energy Resources Corporation
 WEPCO Rate Zone
 Estimated Prior Year's PSCR True-up

Line No.	Actual 2019 Balance	Actual 2020 Jan	Actual 2020 Feb	Actual 2020 Mar	Actual 2020 Apr	Actual 2020 May	Actual 2020 Jun	Actual 2020 Jul	Forecast 2020 Aug	Forecast 2020 Sep	Forecast 2020 Oct	Forecast 2020 Nov	Forecast 2020 Dec	2020 TOTAL
2020 PSCR Reconciliation														
1	Sales Subject to PSCR Billed (Mwh)	35,467	27,989	29,295	26,588	22,514	28,624	31,537	31,517	24,885	29,063	23,541	28,367	339,386
2	Unbilled Sales Subject to PSCR (Mwh)	18,003	18,144	17,559	14,701	19,263	18,993	20,394	16,033	15,994	13,641	19,046	21,248	213,019
3	Unbilled Prior Month Sales Subject to PSCR (Mwh)	(21,248)	(18,003)	(18,144)	(17,559)	(14,701)	(19,263)	(18,993)	(20,394)	(16,033)	(15,994)	(13,641)	(19,046)	(213,019)
4	Sales Subject to PSCR Calendar (Mwh)	32,222	28,130	28,710	23,730	27,076	28,354	32,938	27,156	24,846	26,710	28,946	30,569	339,386
5														
6	Fuel Base Incl. Losses (Mills/kwh)	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47	45.47
7	PSCR Factor Applied (Mills/kwh)	(4.06)	(4.06)	(9.30)	(9.30)	(11.50)	(11.50)	(21.00)	(21.00)	(21.00)	(6.75)	(6.75)	(6.75)	(6.75)
8														
9	PSCR Revenue Billed (\$)	\$1,468,680	\$1,159,006	\$1,059,583	\$961,688	\$764,815	\$972,355	\$771,699	\$771,230	\$608,939	\$1,125,314	\$911,513	\$1,098,383	\$11,673,205
10	PSCR Revenue Unbilled Current Month	\$745,504	\$656,268	\$635,109	\$499,393	\$654,364	\$464,759	\$499,041	\$392,328	\$619,292	\$528,183	\$737,466	\$822,728	\$7,254,435
11	PSCR Revenue Unbilled Prior Month	(\$879,880)	(\$745,504)	(\$656,268)	(\$635,109)	(\$499,393)	(\$654,364)	(\$464,759)	(\$499,041)	(\$392,328)	(\$619,292)	(\$528,183)	(\$737,466)	(\$7,311,587)
12	Total PSCR Revenue (\$)	\$1,334,304	\$1,069,770	\$1,038,424	\$825,972	\$919,786	\$782,750	\$805,981	\$664,517	\$835,903	\$1,034,205	\$1,120,796	\$1,183,645	\$11,616,053
13														
14	PSCR Costs	\$2,095,884	\$1,969,120	\$1,827,614	\$1,507,923	\$1,400,750	\$1,547,050	\$2,169,756	\$1,643,180	\$1,706,221	\$1,714,378	\$2,112,193	\$2,417,453	\$22,111,522
15	PSCR Generation	62,113	56,291	56,778	49,546	47,261	48,097	59,992	54,322	50,519	47,512	54,709	57,188	644,327
16	PSCR Cost/Mwh on Generation	\$33.74	\$34.98	\$32.19	\$30.43	\$29.64	\$32.17	\$36.17	\$30.25	\$33.77	\$36.08	\$38.61	\$42.27	
17	PSCR Loss Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	
18	PSCR Cost/Mwh on Sales	\$35.09	\$36.38	\$33.48	\$31.65	\$30.82	\$33.45	\$37.61	\$31.46	\$35.13	\$37.53	\$40.15	\$43.96	
19														
20	UMERC - WEPCO Rate Zone Sales (Mwh)	32,222	28,130	28,710	23,730	27,076	28,354	32,938	27,156	24,846	26,710	28,946	30,569	339,386
21	UMERC - WEPCO Rate Zone PSCR Costs	\$1,130,663	\$1,023,354	\$961,195	\$751,055	\$834,495	\$948,439	\$1,238,780	\$854,340	\$872,844	\$1,002,414	\$1,162,182	\$1,343,819	\$12,123,580
22														
23	Over/(Under) Recovery (\$)	\$203,641	\$46,416	\$77,229	\$74,917	\$85,291	(\$165,689)	(\$432,799)	(\$189,823)	(\$36,941)	\$31,791	(\$41,386)	(\$160,174)	
24	Beginning Recovery Balance (\$)	\$458,504	\$458,504	\$662,145	\$708,561	\$785,790	\$860,707	\$945,998	\$780,309	\$347,510	\$157,687	\$120,746	\$152,537	\$111,151
25	Ending Recovery Balance (\$)		\$662,145	\$708,561	\$785,790	\$860,707	\$945,998	\$780,309	\$347,510	\$157,687	\$120,746	\$152,537	\$111,151	(\$49,023)
26	Average Recovery Balance (\$)		\$560,325	\$685,353	\$747,176	\$823,249	\$903,353	\$863,154	\$563,910	\$252,599	\$139,217	\$136,642	\$131,844	\$31,064
27														
28	Interest Rate Undercollection (%)	1.560%	1.550%	1.360%	0.470%	0.130%	0.120%	0.110%	0.110%	0.110%	0.110%	0.110%	0.110%	
29	Interest Rate Overcollection (%)	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	10.10%	
30	Days in Month	31	29	31	30	31	30	31	31	30	31	30	31	366
31	Monthly Interest (\$)	\$4,793	\$5,485	\$6,392	\$6,815	\$7,728	\$7,146	\$4,824	\$2,161	\$1,153	\$1,169	\$1,091	\$266	\$49,023
32	Interest Balance	\$4,793	\$10,278	\$16,670	\$23,485	\$31,213	\$38,359	\$43,183	\$45,344	\$46,497	\$47,666	\$48,757	\$49,023	
33														
34	Ending Recovery Balance & Interest	\$666,938	\$718,839	\$802,460	\$884,192	\$977,211	\$818,668	\$390,693	\$203,031	\$167,243	\$200,203	\$159,908	\$0	

Upper Michigan Energy Resources Corporation
 WPSC Rate Zone
 Estimated Prior Year's PSCR True-up

Line No.	Actual 2019 Balance	Actual 2020 Jan	Actual 2020 Feb	Actual 2020 Mar	Actual 2020 Apr	Actual 2020 May	Actual 2020 Jun	Actual 2020 Jul	Actual 2020 Aug	Forecast 2020 Sep	Forecast 2020 Oct	Forecast 2020 Nov	Forecast 2020 Dec	2020 TOTAL
1		24,586	22,016	23,725	21,682	18,198	18,676	19,840	22,826	20,849	21,201	21,140	24,325	259,064
2		5,548	5,606	5,657	5,378	5,501	5,747	6,914	5,430	4,858	4,165	5,078	5,781	65,663
3		(5,781)	(5,548)	(5,606)	(5,657)	(5,378)	(5,501)	(5,747)	(5,569)	(5,430)	(4,858)	(4,165)	(5,078)	(64,319)
4		24,353	22,074	23,777	21,403	18,321	18,922	21,007	22,687	20,277	20,507	22,053	25,027	260,408
5														
6		40.52	40.52	40.52	40.52	40.52	40.52	40.52	40.52	40.52	40.52	40.52	40.52	40.52
7		0.40	0.40	(4.40)	(4.40)	(6.60)	(6.60)	(14.00)	(14.00)	(14.00)	(3.85)	(3.85)	(3.85)	(3.85)
8														
9		\$1,006,051	\$900,887	\$856,958	\$783,170	\$617,291	\$633,479	\$526,157	\$605,333	\$552,913	\$777,462	\$775,219	\$892,026	\$8,926,946
10		\$227,004	\$202,482	\$204,343	\$182,430	\$186,584	\$152,410	\$183,350	\$144,015	\$178,164	\$152,729	\$186,232	\$211,985	\$2,211,728
11		(\$236,546)	(\$227,004)	(\$202,482)	(\$204,343)	(\$182,430)	(\$186,584)	(\$152,410)	(\$147,701)	(\$144,015)	(\$178,164)	(\$152,729)	(\$186,232)	(\$2,200,640)
12		\$996,509	\$876,365	\$858,819	\$761,257	\$621,445	\$599,305	\$557,097	\$601,647	\$587,062	\$752,027	\$808,722	\$917,779	\$8,938,034
13														
14		\$2,095,884	\$1,969,120	\$1,827,614	\$1,507,923	\$1,400,750	\$1,547,050	\$2,169,756	\$1,643,180	\$1,706,221	\$1,714,378	\$2,112,193	\$2,417,453	\$22,111,522
15		62,113	56,291	56,778	49,546	47,261	48,097	59,992	54,322	50,519	47,512	54,709	57,188	644,327
16		\$33.74	\$34.98	\$32.19	\$30.43	\$29.64	\$32.17	\$36.17	\$30.25	\$33.77	\$36.08	\$38.61	\$42.27	
17		1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	
18		\$34.67	\$35.95	\$33.08	\$31.27	\$30.46	\$33.05	\$37.17	\$31.08	\$34.71	\$37.08	\$39.67	\$43.44	
19														
20		24,353	22,074	23,777	21,403	18,321	18,922	21,007	22,687	20,277	20,507	22,053	25,027	260,408
21		\$844,304	\$793,565	\$786,537	\$669,283	\$558,055	\$625,369	\$780,819	\$705,099	\$703,811	\$760,410	\$874,856	\$1,087,184	\$9,189,292
22														
23		\$152,205	\$82,800	\$72,282	\$91,974	\$63,390	(\$26,064)	(\$223,722)	(\$103,452)	(\$116,749)	(\$8,383)	(\$66,134)	(\$169,405)	(\$251,258)
24		\$211,959	\$364,164	\$446,964	\$519,246	\$611,220	\$674,610	\$648,546	\$424,824	\$321,372	\$204,623	\$196,240	\$130,106	
25		\$364,164	\$446,964	\$519,246	\$611,220	\$674,610	\$648,546	\$424,824	\$321,372	\$204,623	\$196,240	\$130,106	(\$39,299)	
26		\$288,062	\$405,564	\$483,105	\$565,233	\$642,915	\$661,578	\$536,685	\$373,098	\$262,998	\$200,432	\$163,173	\$45,404	
27														
28		1.560%	1.550%	1.360%	0.470%	0.130%	0.120%	0.110%	0.110%	0.110%	0.110%	0.110%	0.110%	
29		10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	10.20%	
30		31	29	31	30	31	30	31	31	30	31	30	31	366
31		\$2,489	\$3,278	\$4,174	\$4,726	\$5,554	\$5,531	\$4,637	\$3,223	\$2,199	\$1,732	\$1,364	\$392	\$39,299
32		\$2,489	\$5,767	\$9,941	\$14,667	\$20,221	\$25,752	\$30,389	\$33,612	\$35,811	\$37,543	\$38,907	\$39,299	
33														
34		\$366,653	\$452,731	\$529,187	\$625,887	\$694,831	\$674,298	\$455,213	\$354,984	\$240,434	\$233,783	\$169,013	\$0	

Upper Michigan Energy Resources Corporation
 Development of 2021 Power Supply Cost Recovery Factors

Line No.		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
UMERC Power Supply															
1	UMERC Fuel Costs	\$1,669,882	\$1,449,011	\$1,291,885	\$1,392,600	\$1,305,758	\$1,532,479	\$1,977,734	\$1,955,077	\$1,459,226	\$1,530,122	\$1,426,485	\$1,984,042	\$18,974,301	
2	MISO Market Purchases Cost	\$3,607,667	\$3,418,293	\$3,428,233	\$2,615,202	\$2,712,712	\$2,537,254	\$2,390,082	\$1,623,338	\$2,375,971	\$2,510,105	\$3,104,170	\$3,176,142	\$33,499,169	
3	MISO Market Other Charges & Credits	(\$334,218)	(\$211,500)	(\$196,230)	(\$221,122)	(\$227,737)	(\$219,825)	(\$151,618)	(\$176,183)	(\$192,927)	(\$194,009)	(\$201,353)	(\$238,653)	(\$2,565,376)	
4	ATC & MISO Transmission Charges	\$1,648,951	\$1,624,929	\$1,643,181	\$1,618,714	\$1,645,250	\$1,636,611	\$1,648,539	\$1,590,925	\$1,610,658	\$1,627,426	\$1,645,489	\$1,655,239	\$19,595,911	
5	MISO ASM Revenue	(\$50,816)	(\$43,549)	(\$48,688)	(\$148,795)	(\$254,333)	(\$134,401)	(\$69,214)	(\$100,252)	(\$154,565)	(\$208,279)	(\$199,999)	(\$167,352)	(\$1,580,243)	
6	Renewable Energy Revenue	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$714)	(\$8,573)	
7	Opportunity Sales	(\$4,226,321)	(\$4,061,488)	(\$4,023,271)	(\$3,413,372)	(\$3,591,431)	(\$3,633,535)	(\$3,695,522)	(\$2,932,317)	(\$3,315,062)	(\$3,688,025)	(\$3,869,131)	(\$4,293,475)	(\$44,742,699)	
8	UMERC PSCR System Costs	\$2,314,431	\$2,174,982	\$2,094,396	\$1,842,514	\$1,589,504	\$1,717,867	\$2,099,535	\$1,959,873	\$1,782,586	\$1,576,626	\$1,904,948	\$2,115,227	\$23,172,490	
9															
10	UMERC Generation (MWh)	34,365	28,194	31,927	44,952	41,930	54,061	74,324	72,958	49,781	52,172	41,243	54,247	580,154	
11	MISO Purchased Power (MWh)	136,502	130,427	136,645	110,266	125,886	108,257	93,823	66,118	100,594	106,810	125,222	118,001	1,358,550	
12	Opportunity Sales (MWh)	(112,071)	(105,857)	(114,848)	(103,427)	(117,498)	(111,836)	(111,472)	(84,647)	(99,607)	(111,360)	(111,533)	(114,892)	(1,299,047)	
13	PSCR System (MWh)	58,796	52,764	53,725	51,791	50,318	50,482	56,675	54,429	50,768	47,621	54,932	57,356	639,657	
14	UMERC PSCR System Cost (\$/MWh)	\$39.36	\$41.22	\$38.98	\$35.58	\$31.59	\$34.03	\$37.05	\$36.01	\$35.11	\$33.11	\$34.68	\$36.88	\$36.23	
15															
16	WEPCO Rate Zone														
17	PSCR Cost on Supplied (\$/MWh)	\$39.36	\$41.22	\$38.98	\$35.58	\$31.59	\$34.03	\$37.05	\$36.01	\$35.11	\$33.11	\$34.68	\$36.88	\$36.23	
18	Loss Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	
19	PSCR Cost on Sales (\$/MWh)	\$40.94	\$42.87	\$40.54	\$37.00	\$32.85	\$35.39	\$38.53	\$37.45	\$36.52	\$34.43	\$36.07	\$38.35	\$37.68	
20	UMERC WEPCO Rate Zone Sales (MWh)	32,797	28,965	29,147	28,015	27,344	27,252	30,988	28,132	26,594	26,586	31,217	31,404	348,442	
21	UMERC WEPCO Rate Zone PSCR Costs	\$1,342,639	\$1,241,733	\$1,181,694	\$1,036,533	\$898,345	\$964,472	\$1,193,897	\$1,053,499	\$971,149	\$915,404	\$1,125,863	\$1,204,452	\$13,127,739	
22	PSCR Cost on Sales (\$/MWh)	\$40.94	\$42.87	\$40.54	\$37.00	\$32.85	\$35.39	\$38.53	\$37.45	\$36.52	\$34.43	\$36.07	\$38.35	\$37.68	
23	PSCR Base	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	\$45.47	
24	2020 PSCR Factor	(\$4.53)	(\$2.60)	(\$4.93)	(\$8.47)	(\$12.62)	(\$10.08)	(\$6.94)	(\$8.02)	(\$8.95)	(\$11.04)	(\$9.40)	(\$7.12)	(\$7.79)	
25	PSCR Rate for 2019 Under/(Over)-recovery (\$/MWh)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
26	2020 PSCR Factor + 2019 Under/(Over)-recovery (\$/MWh)	(\$4.53)	(\$2.60)	(\$4.93)	(\$8.47)	(\$12.62)	(\$10.08)	(\$6.94)	(\$8.02)	(\$8.95)	(\$11.04)	(\$9.40)	(\$7.12)	(\$7.79)	
27															
28	WPSC Rate Zone														
29	PSCR Cost on Supplied (\$/MWh)	\$39.36	\$41.22	\$38.98	\$35.58	\$31.59	\$34.03	\$37.05	\$36.01	\$35.11	\$33.11	\$34.68	\$36.88	\$36.23	
30	Loss Factor	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	1.0276	
31	PSCR Cost on Sales (\$/MWh)	\$40.45	\$42.36	\$40.06	\$36.56	\$32.46	\$34.97	\$38.07	\$37.00	\$36.08	\$34.02	\$35.64	\$37.90	\$37.23	
32	UMERC WPSC Rate Zone Sales (MWh)	23,772	21,795	22,558	21,835	21,095	21,337	23,560	24,266	22,287	19,256	21,628	23,765	267,154	
33	UMERC WPSC Rate Zone PSCR Costs	\$961,580	\$923,181	\$903,662	\$798,246	\$684,761	\$746,130	\$896,889	\$897,881	\$804,157	\$655,117	\$770,739	\$900,615	\$9,945,166	
34	PSCR Cost on Sales (\$/MWh)	\$40.45	\$42.36	\$40.06	\$36.56	\$32.46	\$34.97	\$38.07	\$37.00	\$36.08	\$34.02	\$35.64	\$37.90	\$37.23	
35	PSCR Base	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	\$40.52	
36	2020 PSCR Factor	(\$0.07)	\$1.84	(\$0.46)	(\$3.96)	(\$8.06)	(\$5.55)	(\$2.45)	(\$3.52)	(\$4.44)	(\$6.50)	(\$4.88)	(\$2.62)	(\$3.29)	
37	PSCR Rate for 2019 Under/(Over)-recovery (\$/MWh)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
38	2020 PSCR Factor + 2019 Under/(Over)-recovery (\$/MWh)	(\$0.07)	\$1.84	(\$0.46)	(\$3.96)	(\$8.06)	(\$5.55)	(\$2.45)	(\$3.52)	(\$4.44)	(\$6.50)	(\$4.88)	(\$2.62)	(\$3.29)	

	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
UMERC System Power Supply					
1 Mihm Fuel Costs	\$5,296,438	\$5,830,593	\$6,638,586	\$6,760,586	\$8,746,966
2 Kuester Fuel Costs	\$13,677,862	\$15,022,453	\$16,911,330	\$17,151,893	\$21,731,471
3 MISO Market Purchases Cost	\$33,499,169	\$29,452,632	\$27,388,685	\$28,209,551	\$21,611,607
4 MISO Market Other Charges & Credits	(\$2,565,376)	(\$2,364,747)	(\$2,055,139)	(\$2,297,875)	(\$1,763,251)
5 ATC & MISO Transmission Charges	\$19,595,911	\$20,237,108	\$20,698,838	\$20,921,011	\$20,860,981
6 MISO ASM Revenue	(\$1,580,243)	(\$1,571,646)	(\$1,568,756)	(\$1,570,791)	(\$1,563,996)
7 Renewable Energy Revenue	(\$8,573)	(\$8,573)	(\$8,573)	(\$8,573)	(\$8,573)
8 Opportunity Sales	(\$44,742,699)	(\$44,192,852)	(\$44,593,537)	(\$45,047,312)	(\$45,438,591)
9 PSCR System Costs	\$23,172,490	\$22,404,968	\$23,411,434	\$24,118,490	\$24,176,614
10					
11 Mihm Generation (MWh)	153,552	191,027	228,228	231,067	316,355
12 Kuester Generation (MWh)	426,602	525,287	611,104	613,176	811,133
13 MISO Purchased Power (MWh)	1,358,550	1,222,316	1,098,673	1,093,177	809,556
14 Opportunity Sales (MWh)	(1,299,047)	(1,298,979)	(1,299,010)	(1,299,076)	(1,299,349)
15 PSCR System (MWh)	639,657	639,650	638,995	638,343	637,694
16					
17 Mihm Fuel Cost (\$/MWh)	\$34.49	\$30.52	\$29.09	\$29.26	\$27.65
18 Kuester Fuel Cost (\$/MWh)	\$32.06	\$28.60	\$27.67	\$27.97	\$26.79
19 MISO Market Purchases Cost (\$/MWh)	\$24.66	\$24.10	\$24.93	\$25.81	\$26.70
20 Opportunity Sales (\$/MWh)	\$34.44	\$34.02	\$34.33	\$34.68	\$34.97
21 PSCR System Cost on Supplied (\$/MWh)	\$36.23	\$35.03	\$36.64	\$37.78	\$37.91
22					
UMERC WEPCO Rate Zone					
23	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
24 PSCR System Cost on Supplied (\$/MWh)	\$36.23	\$35.03	\$36.64	\$37.78	\$37.91
25 Loss Factor	1.04	1.04	1.04	1.04	1.04
26 PSCR System Cost on Sales (\$/MWh)	\$37.68	\$36.43	\$38.10	\$39.29	\$39.43
27 Sales Supplied by UMERC System (MWh)	348,442	348,438	347,942	347,450	346,960
28 UMERC WEPCO Rate Zone PSCR System Costs	\$13,127,739	\$12,692,878	\$13,257,797	\$13,652,792	\$13,680,290
29					
UMERC WPSC Rate Zone					
30	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
31 PSCR System Cost on Supplied (\$/MWh)	\$36.23	\$35.03	\$36.64	\$37.78	\$37.91
32 Loss Factor	1.0276	1.0276	1.0276	1.0276	1.0276
33 PSCR System Cost on Sales (\$/MWh)	\$37.23	\$35.99	\$37.65	\$38.83	\$38.96
34 Sales Supplied by UMERC System (MWh)	267,154	267,153	267,019	266,885	266,752
35 UMERC WPSC Rate Zone PSCR System Costs	\$9,945,166	\$9,615,805	\$10,053,009	\$10,362,012	\$10,392,371

Upper Michigan Energy Resources Corporation
Power Supply Costs
PSCR Plan Cost Comparison

Line No.		2020	2021	
1	<u>UMERC System Power Supply</u>	<u>PSCR Plan</u>	<u>PSCR Plan</u>	<u>Difference</u>
2	Mihm Fuel Costs	\$6,687,861	\$5,296,438	(\$1,391,423)
3	Kuester Fuel Costs	\$16,791,201	\$13,677,862	(\$3,113,339)
4	MISO Market Purchases Cost	\$25,716,677	\$33,499,169	\$7,782,492
5	MISO Market Other Charges & Credits	(\$2,156,466)	(\$2,565,376)	(\$408,910)
6	ATC & MISO Transmission Charges	\$21,384,578	\$19,595,911	(\$1,788,667)
7	MISO ASM Revenue	(\$462,262)	(\$1,580,243)	(\$1,117,980)
8	Renewable Energy Revenue	(\$8,573)	(\$8,573)	\$0
9	Opportunity Sales	(\$42,496,692)	(\$44,742,699)	(\$2,246,007)
10	PSCR System Costs	\$25,456,324	\$23,172,490	(\$2,283,833)
11				
12	Mihm Generation (MWh)	240,474	153,552	(86,922)
13	Kuester Generation (MWh)	632,037	426,602	(205,435)
14	MISO Purchased Power (MWh)	1,052,636	1,358,550	305,914
15	Opportunity Sales (MWh)	(1,285,855)	(1,299,047)	(13,192)
16	PSCR System (MWh)	639,292	639,657	365
17				
18	Mihm Fuel Cost (\$/MWh)	\$27.81	\$34.49	\$6.68
19	Kuester Fuel Cost (\$/MWh)	\$26.57	\$32.06	\$5.50
20	MISO Market Purchases Cost (\$/MWh)	\$24.43	\$24.66	\$0.23
21	Opportunity Sales (\$/MWh)	\$33.05	\$34.44	\$1.39
22	PSCR System Cost on Supplied (\$/MWh)	\$39.82	\$36.23	(\$3.59)
23				
24	<u>UMERC WEPCO Rate Zone</u>	<u>2020</u>	<u>2021</u>	<u>Difference</u>
25	PSCR System Cost on Supplied (\$/MWh)	\$39.82	\$36.23	(\$3.59)
26	Loss Factor	1.04	1.04	
27	PSCR System Cost on Sales (\$/MWh)	\$41.41	\$37.68	(\$3.74)
28				
29	Sales Supplied by UMERC System (MWh)	348,985	348,442	(542)
30	UMERC WEPCO Rate Zone PSCR System Costs	\$14,452,269	\$13,127,739	(\$1,324,530)
31				
32	<u>UMERC WPSC Rate Zone</u>	<u>2020</u>	<u>2021</u>	<u>Difference</u>
33	PSCR System Cost on Supplied (\$/MWh)	\$39.82	\$36.23	(\$3.59)
34	Loss Factor	1.0276	1.0276	
35	PSCR System Cost on Sales (\$/MWh)	\$40.92	\$37.23	(\$3.69)
36				
37	Sales Supplied by UMERC System (MWh)	266,654	267,154	501
38	UMERC WPSC Rate Zone PSCR System Costs	\$10,911,087	\$9,945,166	(\$965,921)

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

WEPCo Rate Zone
 Thirty-seventh Revised Sheet No. D-3.00
 Replaces Thirty-sixth Revised Sheet No. D-3.00

POWER SUPPLY COST RECOVERY

PSCR FACTORS

All rates for metered electric service shall include an amount up to the Power Supply Cost Recovery (PSCR) Factor for the specified billing period as set forth below. The PSCR Factor includes an increase or decrease of 0.0104 mills per kWh for each full 0.01 mill increase or decrease in the projected annual power supply costs above or below a cost base of 45.47 mills per kWh, rounded to the nearest one-hundredth of a mill per kWh. The projected power supply costs per kWh shall equal the total projected annual net power cost divided by the projected annual net system energy requirements. Net system energy requirements shall be the sum of net generation and net purchased and interchange power.

An amount not exceeding the PSCR Factor for each month shall be placed into effect in the first billing cycle of that month and shall continue in effect until the first billing cycle of a subsequent month for which a subsequent PSCR Factor becomes operative.

The PSCR Factor shall be applicable to all Power Supply charges for the following Rate Schedules:

<u>Class of Service</u>	<u>Rate Schedule No.</u>
Residential	Rg 1 and Rg 2
General Secondary	Cg 1, Cg 2, Cg 3, Cg3C, Cg 5, TssM and TssU
General Primary	Cp 1, Cp 2, Cp 3, Cp 4, Schedule A & Cp LC
Lighting	Ms2, Ms3, GL1, LED1
Other	Mg 1, DS 1
ERER 1, ERER 3	
100% Renewable power	No adjustment for PSCR
50% Renewable power	(1-.50) x PSCR factor applicable to rate schedule customer is served under. Customer pays 50% of PSCR factor.
25% Renewable power	(1-.25) x PSCR factor applicable to rate schedule customer is served under. Customer pays 75% of PSCR factor.
ERER 2	
Kilowatt-hour in excess of nominated block	PSCR factor applicable to rate schedule customer is served under.
Customer Generating System	CGS Category 1, CGS Category 2, CGS Biogas

Power Supply Cost Recovery Factors

<u>Billing Month</u>	<u>2021 Plan Year PSCR Factor \$/kWh</u>	<u>Prior Period PSCR Factor \$/kWh</u>	<u>Maximum 2021 PSCR Factor \$/kWh</u>	<u>Actual Billed \$/kWh</u>
Jan 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Feb 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Mar 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Apr 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
May 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Jun 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Jul 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Aug 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Sep 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Oct 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Nov 2021	(\$0.00779)	\$0.00000	(\$0.00779)	
Dec 2021	(\$0.00779)	\$0.00000	(\$0.00779)	

Parentheses indicate a credit factor. Should the Company apply lesser factors than those above or if the factors are later revised pursuant to commission orders or 1982 PA 304, the Company will notify the commission if necessary and file a revision of the above list.

(Continued on Sheet No. D-4.00)

Issued December 16, 2020
 T. T. Eidukas
 Vice-President,
 Milwaukee, Wisconsin

Effective for bills rendered for
 the 2021 Plan year

Issued under authority of the
 Section 6j(9) of 1982 PA304
 For self-implementing
 in Case No. U-20808

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

Wpsc Rate Zone
 Thirty-seventh Revised Sheet No. D-100.00
 Replaces Thirty-sixth Revised Sheet No. D-100.00

**SECTION D – Wpsc RATE ZONE
 RATE SCHEDULES**

D1. POWER SUPPLY COST RECOVERY

PSCRM

1. PSCR FACTORS

All rates for metered electric Power Supply service shall include an amount up to the Power Supply Cost Recovery Factor (the PSCR Factor) for the specified billing period as set forth below. The PSCR Factor for the period covered shall consist of an increase or decrease of .010276 mills per kwh for each full .01 mill per kwh increase or decrease in power supply costs above or below a base cost of 39.43 mills per kwh rounded to the nearest .01 mills per kwh. The projected power supply and transmission service costs per kwh shall equal the total projected net power costs in that month divided by that month's net system kwh requirements. MPSC Order dated April 23, 2015 in Case No. U-17669 established the PSCR base and loss factor effective for service on and after the beginning of the first business month following April 23, 2015, on a bill rendered basis.

An amount not exceeding the PSCR Factor for each month shall be placed into effect in the first billing cycle of that monthly billing period and shall continue in effect until the first billing cycle of a subsequent month for which a subsequent PSCR Factor becomes operative. This procedure shall apply to the following rate schedules:

<u>Class of Service</u>	<u>Schedule No.</u>
Residential	Rg-1M, RG-OTOUM
Commercial & Industrial	Cg-1M, Cg-3M, Cg-OTOUM, Cp-1M
Other	Mp-1M

Power Supply Cost Recovery Factors

<u>Billing Month</u>	<u>2021 Plan Year PSCR Factor \$/kWh</u>	<u>Prior Period PSCR Reconciliation Factor \$/kWh</u>	<u>Maximum 2021 PSCR Factor \$/kWh</u>	<u>Actual Factor Billed \$/kWh</u>
Jan 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Feb 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Mar 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Apr 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
May 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Jun 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Jul 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Aug 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Sep 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Oct 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Nov 2021	(\$0.00329)	\$0.00000	(\$0.00329)	
Dec 2021	(\$0.00329)	\$0.00000	(\$0.00329)	

Parentheses indicate a credit factor.

(Continued on Sheet No. D-101.00)

Issued December 16, 2020
 T. T. Eidukas
 Vice-President,
 Milwaukee, Wisconsin

Effective for bills rendered for
 the 2021 Plan year

Issued under authority of the
 Section 6j(9) of 1982 PA304
 For self-implementing
 in Case No. U-20808

MICHIGAN DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
PUBLIC SERVICE COMMISSION

ENTRY OF APPEARANCE IN AN ADMINISTRATIVE HEARING

This form is issued as provided for by 1939 PA 3, as amended, and by 1933 PA 254, as amended. The filing of this form, or an acceptable alternative, is necessary to ensure subsequent service of any hearing notices, Commission orders, and related hearing documents.

General Instructions:

Type or print legibly in ink. For assistance or clarification, please contact the Public Service Commission at 517-284-8090.

*Please Note: The Commission will provide **electronic** service of documents to all parties in this proceeding.*

THIS APPEARANCE TO BE ENTERED IN ASSOCIATION WITH THE ADMINISTRATIVE HEARING:

Case / Company Name: Upper Michigan Energy Resources Corporation Docket No. U- 20808

Please enter my appearance in the above-entitled matter on behalf of:

1. (Name) Upper Michigan Energy Resources Corporation
2. (Name)
3. (Name)
4. (Name)
5. (Name)
6. (Name)
7. (Name)

Name Sherri A. Wellman
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Date 09/23/2020

<input type="radio"/> I am not an attorney
<input checked="" type="radio"/> I am an attorney whose:
Michigan Bar # is P- <u>38989</u>
_____ Bar # is: _____
(state)

Signature: _____