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June 30, 2021

Ms. Lisa Felice
Executive Secretary
Michigan Public Service Commission
7109 West Saginaw Highway
Post Office Box 30221
Lansing, MI 48909

RE: Case No. U-20541 – In the matter of the application of Consumers Energy Company for reconciliation of its gas cost recovery plan (Case No. U-20541) for the 12-month period April 2020 through March 2021.

Dear Ms. Felice:

Enclosed for electronic filing in the above-captioned case, please find the **Application and Testimony and Exhibits of Consumers Energy Company witnesses Rachael L. Dziejatkowski, James P. Pnacek, Jr., Hannah L. Patton, and Michael H. Ross.**

This is a paperless filing and is therefore being filed only in PDF. Also included is a Proof of Service showing service upon the parties in Case No. U-20541.

Sincerely,

Theresa A. G. Staley

cc: Parties to MPSC Case No. U-20541

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

APPLICATION

Consumers Energy Company (“Consumers Energy” or the “Company”), pursuant to 1982 PA 304 (“Act 304”), MCL 460.6h, as amended, and other applicable laws, orders, and regulations, applies for approval of its Gas Cost Recovery (“GCR”) costs and revenues reconciliation for the 12-month period April 2020 through March 2021 and for other relief as requested herein. In support, Consumers Energy states as follows:

1. Consumers Energy is a public utility engaged in, among other things, the transportation, distribution, and sale of natural gas to approximately 1.8 million customers in the Lower Peninsula of the state of Michigan. Consumers Energy’s gas system is fully integrated and interconnected and is operated as a single system within which uniform rates for the sale and distribution of natural gas are charged.

2. Consumers Energy’s retail natural gas sales business and its retail gas transportation business are subject to the jurisdiction of the Michigan Public Service Commission (“MPSC” or the “Commission”) pursuant to various provisions of 1909 PA 300, as amended, MCL 462.2 *et seq.*; 1919 PA 419, as amended, MCL 460.54 *et seq.*; 1939 PA 3, as amended, MCL 460.1 *et seq.*, including 1982 PA 304, MCL 460.6h; and 1969 PA 306, as amended, MCL 24.201 *et seq.*

3. Pursuant to Section 6h of Act 304, MCL 460.6h, on December 28, 2018, Consumers Energy filed an Application with the Commission in Case No. U-20541 for approval of a GCR Plan and GCR factors for the 12-month period April 2020 through March 2021. On September 24, 2020, the Commission issued an Order Approving Settlement Agreement in Case No. U-20541233 where it approved the Company's as-filed 2020-2021 GCR Plan, with an adjusted base GCR factor of \$2.4945 per thousand cubic feet and approved the Company's Gas Purchasing Strategy Guidelines.

4. Consumers Energy requests that the Commission commence a GCR reconciliation proceeding pursuant to Section 6h(12) of Act 304, MCL 460.6h(12), for the 12-month period of April 2020 through March 2021.

5. Concurrently with the filing of this Application, Consumers Energy is filing testimony and exhibits in support of its requested reconciliation of GCR costs and revenues for the 12-month period April 2020 through March 2021. The Company's filing includes a record of monthly over- and under-recovery amounts, as well as details concerning the GCR cost of gas, GCR revenues, and amounts subject to refund. Attachment A to this Application contains a list of pre-filed exhibits.

6. During the 12-month period ending March 31, 2021, Consumers Energy incurred GCR cost-of-gas sold expense of \$423,507,292. Consumers Energy has calculated that it has a total over-recovery for the 2020 - 2021 GCR period of \$2,040,502, which is subject to the roll-in treatment described in the Company's tariff, Rule C7.2. The calculated amount of \$1,353,013 reflects an over-recovery for the GCR period of \$683,489 plus accrued interest owed to Consumers Energy for the GCR period, pursuant to Act 304.

7. The Company requests that a hearing on this Application be initiated and concluded expeditiously.

WHEREFORE, Consumers Energy Company respectfully requests that the Michigan Public Service Commission:

A. Issue a Notice of Hearing of the commencement of this gas cost reconciliation proceeding;

B. Approve the April 2020 through March 2021 gas cost reconciliation as presented in Consumers Energy's testimony and exhibits in this filing;

C. Approve Consumers Energy's proposed methodology for rolling in the net over-recovery; and

D. Grant Consumers Energy such other and further relief as is lawful and appropriate.

Respectfully submitted,

CONSUMERS ENERGY COMPANY



Dated: June 30, 2021

By:

Gregory M. Salisbury
Vice President
Gas Engineering and Supply



Theresa A.G. Staley (P56998)
Anne M. Uitvlugt (P71641)
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STATE OF MICHIGAN
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Case No. U-20542

VERIFICATION

Gregory M. Salisbury states that he is Vice President-Gas Engineering and Supply of Consumers Energy Company; that he has executed the foregoing Application for and on behalf of Consumers Energy Company; that he has read the foregoing Application and is familiar with the contents thereof; that the facts contained therein are true, to the best of his knowledge and belief; and that he is duly authorized to execute such Application on behalf of Consumers Energy Company.

Dated: June 30, 2021

By:



Gregory M. Salisbury
Vice President
Gas Engineering and Supply

Attachment A

PREFILED EXHIBITS

Exhibit of Rachel L. Dziewiatkowski

Exhibit A-1 (RLD-1) Gas Cost Recovery (GCR) Factors

Exhibits of Hannah L. Patton

Exhibit A-2 (HLP-1) Gas Cost Recovery Clause Reconciliation Report

Exhibit A-3 (HLP-2) GCR Interest Calculation

Exhibit A-4 (HLP-3) Summary of Principal Amount & Interest

Exhibits of James P. Pnacek, Jr.

Exhibit A-5 (JPP-1) Booked Actuals Versus Filed Normal Plan for the GCR Plan Year 2019-2020

Exhibit A-6 (JPP-2) Design Load and February and March 2020 4% Probability CTN Design Comparison

Exhibit A-7 (JPP-3) 2020-2021 Degree Day Winter Design Scenario Summary

Exhibit A-8 (JPP-4) Filed Normal Plan Versus Normal Winter Operating Plan Versus Booked Actuals Comparison

Exhibit A-9 (JPP-5) Design Warm Winter Operating Plan Versus Booked Actuals Comparison

Exhibit A-10 (JPP-6) Comparison Between Filed Design Cold Plan, Design Cold Winter Operating Plan, and Booked Actuals

Exhibit A-11 (JPP-7) GCR/GCC Storage Utilization Plan Comparison Between Filed Design Cold Plan, Design Cold Winter Operating Plan, And Booked Actuals

Exhibit A-12 (JPP-8) End of Season 2019-2020 Linear Regression Plot

Exhibit A-13 (JPP-9) Historical Correlation Analysis

Exhibit A-14 (JPP-10) Late Season Linear Regression Plot

Exhibits of James P. Pnacek, Jr. (Continued)

Exhibit A-15 (JPP-11)	End of Season 2020-2021 Linear Regression Plot
Exhibit A-16 (JPP-12)	March 2021 Purchase Decision Assessment of Gas Available from Storage and GCR Purchases Required to Meet Monthly and Daily Loads

Exhibits of Michael H. Ross

Exhibit A-17 (MHR-1)	2020-2021 GCR Purchases - Filed Plan versus Booked Actual (MMcf)
Exhibit A-18 (MHR-2)	Gas Purchasing Strategy Guidelines
Exhibit A-19 (MHR-3)	Quartile Fixed Price Triggers Guideline Analysis
Exhibit A-20 (MHR-4)	Quartile Fixed Price Trigger Requirements and Purchases After 12/30/19 Plan Case Filing
Exhibit A-21 (MHR-5)	2020-2021 GCR Purchases
Exhibit A-22 (MHR-6)	2020-2021 AMA and Buy/Sell Revenue
Exhibit A-23 (MHR-7)	Capacity Utilization
Exhibit A-24 (MHR-8)	Summary of Firm and Interruptible Transportation Contracts

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Case No. U-20542

DIRECT TESTIMONY

OF

RACHAEL L. DZIEWIATKOWSKI

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2021

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

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

2 A. My name is Rachael L. Dziewiatkowski, and my business address is One Energy Plaza,
3 Jackson, Michigan 49201.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by Consumers Energy Company (“Consumers Energy” or the “Company”)
6 as a Senior Rate Analyst II in the Rates and Regulation Department.

7 **Q. Please state your educational background?**

8 A. I graduated from Kennesaw State University in 2011 with a Bachelor of Business
9 Administration Degree, majoring in Management. In addition, I have attended a number
10 of courses on utility ratemaking, as well as several natural gas and oil conferences.

11 **Q. Please describe your business experience.**

12 A. From February 2006 through December 2011, I was employed by the Municipal Gas
13 Authority of Georgia as a Financial Analyst. My responsibilities included the production
14 and analysis of monthly net cash flow reports, project reconciliations, and various ad hoc
15 analyses. In addition, I performed detailed analysis of budget-to-actual comparisons,
16 variance analysis, and profitability projections to the Executive Staff and Board of
17 Directors. I was also responsible for general accounting functions, including journal
18 entries, accounts payable, accounts receivables, and monthly investment and bank
19 reconciliations. I performed monthly closings, provided annual audit support, project
20 accruals, and assisted in the production of financial statements and Company issued annual
21 reports. I joined Consumers Energy in May 2012 as a General Rate Analyst I in the Rate
22 Analysis and Administration section. In November 2013, I was promoted to a General
23 Rate Analyst II and in November 2015, I was promoted to a Senior Rate Analyst I. In June

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

2017, I accepted my current position in the Revenue Requirement section as a Senior Rate Analyst II.

Q. What are your duties as a Senior Rate Analyst II?

A. My current responsibilities include developing, analyzing, and reviewing the Company's monthly return studies. These include studies pertaining to balance sheet working capital, cost of capital, return on investment, and return on equity ("ROE"). I am also responsible for various ad hoc studies pertaining to cost of capital, ROE, and revenue requirements. I am also responsible for forecasting the Gas Cost Recovery ("GCR") Factor on a monthly basis. In addition, I assist in the development of analyses related to the Company's revenue requirements and the preparation of electric and gas rate case filings at the Michigan Public Service Commission ("MPSC" or the "Commission").

Q. Have you previously filed testimony with the Commission?

A. Yes. I have filed direct testimony on behalf of the Company in the following cases:

- Case Nos. U-16012, U-17174, and U-17505, Residual Balance Reconciliation filings;
- Case No. U-18077, Gas Decoupling Reconciliation;
- Case Nos. U-20563, U-20766, Demand Response Reconciliation;
- Case Nos. U-17197, U-17643, U-17882, and U-18124, Gas General Rate Case; and
- Case Nos. U-20541 and U-20814, Gas Cost Recovery Plan.

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

A. The purpose of my direct testimony is to present Consumers Energy's proposed plan for the collection of amounts over-recovered for the April 2020 through March 2021 GCR plan year.

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

1 **Q. Are you sponsoring any exhibits in connection with your direct testimony?**

2 A. Yes. I am sponsoring the following exhibit:

3 Exhibit A-1 (RLD-1) Gas Cost Recovery (GCR) Factors

4 **Q. Was this exhibit prepared by you or under your supervision?**

5 A. Yes. Information in the exhibit was compiled from the Company's GCR factors tariff
6 Sheet No. D-5.00.

7 **Q. Did you use the Commission-approved Standard Refund Procedures in developing**
8 **your collection plan for the over-recovered amount allocable to GCR customers?**

9 A. Yes. Company witness Hannah L. Patton has calculated the over-recovery at the end of
10 the April 2020 through March 2021 period, including interest calculated through March
11 31, 2021, which totals \$2,042,502. This includes the roll-in of the reconciled April 2019
12 through March 2020 over-recovery amount of \$6,464,966 as agreed to in Settlement
13 Agreement approved by the Commission in Case No. U-20234. Consumers Energy's
14 Standard Refund Procedures provide for addressing GCR over- and under-recoveries by
15 rolling them forward to the next GCR Plan year. The \$2,040,502 calculated by witness
16 Patton is subject to "roll-in" treatment under the Company's Standard Refund Procedures.
17 The Standard Refund Procedures are described in the Company's tariff, Rule C.7.2.

18 **Q. Does the Company attempt to implement factors that will result in a forecasted zero**
19 **annual over- or under-recovery?**

20 A. Yes. The Company sets its monthly Actual GCR Factor such that forecasted revenues
21 match forecasted costs for the GCR Plan year.

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

1 **Q. How is the Actual GCR Factor determined each month?**

2 A. The Company closely monitors its GCR costs and sales and adjusts the monthly Actual
3 GCR Factor, subject to the ceiling factor authorized pursuant to 1982 Public Act 304 and
4 adjusted by the Ceiling Price Adjustment (Contingency) Mechanism, with the goal of
5 eliminating either over- or under-recoveries for the entire GCR Plan year. The GCR factor
6 is determined each month based on the Company's latest forecasts of sales and gas costs.
7 Those forecasts are used to determine the GCR factor that should be applied to the
8 Company's remaining sales so that, as far as is practicable, annual sales revenues are equal
9 to the Company's annual cost of gas. Each month forecasted sales and forecasted gas costs
10 for the preceding month are replaced with actual revenues and costs. The cost-of-gas
11 forecast for the remainder of the year is then updated. This latest data is used to calculate
12 the GCR factor for the remainder of the GCR Plan year that will achieve zero over- or
13 under-recovery (i.e., revenues equal costs).

14 **Q. What are some of the reasons that the Company may not be able to exactly match**
15 **revenues with expenses at the conclusion of the GCR Plan year?**

16 A. One reason for a mismatch is that there are timing differences between the time when actual
17 data is available and the time when the factor is determined. The Actual GCR Factor for a
18 month must be determined at least 15 days before the beginning of the billing month. For
19 example, the Actual GCR Factor billed in the final month of the GCR Plan year, i.e., March
20 2021, is set in February 2021 using actual costs and revenues through January 2021 but
21 projected costs and revenues for February and March 2021. When the March 2021 GCR
22 factor is set, actual costs and revenues for February 2021 are not yet known. If the
23 Company over- or under-recovers in February 2021, the March 2021 GCR factor cannot

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

1 be adjusted. In addition, GCR factors are determined assuming normal weather for the
2 remainder of the GCR Plan year and using then-current projections for cost of gas for the
3 remaining portion of the year. If the gas cost subsequently changes, or if the weather
4 significantly alters demand for natural gas, these can also contribute to an over- or under-
5 recovery.

6 **Q. Is there a limit as to how high the Company can set the monthly Actual GCR Factor?**

7 A. Yes. The Maximum Allowable GCR Factor, or ceiling price, limits how high the Company
8 can set the Actual GCR Factor. The Maximum Allowable GCR Factor is equal to the Base
9 GCR Ceiling Factor plus the contingent ceiling price adjustment, if any. The Actual GCR
10 Factor billed for the period April 2020 through March 2021 consisted of the sum of two
11 parts: (i) a Base GCR Ceiling Factor of not less than \$2.4945 per Mcf, plus (ii) additional
12 amounts contingent upon future events. The GCR Factor Ceiling Price Adjustment
13 (Contingency) Mechanism allows the Company to increase the Maximum Allowable GCR
14 Factor above the Base GCR Ceiling Factor, under certain circumstances, in response to
15 changes in Michigan gas prices. The GCR Factor Ceiling Price Adjustment (Contingency)
16 Mechanism allows an increase above the Base GCR Ceiling Factor to reflect a portion of
17 market cost increases in Michigan gas commodity prices if the updated average Michigan
18 Price Forecast for the remaining GCR period is greater than the remaining Plan Michigan
19 Price Forecast that was used in developing the Base GCR Ceiling Factor, adjusted by a
20 fractional multiplier. This Base GCR Ceiling Factor plus the contingent ceiling price
21 adjustment, if any, was the Maximum Allowable GCR Factor that could be charged. The
22 Actual GCR Factor could be adjusted monthly, provided it remained at or below the current

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

Maximum Allowable GCR Factor. The Maximum Allowable GCR Factor cannot be lowered below the Base GCR Ceiling Factor.

Q. Did the GCR Factor Ceiling Price Adjustment (Contingency) Mechanism result in an increase in the Maximum Allowable GCR Factor above the Base GCR Ceiling Factor during the 2020 to 2021 GCR Plan year?

A. Yes. During two months of the 2020 – 2021 GCR Plan year, the updated average Michigan Price Forecast exceeded the Plan Michigan Price Forecast used in developing the Base GCR Ceiling Factor. In June 2020, the Company's analysis resulted in a GCR factor that was greater than the base ceiling factor. As a result, the maximum allowable factor was in place for June 2020. In October 2020, the Company's Michigan Price Forecast exceeded the Plan Michigan Price Forecast used in developing the Base GCR Ceiling factor; however, the calculated GCR factor was below the maximum allowable factor for October 2020 and the calculated GCR factor was in place.

Q. What occurs if, during the GCR Plan year, the cost of gas that the Company projects it will need to recover is less than the Maximum Allowable GCR Factor?

A. The Company charges a factor below the Maximum Allowable GCR Factor. The Company adjusts the Actual GCR Factor on a monthly basis, incorporating the most current information available, with the goal of minimizing any over- or under-recovery during the GCR Plan year. Excluding June 2020, the Company charged below the Maximum Allowable GCR Factor for all remaining months of the 2020 – 2021 GCR plan year.

RACHAEL L. DZIEWIATKOWSKI
DIRECT TESTIMONY

1 **Q. Please describe Exhibit A-1 (RLD-1).**

2 A. This exhibit identifies the Maximum Allowable GCR Factor for each billing month during
3 the GCR Plan year and the Actual GCR Factor billed for each billing month during the
4 GCR Plan year.

5 **Q. What was the procedure for “roll-in” of the 2020 to 2021 over-recovered amount into**
6 **the 2021 to 2022 GCR Plan year?**

7 A. Beginning in April 2021, the over-recovered amount, including interest calculated through
8 March 31, 2021, received “roll-in” treatment and is being reflected in the calculation of the
9 2021 to 2022 Actual GCR Factors. This was accomplished by adding the over-recovered
10 amount to the forecasted gas revenue in determining the amount to be recovered through
11 the Actual GCR Factor.

12 **Q. Does Consumers Energy make any profit on the natural gas commodity?**

13 A. No. Consumers Energy makes no profit on the natural gas commodity. Customers’ costs
14 for the gas commodity are, in total, the same as Consumers Energy’s booked costs of gas.
15 Essentially, customers are charged a wholesale cost of gas. If there is an over-recovery by
16 Consumers Energy, the Company must refund the over-recovered amount with interest
17 equal to the Company’s authorized ROE, which is 9.90%. If there is an under-recovery by
18 Consumers Energy, customers must pay the under-recovered amount back with interest at
19 the average short-term borrowing rate available to the Company.

20 **Q. Does this conclude your direct testimony?**

21 A. Yes.

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Case No. U-20542

EXHIBIT

OF

RACHAEL L. DZIEWIATKOWSKI

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2021

MICHIGAN PUBLIC SERVICE COMMISSION
Consumers Energy Company

Case No.: U-20542
Exhibit No.: A-1 (RLD-1)
Page: 1 of 1
Witness: RLDziewiatkowski
Date: June 2021

GAS COST RECOVERY (GCR) FACTORS

U-20541 Base GCR Ceiling Factor *\$2.4945/Mcf*

2020-2021 Plan Case	Maximum Allowable GCR Factor \$/Mcf	Actual GCR Factor Billed
<u>Billing Months</u>	<u>(Subject to Ceiling Price Adjustment)</u>	<u>\$/Mcf</u>
April 2020	\$2.4945	\$2.2620
May 2020	\$2.4945	\$2.3170
June 2020	\$2.5341	\$2.5341
July 2020	\$2.4945	\$2.3260
August 2020	\$2.4945	\$2.2650
September 2020	\$2.4945	\$2.3710
October 2020	\$2.5341	\$2.4867
November 2020	\$2.4945	\$2.3237
December 2020	\$2.4945	\$2.3350
January 2021	\$2.4945	\$2.1727
February 2021	\$2.4945	\$2.1404
March 2021	\$2.4945	\$2.0321

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Case No. U-20542

DIRECT TESTIMONY

OF

HANNAH L. PATTON

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2021

HANNAH L. PATTON
DIRECT TESTIMONY

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

2 A. My name is Hannah L. Patton, and my business address is One Energy Plaza, Jackson,
3 Michigan 49201.

4 **Q. By whom are you employed?**

5 A. I am employed by Consumers Energy Company (“Consumers Energy” or the “Company”).

6 **Q. What is your position at Consumers Energy?**

7 A. I am a Senior Accounting Analyst III in the Electric and Gas Revenue and Fuel Cost
8 Accounting Section of the General Accounting Department.

9 **Q. Please state your educational background and work experience.**

10 A. I graduated from Albion College in May 2009 with a Bachelor of Arts degree in Economics
11 and Management. I began working for the Company in January 2012 in the Electric
12 Revenue and Fuel Reconciliation section of the General Accounting Department. I was an
13 external auditor employed by Rehmann Robson from December 2007 through December
14 2011. I obtained my Certified Public Accountant license in February 2011.

15 **Q. What are your responsibilities in your present position?**

16 A. My primary responsibilities include the accounting for cost of gas, the analysis of gas
17 revenues and costs, and the associated gas cost over- or under-recoveries. Additionally, I
18 am responsible for accounting of the Company’s mandatory and voluntary Renewable
19 Energy (“RE”) programs, as well as the analysis of electric revenue and gross margin.

20 **Q. Have you previously filed testimony with the Commission?**

21 A. Yes. I filed testimony in the following cases:

- 22 • MPSC Case No. U-17631, the Company’s 2013 RE Reconciliation Case;
- 23 • MPSC Case No. U-17803, the Company’s 2014 RE Reconciliation Case;
- 24 • MPSC Case No. U-18081, the Company’s 2015 RE Reconciliation Case;

HANNAH L. PATTON
DIRECT TESTIMONY

- MPSC Case No. U-18241, the Company's 2016 RE Reconciliation Case;
- MPSC Case No. U-17918-R, the Company's 2016 PSCR Reconciliation Case;
- MPSC Case No. U-20068, the Company's 2017 PSCR Reconciliation Case;
- MPSC Case No. U-20202, the Company's 2018 PSCR Reconciliation Case;
- MPSC Case No. U-20220, the Company's 2019 PSCR Reconciliation Case;
and
- MPSC Case No. U-20525, the Company's 2021 PSCR Plan Case.

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

A. My direct testimony: (i) provides the over/under accounting for Consumers Energy's 2020 to 2021 Gas Cost Recovery ("GCR") year; (ii) establishes the amount of the over-recovery resulting from the operation of the Company's GCR Clause during that period; and (iii) identifies the net amount included in the Company's liability account applicable to this proceeding.

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring the following exhibits:

- | | |
|---------------------|---|
| Exhibit A-2 (HLP-1) | Gas Cost Recovery Clause Reconciliation Report; |
| Exhibit A-3 (HLP-2) | GCR Interest Calculation; and |
| Exhibit A-4 (HLP-3) | Summary of Principal Amount & Interest. |

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

A. Yes.

HANNAH L. PATTON
DIRECT TESTIMONY

2020-2021 GCR Reconciliation

Q. Please describe the procedures used by the Company to derive the monthly over- or under-recovery amounts during the GCR year which covered the months April 2020 through March 2021.

A. The monthly over- or under-recovery amounts are derived by comparing GCR revenues and refundable amounts for each month with the GCR cost of gas sold.

Q. Have you prepared an exhibit that sets forth the Company's GCR revenues, refundable amounts, and the recoverable costs for April 2020 through March 2021?

A. Yes, Exhibit A-2 (HLP-1) provides that information. As shown on line 39 of this exhibit, the result of the reconciling of GCR costs with the GCR revenues and the refundable amounts for the GCR year is a total over-recovery of \$683,489 out of a total GCR cost-of-gas sold of \$435,754,617, or approximately .2%.

Q. Please describe Exhibit A-2 (HLP-1).

A. Exhibit A-2 (HLP-1) is the Gas Cost Recovery Clause Reconciliation Report for the 12-month period ended March 31, 2021. Lines 1 through 9 show sources of natural gas in Mcf by month for each of the 12 months and in total. Lines 10 through 15 show GCR sales in Mcf by month and in total. Lines 16 through 24 show GCR cost-of-gas sold in dollars for each of the 12 months and in total. The total for this category is shown on line 24. Lines 25 through 38 show GCR revenues and refundable amounts in dollars for each month and in total. The total for this category is shown on line 38. Line 39 shows the over- or under-recovery for each month and for the 12-month period total. Line 40 shows the cumulative over- or under-recovery by month during the GCR year.

HANNAH L. PATTON
DIRECT TESTIMONY

1 **Q. How is the over- or under-recovery amount shown on line 39 calculated?**

2 A. The amount on line 39 is the difference between line 24 and line 38. If line 38 is larger
3 than line 24, there is an over-recovery. If line 38 is smaller than line 24, there is an
4 under-recovery. As indicated previously, the cumulative total for the 12-month period
5 ended March 31, 2021 is an over-recovery of \$683,489.

6 **Q. How is GCR cost-of-gas sold shown on Exhibit A-2 (HLP-1), line 24, determined?**

7 A. Total GCR cost of purchased and produced natural gas is adjusted for the GCR value of
8 natural gas injected into, or withdrawn from, underground storage and for items
9 specifically excluded from the booked cost-of-gas sold by the GCR Clause. The net
10 volumes of natural gas injected into or withdrawn from underground storage are shown on
11 line 2 and the corresponding dollar amounts are shown on line 17.

12 **Q. How was the value of GCR gas injected into or withdrawn from storage determined?**

13 A. The recorded GCR gas volumes injected into storage in the current month are valued at the
14 recorded average cost per Mcf of GCR gas purchased and produced within the current
15 month. The recorded GCR gas volumes withdrawn from storage in the current month are
16 valued at the recorded average cost per Mcf of GCR gas held in storage at the end of the
17 preceding month.

18 **Q. What items are excluded from GCR cost-of-gas sold, and what is the cost basis for**
19 **each of those items?**

20 A. The items excluded are gas sold at a price that does not include a GCR factor (Rate
21 Schedule GL sales), gas used by the Company, Lost and Unaccounted For ("LAUF") gas,
22 and gas-in-kind credits. The volumes of gas for these categories are shown on Exhibit A-2
23 (HLP-1), lines 5 through 8. The dollars associated with these volumes are shown on lines

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DIRECT TESTIMONY

20 through 23. Gas-in-kind is gas retained by the Company from transportation customers and storage (non-GCR) customers to compensate the Company for natural gas used by it and LAUF associated with the transportation and storage. The volumes related to the excluded items are priced at the annual average cost of GCR supply. The calculation of this annual average cost is provided at the bottom of Exhibit A-2 (HLP-1).

Q. How are the Total GCR and Refundable Amounts dollars shown on Exhibit A-2 (HLP-1), line 38 determined?

A. Line 38 is the sum of the Total GCR Revenues shown on line 31 and the Total Refundable Amounts shown on line 37.

Q. How were Total GCR Revenues shown on line 31 determined?

A. Monthly GCR revenues consist of billed GCR revenues and net unbilled GCR revenues. Billed GCR revenues result from the application of the current month GCR factor to GCR sales customers' current cycle billed sales plus adjustments related to prior month's sales. Net unbilled GCR revenues result from the reversal of the previous month's unbilled GCR revenue plus the unbilled revenue at the end of the current month. Unbilled GCR revenue is calculated by multiplying the unbilled Mcf by the next month's GCR factor.

Q. How were the refundable amounts shown on line 37 determined?

A. Line 37 is the sum of the amounts shown on lines 33 to 36.

Q. Please explain the amount shown on line 33.

A. The Commission, in its Standard Refund Procedures, adopted a roll-in methodology for certain refund liabilities including supplier refunds, prior year over- or under-recoveries, and unrefunded balances from prior refunds. The Standard Refund Procedures for GCR and other supplier refunds are set forth in Rule C.7.2 (formerly B 10.2) of the Company's

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DIRECT TESTIMONY

1 tariffs. This rule was approved by the Commission in its November 7, 2002 Order in Case
2 No. U-13000. Based on the Order dated May 26, 2021 in Case No. U-20234, Consumers
3 Energy has shown a cumulative over-recovery for the 2019-2020 GCR year, including
4 accrued interest, of \$6,464,966. The \$6,464,966 is shown on line 33. The Company has
5 rolled in the \$6,464,966 under-recovery into its 2020-2021 GCR Plan year based on the
6 Standard Procedures for GCR.

7 **Q. Please explain the amounts shown on Exhibit A-2 (HLP-1), line 34.**

8 A. In Case No. U-13916-R, the GCR Reconciliation case for the 12-month period April 2004
9 to March 2005, the parties agreed that Gas Customer Choice (“GCC”) Supply Equalization
10 Charge (“SEC”) revenues, if any, should be included in future GCR Reconciliation cases.
11 In Case No. U-17900, changes were made to the GCC program tariff that were effective in
12 January 2017; the calculation of the SEC was one of these changes. If the cumulative
13 volume billed to a supplier’s GCC customers exceeds the cumulative deliveries made by
14 the supplier for those customers in any month, the supplier is subject to the SEC. The SEC
15 is intended to compensate Consumers Energy for the Company’s gas inventory sold to
16 customers at a lower GCC supplier price. The SEC equals the positive difference between
17 the Company’s weighted average monthly cost of purchased and produced gas for the
18 month in which the SEC is incurred and the supplier’s average actual price, multiplied by
19 that month’s incremental increase in the positive difference between the cumulative
20 volume billed to those GCC customers and the cumulative deliveries made by the supplier
21 for those customers. The amounts shown on line 34 are the SEC reductions applied to the
22 supplier’s remittance statement in a particular month.

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1 **Q. Please explain the amounts shown on Exhibit A-2 (HLP-1), lines 35 and 36.**

2 A. In Case No. U-17643, the parties agreed that buy/sell and asset management agreement
3 revenues, if any, should be included in future GCR Reconciliation cases starting April 1,
4 2015. The amounts shown on lines 35 and 36 are the buy/sell and asset management
5 agreement revenues by month.

6 **Q. Did the Company perform an adjustment of the 2020-2021 LAUF gas volumes shown**
7 **on Exhibit A-2 (HLP-1), line 7?**

8 A. Yes. At the end of each calendar quarter, Consumers Energy undertakes an analysis of
9 unbilled sales volumes. As part of the unbilled assessment process, June 2020 sales
10 volumes were increased by 0.7 Bcf and March 2021 unbilled sales volumes were decreased
11 by 0.9 Bcf. An assessment resulting in a decrease in unbilled volumes will correspondingly
12 increase LAUF volumes in the same month, with the converse relationship also holding
13 true. The LAUF volumes were therefore decreased by 0.7 Bcf in June 2020 and increased
14 by 0.9 Bcf in March 2021.

15 **Q. Were estimated unbilled sales volumes reasonable during the April 2020 through**
16 **March 2021 GCR Reconciliation period?**

17 A. Yes. The estimated unbilled sales volumes were reasonable for the period April 2020
18 through March 2021 given the information available at the time the estimates were made.
19 The Company unbilled calculation took into consideration the monthly meter read
20 schedules, daily sendouts, and current month billings. In addition, at the end of each
21 financial quarter, when the Company is required to file its financial statements with the
22 Securities and Exchange Commission, the Company assesses the estimated unbilled
23 volumes, reviews its conclusions with its external auditors, and adjusts the unbilled volume

HANNAH L. PATTON
DIRECT TESTIMONY

1 as appropriate. As mentioned above, the assessment for June 2020 and March 2021
2 resulted in a change in unbilled volumes.

3 **Q. Did assessments for September 2020 and December 2020 result in any adjustments to**
4 **unbilled GCR sales or LAUF volumes?**

5 A. No. Those assessments did not result in any adjustments being made.

6 **Q. What are some of the factors that can affect unbilled GCR sales?**

7 A. Unbilled volumes can be affected by such things as number of days in a billing month and
8 how the billing month compares with the calendar month and weather conditions.

9 **Q. How are unbilled sales reflected in the calculation of the Total GCR Sales on Exhibit**
10 **A-2 (HLP-1), line 15?**

11 A. The unbilled sales for the current month on Exhibit A-2 (HLP-1), line 12, are added to
12 billed sales on line 10, and the unbilled sales for the prior month on line 11 are subtracted.
13 The effect of this methodology is that every unbilled accrual that the Company makes
14 reverses in the following month. The only unbilled accrual that is not reversed during the
15 GCR year is the unbilled accrual for the month of March.

16 **Q. What is the interest liability related to the over- or under-recovery shown on**
17 **Exhibit A-3 (HLP-2)?**

18 A. Exhibit A-3 (HLP-2) shows the \$1,353,013 calculation of interest through March 31, 2021.
19 The interest rates used are shown in column (F). The rate used for calculating interest in
20 the months in which there was a cumulative over-recovery is Consumers Energy's natural
21 gas business authorized return on equity during that month. The rate used for calculating
22 interest in the months in which there was a net under-recovery is the Company's monthly
23 weighted average cost of outstanding short-term borrowings, or the lowest available

HANNAH L. PATTON
DIRECT TESTIMONY

1 facility cost if no short-term borrowings are outstanding, provided by Consumers Energy's
2 Treasury Department. Column (G) shows the interest by month and in total. The amounts
3 shown in Exhibit A-3 (HLP-2), column (B), are the differences between the over- or under-
4 recoveries on line 39 less the prior year over- or under-recoveries on line 33, as shown by
5 month on Exhibit A-2 (HLP-1). The amounts on Exhibit A-3 (HLP-2), column (C) are
6 one-half of the amounts in column (B) to arrive at average balances for each month. The
7 amount in column (D) for April is the prior year over- or under-recovery amount from
8 line 33 on Exhibit A-2 (HLP-1). The amounts in column (D) for May and subsequent
9 months are the amounts in column (D) for the prior month plus the amounts in column (B)
10 for the prior month. The amounts in column (E) are derived by adding the amounts in
11 columns (C) and (D) together. Column (F) is the applicable interest rate for each month of
12 the period. The amounts shown in column (G) are derived by multiplying the amounts in
13 column (E) by the interest rate shown in column (F) and multiplying that result by the
14 number of days in the calendar month over the total days for the Reconciliation period to
15 get a monthly interest amount.

16 **Q. Please explain Exhibit A-4 (HLP-3).**

17 A. Exhibit A-4 (HLP-3) sets forth a summary of the net principal and interest amounts that
18 the Company has calculated resulting in an under collection from GCR customers for the
19 12-month period April 2020 through March 2021. The amounts on this exhibit are
20 calculated on Exhibit A-2 (HLP-1) and Exhibit A-3 (HLP-2).

21 **Q. Does this conclude your direct testimony in this proceeding?**

22 A. Yes, it does.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

EXHIBITS

OF

HANNAH L. PATTON

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2021

CONSUMERS ENERGY COMPANY
GAS COST RECOVERY CLAUSE RECONCILIATION REPORT
TWELVE MONTH PERIOD ENDED MARCH 31, 2021

LINE	DESCRIPTION	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	TOTAL
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)
Sources of Gas in Mcf														
1	Purchased & produced	14,844,348	21,102,037	24,845,976	25,399,588	24,271,259	16,636,174	15,177,646	7,458,356	9,187,116	11,812,268	7,208,195	10,091,434	188,034,397
2	Net (to) from storage	(1,202,460)	(12,349,752)	(21,557,306)	(21,510,413)	(21,056,441)	(11,666,666)	(1,845,713)	10,523,632	21,218,694	21,137,955	25,954,715	7,971,783	(4,381,973)
3	Total supply	13,641,888	8,752,285	3,288,670	3,889,175	3,214,818	4,969,508	13,331,933	17,981,988	30,405,810	32,950,223	33,162,910	18,063,216	183,652,424
4	Less volumes for:													
5	Rate GL-1 sales	46	46	46	46	46	46	46	46	46	46	46	46	552
6	Company use gas	118,555	127,885	169,504	223,175	225,143	214,991	97,914	122,337	224,056	256,334	259,191	155,783	2,194,868
7	Lost & unaccounted for gas	376,057	246,855	(582,072)	102,914	83,388	123,976	302,625	442,699	630,132	853,814	903,003	1,413,126	4,896,517
8	Gas-in-kind credits	(137,184)	(145,454)	(137,105)	(117,154)	(134,269)	(143,420)	(147,011)	(183,666)	(189,939)	(198,144)	(191,809)	(205,043)	(1,930,198)
9	Total GCR supplies	13,284,414	8,522,953	3,838,297	3,680,194	3,040,510	4,773,915	13,078,359	17,600,572	29,741,515	32,038,173	32,192,479	16,699,304	178,490,685
GCR Sales in Mcf														
10	Rate schedule sales (billed)	19,162,229	14,665,632	6,745,300	3,521,981	3,112,758	3,611,489	5,856,568	12,805,099	21,068,285	28,945,251	31,745,232	29,912,749	181,152,573
11	Unbilled - Prior month	(17,477,426)	(11,599,656)	(5,457,022)	(2,550,065)	(2,708,323)	(2,636,121)	(3,798,592)	(11,020,428)	(15,815,947)	(24,489,224)	(27,582,190)	(28,029,483)	(153,164,477)
12	Unbilled - Current month	11,599,656	5,457,022	2,550,065	2,708,323	2,636,121	3,798,592	11,020,428	15,815,947	24,489,224	27,582,190	28,029,483	14,816,083	150,503,134
13	Unbilled rate schedule sales	(5,877,770)	(6,142,634)	(2,906,957)	158,258	(72,202)	1,162,471	7,221,836	4,795,519	8,673,277	3,092,966	447,293	(13,213,400)	(2,661,343)
14	Less: Sales with no GCR factor	46	46	46	46	46	46	46	46	46	46	46	46	552
15	Total GCR Sales	13,284,413	8,522,952	3,838,297	3,680,193	3,040,510	4,773,914	13,078,358	17,600,572	29,741,516	32,038,171	32,192,479	16,699,303	178,490,678
GCR Cost of Gas Sold in \$														
16	Purchased & produced	26,424,578	41,953,194	45,235,712	42,729,828	47,943,214	40,861,849	34,850,121	23,469,250	27,173,362	30,870,357	22,018,839	31,426,883	414,957,187
17	Net (to) from storage	595,089	(24,483,533)	(39,239,527)	(36,180,304)	(41,586,598)	(28,667,426)	(4,296,844)	23,407,733	47,855,543	47,652,839	58,524,428	17,216,030	20,797,430
18	Total cost of gas supplied	27,019,667	17,469,661	5,996,185	6,549,524	6,356,616	12,194,423	30,553,277	46,876,983	75,028,905	78,523,196	80,543,267	48,642,913	435,754,617
19	Less: Sales with no GCR factor													
20	Rate GL-1 sales	109	109	109	109	109	109	109	109	109	109	109	109	1,308
21	Company use gas	281,297	303,434	402,184	529,530	534,200	510,112	232,322	290,271	531,621	608,207	614,986	369,628	5,207,792
22	Lost & unaccounted for gas	892,276	585,716	(1,381,090)	244,185	197,856	294,160	718,042	1,050,398	1,495,123	2,025,856	2,142,568	3,352,943	11,618,033
23	Gas-in-kind credits	(325,498)	(345,121)	(325,311)	(277,973)	(318,582)	(340,295)	(348,815)	(435,787)	(450,671)	(470,139)	(455,108)	(486,508)	(4,579,808)
24	GCR Cost of Gas Sold	26,171,483	16,925,523	7,300,293	6,053,673	5,943,033	11,730,337	29,951,619	45,971,992	73,452,723	76,359,163	78,240,712	45,406,741	423,507,292
GCR and Refundable Amounts in \$														
25	Maximum GCR factor per Mcf	2.4945	2.4945	2.5341	2.4945	2.4945	2.4945	2.5341	2.4945	2.4945	2.4945	2.4945	2.4945	
26	GCR factor billed per Mcf	2.2620	2.3170	2.5341	2.3260	2.2650	2.3710	2.4867	2.3237	2.3350	2.1727	2.1404	2.0321	
27	Billed GCR revenue	43,392,464	33,942,857	17,087,109	8,206,628	7,051,289	8,555,784	14,559,171	29,661,648	49,106,530	62,951,852	67,970,252	61,379,259	403,864,843
28	Unbilled - Prior month	(39,533,938)	(26,876,406)	(13,828,642)	(5,931,450)	(6,134,354)	(6,250,242)	(9,445,958)	(25,608,170)	(36,930,233)	(53,207,735)	(59,036,917)	(56,958,712)	(339,742,757)
29	Unbilled - Current month	26,876,406	13,828,642	5,931,450	6,134,354	6,250,242	9,445,958	25,608,170	36,930,233	53,207,735	59,036,917	56,958,712	42,304,364	342,513,183
30	Unbilled - Net	(12,657,532)	(13,047,764)	(7,897,192)	202,904	115,888	3,195,716	16,162,212	11,322,063	16,277,502	5,829,182	(2,078,205)	(14,654,348)	2,770,426
31	Total GCR Revenue	30,734,932	20,895,093	9,189,917	8,409,532	7,167,177	11,751,500	30,721,383	40,983,711	65,384,032	68,781,034	65,892,047	46,724,911	406,635,269
32	Plus Refundable Amounts:													
33	Prior Year Over/(Under) Recovery	6,464,966	0	0	0	0	0	0	0	0	0	0	0	6,464,966
34	GCC Supply Equalization Charges and Failure Fees	0	0	0	0	39,808	0	76	0	0	0	0	1,064	40,948
35	AMA Revenues	32,220	22,906	72,482	46,745	110,721	106,914	91,888	127,029	74,421	89,930	89,500	5,484,843	6,349,599
36	Buy/Sell Revenues	0	0	0	0	0	0	0	602,500	4,097,500	0	0	0	4,700,000
37	Total Refundable Amounts	6,497,186	22,906	72,482	46,745	150,529	106,914	91,964	729,529	4,171,921	89,930	89,500	5,485,907	17,555,513
38	Total GCR & Refundable Amounts	37,232,118	20,917,999	9,262,399	8,456,277	7,317,706	11,858,414	30,813,347	41,713,240	69,555,953	68,870,964	65,981,547	52,210,818	424,190,782
39	Over/(Under)Recovery	11,060,634	3,992,476	1,962,106	2,402,604	1,374,673	128,077	861,728	(4,258,752)	(3,896,770)	(7,488,199)	(12,259,165)	6,804,077	683,489
40	Cumulative Over/(Under) Recovery	11,060,634	15,053,110	17,015,216	19,417,820	20,792,493	20,920,570	21,782,298	17,523,546	13,626,776	6,138,577	(6,120,588)	683,489	

ANNUAL AVERAGE COSTS OF GAS SUPPLY FOR PRICING LINES 20-23 IS LINE 18 DIVIDED BY LINE 3 OR \$435,754,617 / 183,652,424 = \$2.3727 PER MCF

MICHIGAN PUBLIC SERVICE COMMISSION

Consumers Energy Company

CONSUMERS ENERGY COMPANY

GCR INTEREST CALCULATION

2020 - 2021

Case No.: U-20542

Exhibit No.: A-3 (HLP-2)

Page: 1 of 1

Witness: HLPatton

Date: June 2021

LINE NO.	MONTH	GCR OVER/(UNDER) RECOVERY	1/2 CURRENT MONTH	YEAR-TO-DATE BEGINNING OF MONTH	AVERAGE BALANCE	INTEREST RATE	MONTHLY INTEREST
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
1	APR	\$4,595,668	\$2,297,834	6,464,966	8,762,800	9.90%	\$71,303
2	MAY	3,992,476	1,996,238	11,060,634	13,056,872	9.90%	\$109,785
3	JUN	1,962,106	981,053	15,053,110	16,034,163	9.90%	\$130,470
4	JUL	2,402,604	1,201,302	17,015,216	18,216,518	9.90%	\$153,168
5	AUG	1,374,673	687,337	19,417,820	20,105,157	9.90%	\$169,049
6	SEP	128,077	64,039	20,792,493	20,856,532	9.90%	\$169,709
7	OCT	861,728	430,864	20,920,570	21,351,434	9.90%	\$179,528
8	NOV	(4,258,752)	(2,129,376)	21,782,298	19,652,922	9.90%	\$159,916
9	DEC	(3,896,770)	(1,948,385)	17,523,546	15,575,161	9.90%	\$130,959
10	JAN	(7,488,199)	(3,744,100)	13,626,776	9,882,677	9.90%	\$83,096
11	FEB	(12,259,165)	(6,129,583)	6,138,577	8,995	9.90%	\$68
12	MAR	6,804,077	3,402,039	(6,120,588)	(2,718,549)	0.02%	(\$38)
13	TOTAL	(\$5,781,477)					\$1,357,013

CONSUMERS ENERGY COMPANY
SUMMARY OF PRINCIPAL AMOUNT & INTEREST

<u>LINE</u>	<u>ITEM</u>	<u>PRINCIPAL</u>	<u>INTEREST AT 3/31/21</u>	<u>TOTAL PRIN & INT AT 3/31/21</u>
1	GCR OVERRECOVERY	\$683,489	\$1,357,013	\$2,040,502

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

DIRECT TESTIMONY

OF

JAMES P. PNACEK, JR.

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2021

JAMES P. PNACEK, JR.
DIRECT TESTIMONY

1 **Q. Please state your name, address, and position with Consumers Energy Company**
2 **(“Consumers Energy” or the “Company”).**

3 A. My name is James P. Pnacek, Jr, and my business address is 1945 West Parnall Road,
4 Jackson, Michigan 49201. I am employed as a Senior Engineer III in the Gas Operations
5 and System Planning section of Gas Management Services in the Energy Supply
6 Department for Consumers Energy.

7 **Q. Please outline your education, business, and technical experience.**

8 A. I received a Bachelor of Science degree, with Honor, in Mechanical Engineering from
9 Michigan State University in 1992. I joined Consumers Energy in 1992 as a Graduate
10 Engineer in the Natural Gas Compression Department where I was responsible for
11 providing project management and operational support to the Company’s seven
12 compressor stations. I transferred to the St. Clair Compressor Station in 1996 where I
13 supervised operating and maintenance employees and had responsibility for operating and
14 maintaining the Station. In 1998, I joined the Gas Operations Technical Support
15 Department where I was responsible for the Gas Transmission and Storage Capital Budget
16 and performing decision analysis prioritization on the capital projects. In 2001, I joined
17 the Gas Engineering, Regulatory, and Operating Services - Codes and Standards Group.
18 In this position, I was Chairman of the Gas Transmission and Storage Standards Committee
19 and was responsible for maintaining the Michigan Gas Safety Code-based standards and
20 addressing Michigan Gas Safety Code compliance questions. In 2005, I transferred to the
21 Electric Generation Operations Department. In this position, I was responsible for
22 implementing and managing a Health and Safety Compliance program for Consumers
23 Energy’s electric generating plants. In 2008, I joined the Gas System and Operations

JAMES P. PNACEK, JR.
DIRECT TESTIMONY

1 Planning section of Gas Management Services. I assumed my current duties and
2 responsibilities in 2011.

3 **Q. What are your current duties and responsibilities with Consumers Energy?**

4 A. In my current position, I am responsible for developing winter and summer operating plans
5 that meet storage field injection targets and winter operating requirements. I maintain these
6 plans on at least a monthly basis. In the summer, I provide purchase recommendations that
7 facilitate storage injections and the storage field inventory progression which are designed
8 to achieve the end-of-October storage field target for Gas Cost Recovery ("GCR") and Gas
9 Customer Choice ("GCC") customers given the current planned system outages. I am also
10 involved in the system outage planning process which was designed to help minimize the
11 impacts of planned and required outages on supply and storage operations. In the winter,
12 working with the Gas Supply Department, I determine the winter purchase requirements to
13 meet customer demands for normal, design, and peak day conditions. I develop operating
14 plans that track actual natural gas supply and storage use, and then plan for natural gas
15 supply and storage dispatch for the next six to 12 months. I am also responsible for the
16 development of the daily storage field dispatch schedule, which is the operating plan for
17 the Company's Gas Control Group and has 24/7 responsibility for the dispatching of all
18 gas transmission and storage facilities.

JAMES P. PNACEK, JR.
DIRECT TESTIMONY

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

3 A. Yes. I filed testimony and/or testified in GCR Reconciliation Case Nos. U-16924-R,
4 U-17133-R, U-17334-R, U-17693-R, U-17943-R, U-20075, U-20209, and U-20233. I
5 have also filed testimony in the GCC and end-use transportation proceeding in Case No.
6 U-17900.

7 **Q. What is the purpose of your direct testimony?**

8 A. The purpose of my direct testimony is to discuss certain operational decisions made during
9 the 2020-2021 GCR Plan year.

10 **Q. How will the April 2020–March 2021 GCR Plan year be referenced throughout this**
11 **direct testimony?**

12 A. The April 2020–March 2021 GCR Plan year will be called the “GCR Plan year.”

13 **Q. How is the remainder of your direct testimony organized?**

14 A. My direct testimony is organized as follows:

15 I. GCR PLAN YEAR OPERATIONAL DECISIONS AND OPERATING PLANS

16 II. SUMMER OPERATIONS

- 17 A. Summer Injection Target
- 18 B. Summer GCR Purchases
- 19 C. Summer Purchase Capacity

20 III. WINTER OPERATIONS AND PLANNING

- 21 A. Peak Day Process
- 22 B. Winter Design Load Requirements
- 23 C. Winter Operating Plans (“WOP”) And Plan Updates for Purchases
- 24 D. Winter Operating Schedules for Operations

25 IV. WINTER RESULTS AND PURCHASE DECISIONS

- 26 A. Winter Weather Overview
- 27 B. Comparison of The Filed Normal GCR Plan to The Normal Winter
28 Operating Plan
- 29 C. Comparison of The Filed Normal GCR Plan to Booked Actuals
- 30 D. Comparison of The Normal WOP to Booked Actuals

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- E. Storage Field Utilization
- F. Winter Storage Assessment
- G. March Purchase Decision
- H. March Storage Assessment
- I. Summary

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring the following exhibits:

- | | |
|-----------------------|--|
| Exhibit A-5 (JPP-1) | Booked Actuals Versus Filed Normal Plan for the GCR Plan Year 2020-2021; |
| Exhibit A-6 (JPP-2) | Design Load and February and March 2021 4% Probability CTN Design Comparison; |
| Exhibit A-7 (JPP-3) | 2020-2021 Degree Day Winter Design Scenario Summary; |
| Exhibit A-8 (JPP-4) | Filed Normal Plan Versus Normal Winter Operating Plan Versus Booked Actuals Comparison; |
| Exhibit A-9 (JPP-5) | Design Warm Winter Operating Plan Versus Booked Actuals Comparison; |
| Exhibit A-10 (JPP-6) | Comparison Between Filed Design Cold Plan, Design Cold Winter Operating Plan, and Booked Actuals; |
| Exhibit A-11 (JPP-7) | GCR/GCC Storage Utilization Plan Comparison Between Filed Design Cold Plan, Design Cold Winter Operating Plan, and Booked Actuals; |
| Exhibit A-12 (JPP-8) | End of Season 2019-2020 Linear Regression Plot; |
| Exhibit A-13 (JPP-9) | Historical Correlation Analysis; |
| Exhibit A-14 (JPP-10) | Late Season Linear Regression Plot; |
| Exhibit A-15 (JPP-11) | End of Season 2020-2021 Linear Regression Plot; and |
| Exhibit A-16 (JPP-12) | March 2021 Purchase Decision Assessment of Gas Available from Storage and GCR Purchases Required to Meet Monthly and Daily Loads. |

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

2 A. Yes.

3 **I. GCR PLAN YEAR OPERATIONAL DECISIONS AND**
4 **OPERATING PLANS**

5 **Q. How does the Company make operational decisions during a GCR Plan year?**

6 A. The Company begins with the GCR Plan. The GCR Plan was finalized in December 2019.
7 The GCR Plan recognizes that operational conditions will not precisely match the GCR
8 Plan assumptions and, therefore, the GCR Plan contemplates that operational reviews will
9 occur during the GCR year and appropriate adjustments will be made based on actual
10 operating conditions. The Company then develops operating plans. The input data and
11 assumptions in the operating plans start out very close to the GCR Plan assumptions but
12 will vary more as time passes in order to reflect and take into consideration updated
13 information and actual conditions, so that the latest and best information is used in making
14 operational decisions. The operating plans are updated at least monthly during the GCR
15 Plan year.

16 **Q. Please describe the operating plan review process that occurs before and during the**
17 **GCR Plan year.**

18 A. Updated summer plans are developed in late March to early May and then updated monthly
19 through the fall. An updated winter plan is developed in late August to early November.
20 A normal winter plan, a design cold winter plan, and a design warm winter plan are
21 developed at that time. Consistent with the GCR Plan, the design cold winter plan is
22 completed first using the 4% probability early season bias technique and the latest available
23 data. Next, the normal winter plan is developed using the sequential 4% probability
24 weather technique and peak day designs, to determine a supply and storage dispatch

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1 strategy that covers a wide range of cold weather possibilities. Then a design warm winter
2 case is developed, using the sequential 4% probability weather and peak day designs. Each
3 of the monthly simulations in the design warm case assumes 4% probability early season
4 bias cold weather for the upcoming months while using 4% probability warm weather for
5 the assumed historical months. This helps determine how low supplies can be allowed to
6 drop while still protecting against the possibility of cold weather. It also helps determine
7 storage dispatching flexibility. The 4% probability method has been used by the Company
8 for GCR planning purposes since the 2002-2003 winter. On a total winter season basis,
9 based on 60 years of historical data from 1960 to 2020, this results in approximately 744 (or
10 about 15.0%) additional Degree Days (“DD”) for Colder-Than-Normal (“CTN”) design
11 from the normal average.

12 **Q. Was this process followed for the GCR Plan year?**

13 A. Yes.

14 **Q. What is the purpose of the operating plans?**

15 A. The operating plans are intended to be working papers. The operating plans are detailed
16 operations and planning documents that provide a summary of total system data and are
17 used to perform a total system analysis. The total system analysis includes the following
18 customer groups: GCR, the non-GCR customers of GCC, and third party. The operating
19 plans are used to determine the monthly GCR purchase requirements for GCR customers,
20 track and forecast the monthly GCR purchase requirements for GCR customers, manage
21 the monthly injection and withdrawal volumes of each of Consumers Energy’s storage
22 fields, manage the inventories of each of Consumers Energy’s storage fields, track the
23 monthly GCC supply requirements, track and forecast the storage inventories for the other

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1 non-GCR/GCC customers, track actuals for comparison against the filed GCR Plan, and
2 manage the system to meet the GCR/GCC summer inventory targets filed in the GCR Plan.

3 **Q. Please define the customers that are considered “third party”?**

4 A. Third-party customers consist of end use transportation (“EUT”) customers, Act 9
5 Transportation customer Midland Cogeneration Venture, LP (“MCV”) and Other
6 Michigan Utilities, and Buy/Sell customers.

7 **Q. Did Consumers Energy conduct any Buy/Sell transactions during the GCR Plan**
8 **year?**

9 A. Yes. Consumers Energy began the GCR Plan year with 0.0 Bcf Buy/Sell inventory. In
10 April 2020, 1.9 Bcf was injected; in May 2020, 2.8 Bcf was injected. In December 2020,
11 4.3 Bcf was withdrawn. This left 4.3 Bcf remaining Buy/Sell gas in Total Storage
12 inventory for the remainder of the winter season to provide pressure support for winter
13 operations.

14 **Q. Why are GCR/GCC purchases addressed on a combined basis in operational**
15 **analyses?**

16 A. The GCC program was set up as a Buy/Sell program. The Company tells the GCC
17 suppliers how much gas to deliver into the Company’s system each month, and the program
18 requires Consumers Energy to remit payment to a GCC supplier for gas delivered,
19 regardless of whether or not it is used by the supplier’s customers in the month delivered.
20 If a customer uses more gas than a GCC supplier has delivered into the Company’s system,
21 then the Company is required to act as supplier of last resort under the program. In
22 addition, GCC customers may return to Consumers Energy’s sales service at any time.
23 Because of this, and because customers have few restrictions on their movement to GCC,

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1 the number of GCC customers may change from month-to-month. For operational and
2 inventory planning purposes, it is reasonable and appropriate to consider GCR/GCC on a
3 combined basis. This is consistent with the filed GCR Plan.

4 **Q. Why is it important that Consumers Energy's operating plan represent a total system**
5 **analysis?**

6 A. Both the GCR purchase and storage utilization plans are impacted by forecasted supply
7 patterns and storage activities of Consumers Energy's non-GCR customer groups as well
8 as system capabilities and constraints. For this reason, the GCR Plan is developed through
9 modeling of the entire integrated Consumers Energy system. Total system analyses are
10 completed to ensure that contractual obligations, storage utilization, peak day, and monthly
11 delivery requirements for all customer groups are being met within the constraints of
12 Consumers Energy's integrated natural gas storage, transmission, and compression system.
13 The operating plan is used to track against the filed GCR Plan and to meet the GCR/GCC
14 summer inventory targets filed in the GCR Plan; therefore, it must represent a total-system
15 analysis.

16 **Q. Why does the Company not track GCC sales or GCC storage inventories separately**
17 **on its operating plans but presents those items separately on its exhibits in the GCR**
18 **Reconciliation?**

19 A. Monthly operating plans developed to prudently manage the Company's natural gas system
20 on a total-system basis are qualitatively different than exhibits developed for a GCR
21 Reconciliation case, and they should not be considered interchangeable. Operating plans
22 are forward-looking operational working papers intended to be utilized to make GCR
23 purchasing and other operating decisions. The GCC monthly storage inventories are shown

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1 on Exhibit A-5 (JPP-1), for informational purposes only, as a hindsight summary
2 presentation of summer and winter operations. The exhibit compares the Filed Normal
3 GCR Plan versus Booked Actuals. This is the only exhibit where it is appropriate, and the
4 information is available, to display a comparison of GCC storage inventories. The data is
5 available for this exhibit because the GCC storage inventories are provided in the filed
6 GCR Plan; the GCC storage inventories are provided in the exhibit for informational
7 purposes only.

8 The Company does not use GCC storage inventories to make GCR purchasing or
9 other operating decisions, and the operating plans were not intended or designed to be
10 adapted or modified for those purposes. Using the GCC monthly inventories on the
11 operating plans to evaluate the Company's GCR purchasing or other operating decisions
12 would add no value because the Company does not use this information in making GCR
13 purchasing or other operating decisions.

14 **Q. Why are GCC sales and GCC storage inventories not provided separately on Exhibits**
15 **A-8 (JPP-4) and A-9 (JPP-5)?**

16 A. GCC sales and GCC storage inventories are not provided separately in Exhibits A-8
17 (JPP-4) and A-9 (JPP-5) because this information is not separated out in the winter
18 operating plans ("WOPs"), and these exhibits provide a comparison to the WOPs. The
19 operating plans utilize combined GCR/GCC sales and GCR/GCC storage inventories.

20 **Q. Why does the Company track GCR purchases and GCC supply separately in its**
21 **operating plans?**

22 A. GCR purchases and GCC supply are tracked separately on the operating plans because the
23 GCC supply coming in for the month directly impacts the GCR purchase requirements.

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1 GCC sales, by themselves, and GCC storage inventories do not impact GCR purchasing or
2 other operating decisions. It should also be noted that the GCC supply volumes included
3 in the operating plans are provided to the Gas Systems and Operations Planning section of
4 Gas Management Services as an input into the operating plans. GCC supply volumes are
5 developed by the Gas Transportation and Measurement section in the Gas Management
6 Services Department using a process prescribed by the Company's Commission-approved
7 GCC program tariffs.

8 **Q. Does the Company allocate storage space to GCC customers?**

9 A. No. The GCC program and tariff which governs it, provide that it is a Buy/Sell program.
10 Consumers Energy purchases the gas from alternative gas suppliers ("AGS"), owns the
11 gas, redelivers the gas to GCC customers, and receives payment from GCC customers for
12 the commodity pursuant to the price negotiated between the customers and their AGS. The
13 tariff does not provide for an allocation of storage to GCC customers. In contrast, the EUT
14 program, and the tariffs which govern that program, do not make Consumers Energy the
15 owner of the gas, which is received from suppliers onto the Company's system and then
16 delivered to EUT customers. The EUT Program correspondingly provides for an express
17 allocation of storage to EUT customers.

18 **Q. What storage field inventory measurement scale is used in the Company's operating**
19 **plans referenced in this direct testimony?**

20 A. The field inventories are presented in three ways in the Company's operating plans.
21 Geologic inventories are shown for individual storage field measurement and as a
22 combined total for all storage fields. Operating working gas is shown for a combined
23 GCR/GCC field inventory, and for a total inventory, which includes all customers.

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Accounting working gas is shown for a combined GCR/GCC field inventory and for a total inventory which includes all customers.

Q. Operationally, how does the Company track storage field inventory?

A. Since the fields were converted to storage, the Company's reservoir and operations engineers have used an inventory measurement scale that measures each field's inventory from the value it contained when it was first discovered. The inventory at any point in time is, thus, the summation of all the withdrawals and injections that have occurred since the field was discovered. For example, if a new field had 1,000 MMcf of withdrawals followed by 900 MMcf of injection, its inventory would be -100 MMcf (-1,000 + 900). This inventory measurement is used by the Company's operating and reservoir personnel almost exclusively for daily operations and record keeping. This is the value that the Company refers to when it talks about the geologic inventory. Individual storage field inventories are only tracked by geologic inventory. This also explains why the geologic inventories on the operating plans and on Exhibit A-16 (JPP-12) may appear as negative numbers.

Q. What is operating working gas?

A. Operating working gas is the inventory measured relative to an assumed base gas level. This operating working gas is the volume considered to be accessible or able to be withdrawn in one winter. When the operating working inventory drops to zero, all the operating working gas has been withdrawn, and the field only contains recoverable base gas and native base gas. However, this measure has only limited usefulness for operations because most fields cannot be drawn down to this base gas level in a withdrawal season.

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1 **Q. Can all operating working gas be withdrawn in a withdrawal season?**

2 A. Operating working gas can potentially be withdrawn to zero given a sufficient length of
3 time and design of cold and peak day weather conditions. Some fields can be cycled to a
4 zero working gas level during a typical winter season. Other fields would require a longer
5 time period or design peak day conditions to have occurred. The total withdrawal for a
6 typical winter season is limited due to factors such as engine or pipeline outages and
7 weather. Weather affects how many days the field is needed for withdrawal. The earlier
8 in the season the weather turns cold, the more days the field is needed for withdrawal,
9 which results in more gas that can be withdrawn. Both weather and equipment can affect
10 how much gas can be withdrawn, and needs to be withdrawn, each day. If it is cold, then
11 more gas is required each day. System limitations, such as horsepower or pipeline
12 restrictions, limit the amount of gas that can be withdrawn each day and over the season.

13 **Q. What is accounting working gas?**

14 A. Accounting working gas is intended to be a measure of the amount of gas available for
15 withdrawal if the fields were to be abandoned. Per the Commission's Accounting Order
16 in Case No. U-12679, the portion of base gas that was considered recoverable if certain
17 storage fields are abandoned, also known as recoverable base gas, was transferred to the
18 accounting working gas storage account. Over time, the Company has made various
19 upgrades and changes in storage operations which have facilitated cycling to lower
20 inventories in some of the storage fields, which has led to changes in the amount of
21 recoverable base gas that remains in the accounting working gas account. At the time of
22 the 2020-2021 GCR Plan case, the volume of recoverable base gas in the accounting
23 working gas account was 62,679 MMcf. The 62,679 MMcf is considered primarily

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1 unusable during one winter withdrawal cycle with design cold and peak day weather
2 conditions. However, if extreme winter weather conditions occur (beyond the Company's
3 4% design cold), then the accounting working gas inventory could end up below the
4 operating working gas base and, as a result, the Company would begin drawing from the
5 gas previously classified as recoverable base gas. In this situation, the volume of
6 recoverable base gas may be reduced based on actual results for the next GCR period.

7 **Q. How can a storage inventory be converted to an accounting, operating, or geologic**
8 **inventory?**

9 A. Conversion factors are provided in Table 1 below. To convert from geologic inventory to
10 operating working gas, the factor in column A should be added to the geologic inventory.
11 To convert from the operating working gas to the geologic inventory, column A should be
12 subtracted from the operating working gas. To convert from the operating working gas to
13 the accounting working gas, column B should be added to the operating working gas. To
14 convert from the accounting working gas to operating working gas, column B should be
15 subtracted from the accounting working gas. To convert from geologic inventory to
16 accounting working gas, column C should be added to the geologic inventory. To convert
17 from accounting working gas to geologic inventory, column C should be subtracted from
18 the accounting working gas.

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Table 1: Storage Inventory Conversion Factors

	A	B	C
FIELDS	Geologic Inventory to Operating Working Gas	Operating Working Gas to Accounting Working Gas	Geologic Inventory to Accounting Working Gas
Winterfield	11,856	0	11,856
Cranberry Lake	6,718	0	6,718
Riverside	1,482	0	1,482
Overisel	10,868	23,712	34,580
Salem	6,521	18,179	24,700
Northville Reef	494	0	494
Lyon "34"	692	0	692
Lyon "29"	1,215	0	1,215
Four Corners	2,361	889	3,250
Swan Creek	415	99	514
Hessen	10,374	2,440	12,814
Ira	1,976	3,211	5,187
Lenox	1,778	1,186	2,964
Puttygut	11,362	3,083	14,445
Ray	34,580	9,880	44,460
TOTAL	102,693	62,679	165,371

Q. How is storage inventory presented in Exhibits A-5 (JPP-1), A-8 (JPP-4), A-9 (JPP-5), and A-10 (JPP-6)?

A. These exhibits are presented using the accounting working gas inventories.

Q. Why is accounting working gas used in these exhibits?

A. The information presented is consistent with the manner in which it is prepared, compiled, and used by the Company for planning and other business purposes. Presenting in the account working gas format is consistent with the filed GCR Plan. In addition, the accounting working gas inventory value is utilized to determine the average cost of gas in storage.

1 **II. SUMMER OPERATIONS**

2 **A. Summer Injection Target**

3 **Q. What months represent the storage field injection cycle for this GCR Plan year?**

4 A. The months of April 2020 through October 2020 represents the summer storage field
5 injection season. This time period will be referred to as the “summer injection period” in
6 my direct testimony.

7 **Q. What is the significance of October 31, 2020, in summer injection planning?**

8 A. October 31, 2020 represents the last day of the summer injection period. This is the date
9 the plan targets to meet the GCR/GCC accounting working gas inventory target. This date
10 will be referred to as the “end of October” in my direct testimony.

11 **Q. What was the Company’s objective during the summer injection period?**

12 A. The primary objective was to achieve the end of October GCR/GCC accounting working
13 gas storage inventory target of 175.6 Bcf.

14 **Q. Why is the target a combined GCR and GCC storage inventory?**

15 A. The summer storage inventory target is a combined target because customers migrate back
16 and forth between the GCC program and GCR service. The impact of this customer
17 migration on GCR purchase requirements is essentially one-for-one from a volume
18 standpoint. As customers and their associated demand requirements return to GCR service,
19 and assuming no other changes, GCR purchases increase by about the same magnitude as
20 the GCC supplies decrease. As customers and their associated load move to the GCC
21 program, GCR purchases decrease by about the same magnitude as the GCC supplies
22 increase.

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1 **Q. Is this the same inventory target that was filed in the 2020-2021 GCR Plan?**

2 A. Yes.

3 **Q. Why did Consumers Energy maintain the same filed GCR/GCC inventory target?**

4 A. The October GCR/GCC storage inventory target is a balance of several considerations.
5 The primary considerations include that the inventory: (i) is obtainable given current
6 operating considerations or following a design CTN winter; (ii) provides sufficient storage
7 capacity to serve design cold and peak day demand given current firm transportation
8 contracts and projected GCR/GCC demand; (iii) allows for storage to be cycled under
9 design cold conditions to about the minimum operating storage inventory levels; (iv) takes
10 advantage of anticipated lower summer natural gas prices as compared to winter prices;
11 and (v) allows for incremental injection capacity for all customers for warmer-than-normal
12 (“WTN”) weather at the end of the injection season (summer injection period). Based on
13 these considerations, the target was not changed from that which was included in the
14 Company’s filed GCR Plan.

15 **Q. How did the Company’s actual end of October working gas inventory for GCR/GCC**
16 **customers compare to the inventory target per the filed GCR Plan?**

17 A. The Company’s end of October working gas inventory for GCR/GCC customers,
18 Exhibit A-5 (JPP-1), line 43, column H, was 175.5Bcf, which was within 0.06% of the
19 Company’s GCR Plan filed inventory target of 175.6 Bcf. The inventory target is in the
20 accounting working gas scale.

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B. Summer GCR Purchases

Q. How were monthly GCR purchases determined?

A. The Company developed monthly operating plans in late March, late April, late May, late June, late July, late August, and late September for the storage field injection cycle. These operating plans are considered the “summer monthly purchase plans.” The Company makes monthly GCR purchase adjustments to account for factors such as normal sales deviations, revised corporate sales forecasts, revised GCC forecasts, and other factors that may affect GCR purchase capacity in a given month. This includes planned, unplanned, or extended facility outages, annual storage field pressure surveys, and revised third-party customer forecasts.

Q. On what dates were the summer monthly purchase plans issued?

A. The plans were issued on or about the following days:

Late March Purchase Plan	March 23, 2020
Late April Purchase Plan	April 22, 2020
Late May Purchase Plan	May 19, 2020
Late June Purchase Plan	June 17, 2020
Late July Purchase Plan	July 21, 2020
Late August Purchase Plan	August 18, 2020
Late September Purchase Plan	September 22, 2020

Q. Were additional updates made to the summer monthly operating plans?

A. Yes. Early in the months of April, May, June, July, August, September, and October the late-month summer purchase plans were updated and used as a monthly operating schedule for storage field injections during the summer injection period. Actual loads, supplies, and final storage field inventories for the previous month were included. These operating plans are considered the “summer monthly operating schedules.”

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1 **Q. On what dates were the summer monthly operating schedules issued?**

2 A. The schedules were issued on or about the following days:

Early April Operating Plan	April 6, 2020
Early May Operating Plan	May 5, 2020
Early June Operating Plan	June 5, 2020
Early July Operating Plan	July 6, 2020
Early August Operating Plan	August 5, 2020
Early September Operating Plan	September 3, 2020
Early October Operating Plan	October 6, 2020

3 **Q. Please describe the monthly GCR purchases made during the summer operating**
4 **period.**

5 A. Exhibit A-5 (JPP-1) compares the summer injection period monthly GCR gas purchase
6 volumes per the filed Normal GCR Plan to those that were booked.

7 **Q. Please summarize how the total GCR purchase volumes made during the summer**
8 **injection period compared to the filed Normal GCR Plan purchases.**

9 A. As Exhibit A-5 (JPP-1) shows in line 31, column I, during this period of time, the booked
10 GCR purchases were 142.0 Bcf compared with GCR purchases forecasted in the GCR Plan,
11 line 7, of 139.1 Bcf. The booked GCR purchases were 3.0 Bcf above the filed GCR Plan
12 for the summer injection period, as shown on Exhibit A-5 (JPP-1), line 55.

13 **Q. Why was the actual GCR purchase 3.0 Bcf above the filed GCR Plan for the summer**
14 **injection period?**

15 A. Exhibit A-5 (JPP-1), line 69, column A, shows that the GCR inventory at the end of March
16 2020 started 4.4 Bcf higher than the filed GCR Plan. Actual GCC injection requirements
17 were 5.3 Bcf (line 68, column J) less than the filed GCR Plan resulting in a 3.2 Bcf (line
18 69, column H) higher than the filed Normal Plan GCR end of October storage field
19 inventory requirement to meet the end of October GCR/GCC Inventory target. Overall,

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1 1.2 Bcf (line 69, column J) less of storage field injection was required to meet the ending
2 GCR Storage Field Inventory on October 31, 2020. However, line 53, column I, shows
3 GCR Sales were 4.5 Bcf higher than the filed Normal Plan.

4 **Q. Please summarize how the monthly GCR purchase volumes made during the summer**
5 **injection period compared to the filed Normal GCR Plan purchases.**

6 A. As shown on Exhibit A-5 (JPP-1), Line 55, columns B-H, April 2020 was 7.8 Bcf below
7 the filed Normal GCR Plan, June 2020 was 5.0 Bcf above the filed Normal GCR Plan,
8 July 2020 was 4.5 Bcf above the filed Normal GCR Plan, August 2020 was 3.0 Bcf above
9 the filed Normal GCR Plan, and October 2020 was 2.0 Bcf below the filed Normal GCR
10 Plan.

11 **Q. Why were the GCR purchases for April 2020 7.8 Bcf below the filed Normal GCR**
12 **Plan?**

13 A. This was the start of the Covid-19 pandemic. There was uncertainty about staffing levels
14 at the Compressor Stations if employees became ill or were quarantined with the virus.
15 The potential existed that some of the station would be shut down if employees became ill
16 or were quarantined. With the uncertainty from the newly emergent pandemic, some GCR
17 purchases were deferred to avoid supply restrictions if one or more compressor station was
18 shut down due to the pandemic. About 7.5 Bcf was deferred and spread out over the
19 remaining summer months.

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1 **Q. Why were the GCR purchases for June 2020, July 2020, and August 2020 above the**
2 **filed Normal GCR Plan?**

3 A. Due to the Covid-19 pandemic impacts in April 2020, the deferred 7.5 Bcf in purchases
4 needed to be purchased over the remainder of the summer months with included June, July,
5 and August 2020.

6 **Q. Why were the GCR purchases for October 2020 2.0 Bcf below the filed Normal GCR**
7 **Plan?**

8 A. The summer injection plan provided for additional GCR Purchase capacity to be left in
9 October in case it was needed to deal with the uncertainties of Covid-19 impacts on
10 operations and to allow for warm weather planning flexibility.

11 **Q. How did the Company achieve the working gas inventory target for GCR/GCC**
12 **customers?**

13 A. As described above, the Company made appropriate purchase and operating adjustments,
14 based on the best information available at the time, throughout the summer to ensure the
15 proper progression towards the end of October GCR/GCC working inventory target set
16 forth in the GCR Plan by balancing above plan GCR and GCC starting inventories with
17 potentially reduced GCR purchase capacity in the summer.

18 **C. Summer Purchase Capacity**

19 **Q. Please describe the Company's summer injection period GCR purchase.**

20 A. Gas transmission system outages on Consumers Energy's system were planned for the
21 spring, summer, and fall of 2020. The outage schedule was developed during the
22 2019-2020 winter. The Company recognized that injection capacity and thus GCR
23 purchase capacity would be reduced throughout the summer as pipeline outages would be

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1 combined with lower storage field injectability and storage field outages for pressure
2 surveys. The Company had to plan around 15 major Company pipeline outages related to
3 the federally-mandated Pipeline Integrity program. Based on the March 2020 outage
4 schedule, over 571 total pipeline outage days were expected during the injection season.
5 Portions of Lines 100A,250, 300, 400, 1060, 1100, 1200B, 1600, 2070, 2400A, 2400B,
6 4060 were scheduled to be out of service at various times, with all of them scheduled to
7 start after May. About 550 total pipeline outage days were experienced during the injection
8 season.

9 For the summer injection period, GCR purchases averaged 20.3 Bcf per month for
10 April through October. The primary objective of these purchases was to achieve the end
11 of October GCR/GCC inventory target.

12 **Q. Why does Consumers Energy make intra-month or point specific purchases during**
13 **the injection season?**

14 A. The Company has utilized intra-month and point-specific gas purchases for planning
15 around outages and variables such as storage field surveys, facility outages, and warm
16 weather contingency planning in October. The objective of summer injection is to meet
17 the October 31 GCR/GCC inventory target. Over the duration of the summer, major
18 pipeline outages or storage field surveys may significantly limit the volume of gas that can
19 be brought on to the system for a portion of a month. Intra-month gas purchases are
20 typically utilized to leverage the flexibility lacking in term deals, when such flexibility is
21 operationally necessary or beneficial, e.g. in managing supply receipts or managing
22 injection capacity to achieve storage inventory targets and to avoid excess gas on the
23 system resulting from limited daily injectability. As a result, intra-month and point-

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specific GCR purchases may be made to minimize the operational impacts for the remaining injection months and to minimize the risk of not meeting the GCR/GCC inventory target.

Q. Did the Company buy any point-specific supply during the summer injection season?

A. No.

Q. Why did the Company make Intra-month purchases for June 2020?

A. The intra-month purchases were made based on the best information available at the time to manage the progression towards meeting the end of month October GCR/GCC inventory target within the known and forecasted operating constraints of the system. Intra-month purchases were made due to an outage on the Trunkline Gas Company's facilities.

Q. Why did the Company make intra-month purchases for September 2020?

A. The intra-month purchases were made based on the best information available at the time to manage the progression towards meeting the end of month October GCR/GCC inventory target within the known and forecasted operating constraints of the system. Intra-month purchases were made around planned outages at the Muskegon River and Ray Compressor Stations that limited injectability.

Q. Why did the Company make intra-month purchases for October 2020?

A. The intra-month purchases were made based on the best information available at the time to meet the end of month October GCR/GCC Inventory target and to manage the supply within the monthly and daily injection limits. The purchases considered the overall status of gas in inventory near the end of September and considered the limited number of days remaining in order to meet the October target. They provided flexibility to manage the system supply in the event the weather experienced was WTN for the overall month and

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1 on a daily basis. In October, storage field surveys are conducted, and it is determined
2 whether individual storage fields are at target inventory or have limited injection volumes
3 remaining. Storage fields have a limited daily injectability regardless of the amount of
4 inventory remaining. Each storage field has a different daily injection rate and that rate
5 declines as the storage field approaches its target inventory. If the supply on any given day
6 exceeds the combination of customer demand and storage field injection rate capability,
7 then a system overpressure could occur unless system supply restrictions are put in place.
8 As each day progresses in the month of October, the remaining storage volumes decrease,
9 and the available daily injection capability declines with the risk of operational issues
10 occurring anytime during October when very limited storage capabilities exist to handle
11 WTN weather. Additionally, intra-month purchases provided flexibility to manage CTN
12 weather and storage field withdrawals to achieve GCR/GCC Inventory targets. When the
13 weather is CTN then gas planned for injection is used by customer demand which could
14 result in withdrawals and causing inventory to be below the GCR/GCC Inventory target.

15 **Q. How were intra-month gas purchase decisions made throughout October?**

16 A. Decision points were established throughout the month to determine intra-month purchase
17 volumes. This allowed the Company the flexibility to manage storage field injectability to
18 reduce the risk of an overpressure situation or supply restriction should the injectability be
19 less than the injection requirements at any point in October due to WTN weather and to
20 increase purchases to minimize withdrawal and maintain injection to achieve the
21 Commission-approved GCR/GCC end of October inventory target.

III. WINTER OPERATIONS AND PLANNING

Q. What months does the Company consider withdrawal season for winter operations?

A. The months of November 2020 through March 2021 are considered winter operating months and comprise the withdrawal season. This time period will be referred to as the “winter withdrawal period” in my testimony.

Q. What was the Company’s purchasing objective during winter operations?

A. Each monthly winter purchase decision was based on maximizing storage field withdrawals and minimizing front month purchases while protecting against design CTN weather throughout the entire winter and being prepared to meet the January 31, 2021; February 28, 2021; and March 31, 2021 design peak days.

A. Peak Day Process

Q. In the 2012-2013 GCR Plan case, Case No. U-16924, Consumers Energy witness Lori M. Harvey presented evidence that “[g]oing forward, enhancements or refinements to the design peak day load estimate approach will be considered by Consumers Energy for potential use in the future.” In the February 28, 2013 Order in Case No. U-16924, page 9, the Commission stated, “[i]n its next gas cost recovery plan case, Consumers Energy Company shall provide a more rigorous and refined statistical model of its design peak day consumption as well as justifications for the reasonableness of its forecast.” Did the Company develop and present a more rigorous and refined peak day forecast process?

A. Yes. The Company developed enhancements and refinements to the design peak day forecast approach which were presented in Company witness Jonathon J. Guscinski’s testimony in the 2013-2014 GCR Plan case, Case No. U-17133. In its July 8, 2014 Order

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1 in Case No. U-17133, the Commission found that the Company's refinements to its design
2 peak day load forecasting methodology comply with the Commission's previous directive
3 and represent a more rigorous and refined peak day load forecast than presented in previous
4 Plan cases. That refined process was the process utilized again during the GCR Plan year.

5 **Q. Please provide an overview of the nature of the enhancements and refinements.**

6 A. The refinements reflect: (i) correlation of the peak day forecast to the gas deliveries forecast
7 as an alternative to the Company's former Power Fit correlation; (ii) using a statistical
8 approach in determining the upper boundary of data rather than graphical extrapolations;
9 and (iii) using a peak day floor mechanism to prevent forecasted peak day load from going
10 below the linear regression value for 80 wind adjusted weighted DD ("WAWDD") from
11 the most recent winter actuals.

12 **B. Winter Design Load Requirements**

13 **Q. How are the incremental winter design load requirements determined?**

14 A. The incremental winter design load requirements are determined by multiplying the
15 incremental MMcf/WAWDD, or weather sensitivity factor, by the incremental DD
16 associated with a 4% design probability for each weather scenario. The incremental load
17 requirements are added to or subtracted from the normal weather forecast for CTN weather
18 or WTN weather, respectively.

19 **Q. How is the incremental MMcf/WAWDD derived?**

20 A. The incremental MMcf/WAWDD is the slope of a linear regression analysis derived from
21 the Company's peak day forecast process discussed above.

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1 **Q. Please describe the incremental MMcf/WAWDD used to determine the winter design**
2 **load requirements.**

3 A. The incremental MMcf/WAWDD used to determine the winter design load requirements
4 are shown in Exhibit A-6 (JPP-2). Exhibit A-6 (JPP-2), line 8, contains a comparison of
5 the incremental city gate load per WAWDD. Line 8, column A, shows the projections
6 included in the December 2019 GCR Plan case filing. Line 8, column B, shows the Annual
7 Update developed by the Company in October 2020. Line 8, column C, shows the results
8 from the Late Season Regression Operating Plan update, which is discussed in the March
9 Purchase Decision section of my testimony and shown in Exhibit A-14 (JPP-10). Line 8,
10 column D, shows the results of the 2020-2021 End of Season Regression.

11 **Q. How were the Annual Update, October 2020 incremental MMcf/WAWDD**
12 **calculations, determined?**

13 A. In order to develop the information provided in Exhibit A-6 (JPP-2), line 8, column B, a
14 linear regression of daily outputs versus WAWDD data was developed using 2019-2020
15 weather data. This linear regression is shown in Exhibit A-12 (JPP-8). Then a 15-year
16 historical analysis was conducted utilizing estimated peak day load values through the
17 winter of 2019–2020, which are correlated via linear regression with weather adjusted
18 January loads. This linear regression is shown in Exhibit A-13 (JPP-9). The mathematical
19 relationship resulting from this correlation was then used to forecast the design peak day
20 city gate loads using January 2021 load volumes, based on the October 2020 Corporate
21 Gas Deliveries forecast, of 50,683MMcf. The calculation resulted in the forecasted
22 January 2021 design peak day city gate load, in Exhibit A-6 (JPP-2), line 11, column B, of
23 3,161 MMcf.

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Next, the incremental city gate load per WAWDD (slope) in Exhibit A-6 (JPP-2), line 8, column B, was determined by referring to the linear regression in Exhibit A-12 (JPP-8). The projected January 2020 design peak day city gate load, based on data from the 2019-2020 winter of 3,157 MMcf and the slope of 35.11 MMcf/DD, are used from the linear regression. In order to determine the annual update incremental city gate load per WAWDD slope, first the percent difference between the January 2020 design peak day city gate load and the January 2021 design peak day city gate load needs to be calculated. This was calculated to be 0.11%. This percentage is applied to the 0 DD base load which results in a proportionate change in the 2019-2020 MMcf/DD slope to the 2020-2021 MMcf/DD slope. The result is the annual update incremental city gate load per WAWDD slope, in Exhibit A-6 (JPP-2), line 8, column B, of 35.15 MMcf/DD. Using this slope and the change in peak day DD for each month, the February (line 12, column B) and March (line 13, column B) design peak city gate loads were determined to be 2,634 MMcf and 2,107 MMcf, respectively.

Q. Please describe the winter design load requirements used.

A. Exhibit A-6 (JPP-2) contains a comparison of the design peak day city gate loads developed in October 2019, October 2020, and on February 15, 2021. The design peak day city gate loads shown are for GCR, GCC, and EUT city gate deliveries. The design peak day city gate loads that are shown do not include electric peakers, MCV, Company use gas, or Lost and Unaccounted For gas. Lines 11 through 13, column A, show the projections included in the December 2019 GCR Plan case filing. Lines 11 through 13, column B, show the annual update developed by the Company in October. Lines 11 through 13, column C, show the results from the late season operating plan update. The design peak day city gate

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loads' October annual update and the February 15, 2021 late season operating plan update were developed using the refined methodology developed during the summer of 2012.

Q. What were the results of the end of season regression?

A. Exhibit A-6 (JPP-2), column D, provides a summary of the 2020-2021 End of Season Regression, and Exhibit A-15 (JPP-11) is the 2020-2021 End of Season Linear Regression Plot of the 2020-2021 winter data.

Q. Did the refined peak day forecast process produce reasonable results?

A. Yes. The filed GCR Plan, annual update, and the end of season regression update, made for the 2020-2021 GCR winter, resulted in changes that varied by up to 55 MMcf -- 1.7%, of the end of season regression data results for the January Peak Day.

C. Winter Operating Plans and Plan Updates for Purchases

Q. When was the WOP developed?

A. The WOP for the warm, normal, and cold winter scenarios was finalized in mid-October 2020. The WOP started with the October operating schedule for the summer injection cycle and was updated with the best information available at the time through October 19, 2020, for all items, such as new seasonal and peak day load forecasts, new third-party customer forecasts, new weather probability analyses, new storage field performance data, and new gas supply information. The WOP for a cold winter scenario is equivalent to the late October WOP used for the November purchase decision. Updated WOPs were developed in late November, late December, late January, and late February. The techniques used to complete the operating plan during the GCR year were the same as those used and contemplated in the GCR Plan.

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1 **Q. Please explain how the 4% probability early season bias technique was implemented**
2 **during the GCR Plan year.**

3 A. As summarized in the Design Cold WOP section of Exhibit A-7 (JPP-3), the operating plan
4 assumed that November loads would be as cold as a 4% probability for November, 172 DD.
5 December loads were assumed to be as cold as a 4% probability November through
6 December period, 341 DD, less the 4% November DD to equal December, 169 DD.
7 January loads were assumed to be as cold as a 4% probability November through January
8 period, 507 DD, less the November DD and December DD to equal January, 166 DD.
9 February loads were assumed to be as cold as a 4% probability November through February
10 period, 632 DD, less the November DD, December DD, and January DD to equal February,
11 125 DD. March loads were assumed to be as cold as a 4% probability November through
12 March period, 744 DD, less the November DD, December DD, January DD, and February
13 DD to equal March, 112 DD. A detailed gas balance was then run to determine the supply
14 and storage dispatch needed to assure that customer needs were met for each month and
15 any potential peak day for the November through March period. This was prudent and
16 consistent with the GCR Plan. The large amount of storage and the large number of fields
17 makes this process necessary to assure that all the supply and load components fit together
18 over the whole season.

19 **Q. What decisions were made using the Design Cold WOP?**

20 A. This operating plan is considered a monthly purchase plan for November. This operating
21 plan was used to determine the Company's purchase requirement for the month of
22 November and was used as an initial estimate to guide the dispatch of the storage fields for

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1 the balance of winter. The Company plans for normal weather but has to be prepared for
2 CTN weather or WTN weather from any point forward.

3 **Q. Were additional plans made in late October?**

4 A. Yes. A design warm plan and a normal weather plan were also developed at that time.

5 **Q. Please describe the operating plan developed in late November.**

6 A. In late November, the second operating plan was determined. This operating plan is
7 considered a monthly purchase plan for December. The same process was followed as was
8 used to develop the Design Cold WOP, described above. The update used loads, supplies,
9 and final storage field inventories for November that were estimated by using actual data
10 through November 17, 2020, and then weather forecasts for the remainder of the month.
11 The same 4% probability early season bias technique was used. The allocation of the
12 incremental DD associated with a 4% probability is done in the same manner starting with
13 the next CTN front month, December. The results are summarized in the Late November
14 Operating Plan section of Exhibit A-7 (JPP-3).

15 **Q. What decisions were made using the Late November Operating Plan?**

16 A. An analysis was done to assure that customer needs were met for each month and any
17 potential peak day for the December through March period. The Late November Operating
18 Plan was then used to determine the Company's purchase requirement for the month of
19 December and to guide the dispatch of the storage fields. This was done to assure that
20 customer needs were met for each month and any potential peak day for the December
21 through March period.

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1 **Q. Please describe the operating plan developed in late December.**

2 A. In late December, the third operating plan was developed. This operating plan is
3 considered a monthly purchase plan for January. The same process described above was
4 followed. The update used loads, supplies, and final storage field inventories for December
5 that were estimated by using actual data through December 17, 2020, and then weather
6 forecasts for the remainder of the month. The same 4% probability early season bias
7 technique was used. The allocation of the incremental DD associated with a 4% probability
8 is done in the same manner starting with the next CTN front month (January). The results
9 are summarized in the Late December Operating Plan section of Exhibit A-7 (JPP-3).

10 **Q. What decisions were made using the Late December Operating Plan?**

11 A. An analysis was then done to determine the supply and storage dispatch needed to assure
12 that customer needs were met for each month and any potential peak day for the January
13 through March period. The resulting operating plan was then used to determine the
14 Company's purchases for the month of January and guide the dispatch of the storage fields.

15 **Q. Please describe the operating plan developed in late January.**

16 A. In late January, the fourth operating plan was developed. This operating plan is considered
17 a monthly purchase plan for February. The same process as described above was followed.
18 The update used loads, supplies, and final storage field inventories for January that were
19 estimated by using actual data through January 21, 2021, and then weather forecasts for
20 the remainder of the month. The same 4% probability early season bias technique was
21 used. The allocation of the incremental DD associated with a 4% probability is done in the
22 same manner starting with the next CTN front month, (February). The results are
23 summarized in the Late January Operating Plan section of Exhibit A-7 (JPP-3).

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1 **Q. What decisions were made using the Late January Operating Plan?**

2 A. An analysis was conducted to determine the supply and storage dispatch needed to assure
3 that customer needs were met for each month and any potential peak day for the February
4 through March period. The resulting operating plan was then used to determine the
5 Company's purchases for the month of February and guide the dispatch of the storage
6 fields.

7 **Q. Please describe the operating plan developed in late February.**

8 A. In late February, the fifth operating plan was developed. This operating plan is considered
9 a monthly purchase plan for March. The same process described above was followed. The
10 update used loads, supplies, and final storage field inventories for February that were
11 estimated by using actual data through February 17, 2021, and then weather forecasts for
12 the remainder of the month. The same 4% probability early season bias technique was
13 used. The results are summarized in the Late February Operating Plan section of Exhibit
14 A-7 (JPP-3).

15 **Q. What decisions were made using the Late February Operating Plan?**

16 A. An analysis was conducted to determine the supply and storage dispatch needed to assure
17 that customer needs were met for the month and any potential peak day in March. The
18 resulting operating plan was then used to determine the Company's purchases for the
19 month of March and guide the dispatch of the storage fields.

20 **Q. How was the Normal Weather WOP developed?**

21 A. The same 4% probability early season bias technique was used. The DD data used in the
22 process is summarized in the Normal Weather WOP scenario of Exhibit A-7 (JPP-3). The
23 same scenarios are used that were used for the previously described late month plans, but

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1 the Normal Weather WOP starts with the Design Cold WOP and the scenarios use the best
2 available data at the time of the plan. In the first step, the Normal November, Design
3 December through March scenario, is used to perform an analysis. In step two, the results
4 of this analysis are then used as the starting point and another analysis is conducted using
5 the Normal November through December, Design January through March scenario. In step
6 three, the results of this analysis are then used as the starting point and another analysis is
7 conducted with the Normal November through January, Design February through March
8 scenario. In step four, the results of this analysis are then used as the starting point and
9 another analysis is conducted with the Normal November through February, Design March
10 scenario. In step five, the results of this analysis are then used as the starting point and
11 another analysis is conducted with the Normal November through March. The resulting
12 plan is the Normal WOP.

13 **D. Winter Operating Schedules for Operations**

14 **Q. Were there any updates in addition to those you have described?**

15 A. Yes.

16 **Q. Please describe the updates made.**

17 A. In addition to the five detailed WOPs described above, five normal weather monthly
18 operating schedules were developed using the sequential modeling technique and the
19 remaining 4% design cold scenarios at the time of each analysis. Actual loads, supplies,
20 and final storage field inventories for the previous month were included. The normal
21 weather monthly operating schedules included the Company's cold weather purchases that
22 were determined, as described above, for the current month along with estimated normal
23 weather purchases for future months.

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1 **Q. When were the normal weather monthly operating schedules completed?**

2 A. Early in the months of November, December, January, February, and March.

3 **Q. On what dates were the monthly operating schedules issued?**

4 A. The plans were issued on or about the following days:

Early November Operating Plan	November 5, 2020
Early December Operating Plan	December 3, 2020
Early January Operating Plan	January 7, 2021
Early February Operating Plan	February 4, 2021
Early March Operating Plan	March 4, 2021

5 **Q. What was the purpose of each of these normal weather monthly operating schedules?**

6 A. Each monthly operating schedule was used to guide the Company's dispatch of the storage
7 fields for the current month assuming normal weather. The objective was always to
8 minimize purchases and to maximize storage utilization while protecting against a
9 4% probability of CTN weather for the remaining winter as well as design peak days. This
10 is consistent with the GCR Plan and is prudent operating practice.

11 **IV. WINTER RESULTS AND PURCHASE DECISIONS**

12 **Q. On page 2 of the approved Settlement Agreement for the 2011-2012 GCR**
13 **Reconciliation, Case No. U-16485-R, in paragraph 5, Consumers Energy agreed, for**
14 **purposes of the settlement, to include in its 2012-2013 GCR Reconciliation case a**
15 **monthly comparison of the Company's WOP with the filed GCR Plan for the months**
16 **of November through March and with November through March actuals. Has**
17 **Consumers Energy continued to provide this monthly comparison in this case?**

18 A. Yes. The following sections of my direct testimony explain the comparison of the filed
19 Normal GCR Plan to the Normal WOP, the filed Normal GCR Plan to Booked Actuals,
20 and the Normal WOP to Booked Actuals.

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A. Winter Weather Overview

Q. What was the total DD experienced during the winter withdrawal period?

A. As shown in Exhibit A-5 (JPP-1), line 25, column P, the total DD experienced for the winter withdrawal period was 4,630 DD.

Q. What was the DD deviation from normal for the winter?

A. As shown in Exhibit A-5 (JPP-1), line 49, column P, the winter withdrawal period total actual Design Day deviation from the filed Normal GCR Plan was 394 DD WTN.

Q. How do the actual DD compare to the Company's filed Design Cold Plan?

A. This comparison is shown in Exhibit A-10 (JPP-6), lines 1 and 33, column G. The filed Design Cold Plan assumed a total of 6,191 DD; thus, the winter withdrawal period total actual DD deviation from the filed Design Cold Plan was 1,561 DD warmer than the filed Design Cold Plan.

Q. Did the 394 DD below the filed Normal Plan significantly impact GCR purchase requirements?

A. No, the GCR Purchases, Exhibit A-5 (JPP-1), line 55, column P were 2.0 Bcf below the filed normal GCR Plan for the winter withdrawal period.

B. Comparison of the Filed Normal GCR Plan to the Normal Winter Operating Plan

Q. Please provide a comparison of the Company's Normal WOP and the filed Normal GCR Plan for the winter withdrawal period.

A. Exhibit A-8 (JPP-4), lines 15 through 26, compare monthly and total winter withdrawal period data as presented in the December 2019 filed Normal GCR Plan and the Normal WOP. As shown in columns G and H, the WOP included 68 DD less than that included in the filed Normal GCR Plan, sales requirements were 1.7 Bcf less than the filed Normal

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1 GCR Plan, GCR purchases were 0.4 Bcf less than the filed Normal GCR Plan, GCC
2 Supplies were 0.3 Bcf below the filed Normal GCR Plan, and the cyclic GCR/GCC storage
3 was 1.2 Bcf below the filed Normal GCR Plan for the winter withdrawal period. As shown
4 in line 25, column A, third-party inventories included in the Normal WOP were 3.1 Bcf
5 above the filed Normal GCR Plan at the end of October 2020.

6 **Q. Why are the Normal WOP results different from the filed Normal GCR Plan results?**

7 A. The Normal WOP contains the best information available at the time it was developed in
8 October 2020, whereas the filed Normal GCR Plan was developed in December 2019. The
9 Normal WOP contains the October 2020 Corporate Sales forecast, updated weather data
10 based on the results of the 2019-2020 winter, updated GCC supply forecast, and current
11 storage field inventory levels for GCR/GCC and third-party customers.

12 C. **Comparison of the Filed Normal GCR Plan to Booked**
13 **Actuals**

14 **Q. Please summarize how the GCR purchase volumes were made during the winter**
15 **withdrawal period compared to the filed Normal GCR Plan purchases.**

16 A. As shown in Exhibit A-5 (JPP-1), column P, during this period of time, booked purchases
17 (line 31) were 45.8 Bcf compared with the filed Normal GCR Plan purchases (line 7) of
18 47.8 Bcf. As Exhibit A-5 (JPP-1) indicates, total GCR purchases for the 2020-2021 winter
19 (line 55) were 2.0 Bcf below those projected in the filed Normal GCR Plan. GCR
20 purchases for the winter months were 0.6 Bcf below the filed Normal GCR Plan in
21 November 2020, 0.2 Bcf below the filed Normal Plan in December 2020, equal to the filed
22 Normal GCR Plan in January 2021, 1.5 Bcf below the filed Normal GCR Plan in February
23 2021, and 0.2 Bcf above the filed Normal GCR Plan in March 2021.

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1 **Q. What was each monthly winter purchase decision based on?**

2 A. Each monthly winter purchase decision reflected actuals to date and was based on
3 maximizing storage field withdrawals and minimizing front month purchases while
4 protecting against design CTN weather throughout the entire winter and being prepared to
5 meet the January 31, 2021 through March 31, 2021 design peak days. The purchases were
6 reasonable, prudent, and consistent with the GCR Plan.

7 **Q. How did the Company's actual winter withdrawal period GCR sales compare to the**
8 **GCR sales projected in the filed Normal GCR Plan?**

9 A. As Exhibit A-5 (JPP-1), line 49, column P, indicates, Consumers Energy experienced
10 394 DD or about 7.8% warmer than filed Normal GCR Plan weather during this period.
11 The Company's actual GCR sales (line 53) were about 8.6 Bcf below the filed Normal
12 GCR Plan for the winter withdrawal period.

13 **Q. Were GCR storage withdrawals maximized to the greatest extent possible?**

14 A. Yes. As I mentioned earlier in my direct testimony, and consistent with the Company's
15 GCR Plan, monthly winter purchase decisions were based on maximizing storage field
16 withdrawals and minimizing front month purchases, while protecting against design CTN
17 weather throughout the entire winter and being prepared to meet the design peak days. The
18 primary limitation to cycling more gas for GCR and GCC customers was the 394 WTN
19 DD for the winter - per Exhibit A-5 (JPP-1) line 49, column P.

20 **Q. Why were actual storage withdrawal 6.7 Bcf below the filed Normal Plan?**

21 A. As Exhibit A-5 (JPP-1), line 49, column P, indicates, Consumers Energy experienced
22 394 DD or about 7.8% warmer than filed Normal GCR Plan weather during this period.
23 The Company's actual GCR sales (line 53) were about 8.6 Bcf below the filed Normal

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1 GCR Plan for the winter withdrawal period and the Company's actual GCR purchases (line
2 55) were about 2.0 Bcf below the filed Normal GCR Plan for the winter withdrawal period

3 **D. Comparison of the Normal WOP to Booked Actuals**

4 **Q. Can the Company provide a comparison of the Company's Normal WOP to Booked**
5 **Actuals for the winter withdrawal period?**

6 A. Yes. Exhibit A-8 (JPP-4), lines 29 through 40, compares the monthly and total winter
7 withdrawal period data from the Normal WOP to Booked Actuals. As shown in columns
8 G and H, the Booked Actuals were 326 DD below the WOP, sales requirements were
9 11.5 Bcf below the WOP, GCR purchases were 1.6 Bcf below the WOP, GCC Supplies
10 were 1.8 Bcf below the WOP, and the cyclic GCR/GCC storage was 8.1 Bcf below the
11 WOP for the winter withdrawal period. As shown in Exhibit A-8 (JPP-4), line 39,
12 column A, actual third-party inventories were 1.0 Bcf lower than the WOP at the end of
13 October.

14 **Q. What is the primary difference between the Normal WOP and Booked Actuals?**

15 A. As shown in Exhibit A-8 (JPP-4), the primary difference was that GCR/GCC sales were
16 11.5 Bcf lower than planned and GCR/GCC storage withdrawals were 8.1 Bcf less than
17 planned.

18 **Q. What caused the 8.1 Bcf less storage withdrawal?**

19 A. As shown in Exhibit A-8 (JPP-4), line 30, column G, the primary reason was that
20 GCR/GCC sales were 11.5 Bcf lower than planned due to the 326 DD WTN winter
21 weather.

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E. Storage Field Utilization

Q. How did the Design Warm WOP compare to Booked Actuals?

A. As shown on Exhibit A-9 (JPP-5), the Design Warm WOP allowed for a GCR/GCC storage field inventory at the end of March 2021 of 77.6 Bcf (line 11, column F) compared to Booked Actuals of 79.7 Bcf; Exhibit A-5 (JPP-1), line 43, column O. This equated to 2.3 Bcf cyclic below the Design Warm WOP while experiencing 847 DD more than the Design Warm WOP. This is shown on Exhibit A-9 (JPP-5), line 25, column H, and line 15, column G, respectively.

Q. How do the Design Cold WOP storage plan results compare to the filed Design Cold Plan storage plan which was filed in the 2019-2020 GCR Plan?

A. As shown on Exhibit A-10 (JPP-6), (lines 21 and 5, column H, respectively), the Design Cold WOP storage plan cyclic for GCR/GCC customers was 0.4 Bcf above the filed Design Cold Plan storage plan of 111.6 Bcf. Third-party inventories by the end of March 2021 were 0.4 Bcf above the filed Cold plan (line 20, column H).

Q. Please summarize the Company's storage withdrawals.

A. Exhibit A-11 (JPP-7) is a graphic representation of the end of month GCR/GCC Storage Inventories for the filed Normal and Actuals (Exhibit A-5 (JPP-1)), Normal WOP (Exhibit A-8 (JPP-4)), Design Warm WOP (Exhibit A-9 (JPP-5)), and the filed Cold and Design Cold WOP (Exhibit A-10 (JPP-6)). It compares the filed Normal GCR Plan, filed Cold GCR Plan, Design Cold WOP, Normal WOP, Design Warm WOP, and Booked Actuals. This graph shows that the booked actual GCR/GCC storage inventory ended up almost matching the filed Normal and Normal WOP. It also shows the consistency between the two Cold weather Plans and the two Normal weather Plans.

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1 **Q. Did the Company fully utilize storage?**

2 A. Yes. As I mentioned earlier in my direct testimony, and consistent with the Company's
3 GCR Plan, monthly winter purchase decisions were based on maximizing storage field
4 withdrawals and minimizing front month purchases while protecting against design CTN
5 weather throughout the entire winter and being prepared to meet the January 31, 2021
6 through March 31, 2021 design peak days. Those decisions were made based on the
7 information available at the time.

8 **Q. How do uneven weather patterns impact storage field withdrawals?**

9 A. Uneven weather patterns can cause significant storage variances from the WOP. For
10 example, during WTN weather, there are periods when the base load fields cannot be kept
11 on withdrawal, or the pressure on Consumers Energy's pipeline system will exceed safe
12 operating levels. When withdrawals from the base-load storage fields are reduced on warm
13 days, those withdrawals are very difficult to make up later due to base load field
14 characteristics and associated system constraints such as available compression and
15 maximum pipeline operation pressure constraints. During very cold periods, additional
16 gas is needed to meet the additional load. The base load fields can meet very little of the
17 incremental load requirement on the cold days. Therefore, this additional gas would come
18 from the peaking fields on the cold days. The peaking fields would then have less
19 capability remaining for subsequent cold periods. The sum of the individual field
20 inventories could equal a GCR Plan total inventory, but a higher proportion of the total
21 inventory would be in the base load fields thus reducing future withdrawal capabilities
22 overall.

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1 **Q. Did the Company experience uneven weather patterns during the GCR Plan year**
2 **withdrawal season?**

3 A. No.

4 **Q. Was the 8.1 Bcf (Exhibit A-8 (JPP-4), line 40) of gas left in inventory above the WOP**
5 **expected?**

6 A. Yes. The Company's normal weather plan is to maintain the cold weather reserve in
7 storage throughout the entire winter season. During the GCR Plan year, analyses were
8 conducted to determine the minimum amount of gas that could be purchased at the time
9 considering the current individual storage inventories, the maximum that could be
10 withdrawn from storage for a 4% design cold in the remaining period, peak day design
11 requirements, and the maximum amount of gas that was planned to be purchased later in
12 the winter under design cold conditions. Since there was a large incremental load
13 associated with cold weather in March, the only time the Company would actually use the
14 majority of the cold weather reserve in storage during the winter is if 4% CTN weather in
15 March and a design level March peak day actually occur.

16 **F. Winter Storage Assessment**

17 **Q. Why are the storage fields' inventories and withdrawal capacities assessed on a**
18 **field-by-field basis for the purpose of the March 2021 purchase decision assessment**
19 **(shown in Exhibit A-16 (JPP-12)) instead of as a group?**

20 A. Each of the Company's 15 storage fields is unique. The drawdown characteristics of each
21 field are different. In addition, some fields were operated with common suction pressures
22 to some compressors. On very cold days, some base load fields need to be shut in so that
23 larger volumes of gas from higher pressure peaker fields can flow in a shared header

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1 system. Also, the assessment needs to take into consideration if any fields were scheduled
2 to be out of service for inventory survey.

3 **Q. What would happen if the Company planned to withdraw more than the maximum**
4 **withdrawal amounts for a field?**

5 A. These values are the Company's best estimate of the maximum withdrawal amounts for
6 each base load field based on the overall WOP plans. These fields will likely not deliver
7 more than the estimated amounts based on the existing system constraints. During a
8 sustained cold period, any gas planned to be withdrawn from the base load fields beyond
9 their capability at that time would need to flow from the peaking fields. If a cold day
10 occurred during that sustained cold period, the peaking fields would not have the
11 withdrawal capability previously planned due to their use below the WOP planned
12 inventory. This would result in a general supply shortage wherein gas customers could
13 lose service, which would put the health and safety of the public at risk.

14 **Q. What is the difference between a base load field and peak load or "peaker" field?**

15 A. A base load field is a field that is dispatched at maximum or near maximum rates as often
16 as total system demands allow. The peaker fields are fields that are held in reserve for cold
17 days to provide supply beyond the supply provided by the base fields. Ray Storage Field,
18 in March, is both a peaker and base load field. Because the Ray Storage field is capable of
19 providing natural gas at or above the rates the other peaker fields supply and provides a
20 large portion of the total supply, the Company classifies it as a peaker field. The
21 Company's objective is to minimize purchases by maximizing storage withdrawals,
22 including Ray Storage Field's withdrawals, and still meet all peak day loads with Ray
23 Storage Field and other peaking fields.

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1 **Q. Why is it the Company's objective to minimize purchases by maximizing storage field**
2 **withdrawals and still meet all peak day loads with Ray Storage Field and other**
3 **peaking fields?**

4 A. The Company's operation and the GCR Plan rely very heavily on storage to meet peak day
5 gas supply requirements. Ray Storage Field and the other peaker fields have very good
6 deliverability characteristics. Relatively small inventory increases in these fields cause the
7 maximum daily withdrawal rates to increase substantially. The Company needs to
8 maintain just enough gas in the right fields to assure that the design days' supply conditions
9 can be met. The smaller peaker fields are kept as full as practicable to preserve higher
10 deliverability rates for peak demand periods. The base load fields are utilized every day at
11 the maximum flowrate possible given the weather and existing facility constraints to
12 achieve the maximum storage field cyclic throughout the winter. The Ray Storage Field is
13 designed to be drawn down as low as possible while still being able to meet all peak day
14 loads. Ray Storage Field's inventory, assuming no unplanned equipment outages at the
15 Ray Compressor Station, is a primary factor in the Ray facility's deliverability and is a
16 balance of various factors. Ray Storage Field's monthly withdrawal must balance the
17 monthly overall system balance of supplies and demands. Its daily withdrawal capability
18 at its month-end inventory must balance the total system's peak day requirement, and its
19 monthly withdrawal must be consistent with beginning and ending inventories.
20 Calculating Ray Storage Field's month-end inventory involves a number of iterative
21 calculations balancing total system flowing supply and Ray Storage Field inventory.

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1 **Q. Was the Company able to achieve the objective to minimize purchases by maximizing**
2 **Ray Storage Field's withdrawals but still meet all peak day loads with Ray Storage**
3 **Field and other peaking fields?**

4 A. Yes.

5 **G. March Purchase Decision**

6 **Q. Please describe the Company's GCR purchase decision for March 2021.**

7 A. As Exhibit A-5 (JPP-1), line 55, indicates, the GCR purchases for March 2021 were about
8 2.0 Bcf below the filed Normal GCR Plan.

9 **Q. What was the March purchase decision based on?**

10 A. The March purchase decision was based on maximizing storage field withdrawals while
11 protecting against both a 4% design probability CTN March and a March 31 design peak
12 day.

13 **Q. In addition to the numerous data inputs (such as gas sales, gas supplies, and storage**
14 **field inventories) that will invariably differ from the assumptions at the time of the**
15 **filed GCR Plan, were other factors specifically addressed by the Company for**
16 **purposes of its March 2021 GCR purchase determination?**

17 A. Yes. March design criteria, such as peak day design load and the incremental customer
18 loads associated with CTN weather, were addressed.

19 **Q. How were these March design criteria addressed?**

20 A. The Company completed a late season linear regression of the available 2020-2021 winter
21 data in order to help assess the appropriate peak day design loads and the appropriate
22 incremental loads associated with CTN weather. This linear regression was of the actual
23 adjusted daily output (adjusted for weekends, holidays, and cloud cover) versus WAWDD

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1 and used data from November 1, 2020 through February 14, 2021. The plot of this linear
2 regression was then used to calculate the incremental sales requirement associated with a
3 4% design probability CTN March and to update the city gate delivery portion of the
4 March 31 design peak day of 50 WAWDD. This late season linear regression employed
5 the same methods and source data used by the Company each fall when performing annual
6 regressions on data from the previous winter. The results are summarized in Exhibit A-6
7 (JPP-2), lines 8 through 13, column C. A plot of the late season linear regression is shown
8 on Exhibit A-14 (JPP-10).

9 **Q. Please describe the plot of the late season linear regression shown on Exhibit A-14**
10 **(JPP-10).**

11 A. Exhibit A-14 (JPP-10) is the plot of the 2020-2021 Late Season Linear Regression data.
12 As the exhibit indicates, the incremental MMcf/WAWDD slope of the data plot was
13 35.48 MMcf/WAWDD. This slope was used to determine the incremental sales
14 requirement associated with the Company's 4% probability CTN design. When
15 extrapolating the upper region of the plot graphically, the city gate deliveries associated
16 with 50 WAWDD were found to be 2,074 MMcf, as shown on Exhibit A-6 (JPP-2), line 13,
17 column C. These values were used by the Company for design purposes when making the
18 GCR purchase decision for March 2021.

19 **Q. How do the late season linear regression results compare to the GCR Plan and the**
20 **annual update?**

21 A. Exhibit A-6 (JPP-2) contains a comparison of the results of the late season linear regression
22 (column C) to the same data as provided in the December 2019 GCR Plan filing (column A)
23 and the annual update developed by the Company in October 2020 (column B). As the

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1 exhibit indicates, the MMcf/WAWDD slope resulting from the late season linear
2 regression (column C) was 0.33 MMcf/WAWDD more than the MMcf/WAWDD slopes
3 developed prior to the 2020-2021 winter, which resulted in the calculation of 33 MMcf
4 lower incremental city gate load and 64 MMcf higher incremental sales requirements for
5 design cold weather than the October 2020 update.

6 **Q. Why did the Company use the late season linear regression of current winter data in**
7 **making the March 2021 GCR purchase decision?**

8 A. The Company recognizes that customers' gas usage can vary somewhat from year to year.
9 Using multiple data points is appropriate for the initial regression analysis in the GCR Plan,
10 because the GCR Plan is filed in advance of the actual operating year, and it includes
11 projected load requirements for an additional five years beyond the GCR Plan year. Once
12 customer usage data has been observed for a representative portion of the winter for the
13 GCR Plan year, the usage for the remainder of the period is likely to be similar. The late
14 season linear regression helped the Company assess what customer usage for the remainder
15 of the 2020 - 2021 winter was likely to be.

16 At the time this late season linear regression was performed, the Company had
17 accumulated 106 sample data points from the 2020-2021 winter. The Company concluded
18 that an updated 2020-2021 winter linear regression should be performed for purposes of
19 helping to assess likely usage patterns for March 2021. As mentioned earlier, the results
20 are summarized in Exhibit A-6 (JPP-2), column C.

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H. March Storage Assessment

Q. Please discuss the March 2020 purchase decision analysis in Exhibit A-16 (JPP-12).

A. Exhibit A-16 (JPP-12) provides details of the March 2021 purchase decision assessment of gas available from storage and GCR purchases required that was completed on February 18, 2021. The exhibit identified the amount of gas in storage that could be withdrawn from storage in March under CTN weather conditions, based on the storage balances and operational conditions of the fields on February 16, 2021, which was the best available information at the time. This exhibit shows the results of the field-by-field review and shows how the amount of inventory available for withdrawal for the benefit of GCR sales customers and GCC customers (line 37, column G) of 22,970 MMcf, was calculated.

Q. Please describe the storage assessment portion of the review which is summarized on Exhibit A-16 (JPP-12).

A. This exhibit contains field inventories in both Geologic Inventory and Accounting Working Gas Inventory. The geologic inventories are in columns A, B, and C. The accounting working gas inventories are in columns E, F, and G. Column D is the conversion factor used to convert from Geologic Inventory to Accounting Working Gas Inventory. Actual field inventories for each of the Company's nine base load and six peak storage fields were determined as of February 16, 2021. Storage inventories are shown by field in columns A and E. Storage inventories were then projected for each field for the end of February. The results are shown in columns B and F. An assessment, based on the best data available at the time, of the minimum field inventories attainable for the base load fields and allowable for the peak load fields were then determined assuming 4% design cold weather criteria and the associated end of March peak day design. The results are shown by field in

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1 columns C and G. The Company's best estimate was that 25,098 MMcf of gas was
2 available for withdrawal from storage fields by all parties in March assuming 4% design
3 conditions, as shown on line 24, column G. Estimated total gas inventories for other parties
4 on February 28, 2021 and March 31, 2021, resulted in 2,128 MMcf of available working
5 gas to inventories of others, as shown on line 33, column G. The result of this analysis was
6 that 22,970 MMcf of storage gas would be available for GCR and GCC withdrawal in
7 March assuming 4% design conditions, as shown on line 37, column G.

8 **Q. How were the actual storage inventories as of February 16, 2021, determined?**

9 A. The Company measures the flows in and out of each field continuously. Gas Control has
10 a Supervisor Control and Data Acquisition system that queries local measurement
11 computers and brings the data back to the Gas Control Center. The Company can then
12 determine the inventory of each field using this data.

13 **Q. How were the projected storage inventories as of February 28, 2021, determined?**

14 A. Reviews of the withdrawal rates, flowing pressures, and expected equipment availability
15 were completed to estimate the amount of gas that would likely be withdrawn during the
16 days between February 16 and 28, 2021. That amount was subtracted from the inventory
17 as of February 16, 2021.

18 **Q. How were the 4% design load storage inventories as of March 31, 2021, determined?**

19 A. Reviews of the withdrawal rates, flowing pressures, and expected equipment availability
20 were completed to estimate the amount of gas that would likely be withdrawn during that
21 time period for the base load fields. Then, the amount of gas that could be withdrawn from
22 these base load fields on March 31, 2021, was estimated. The amount of flowing gas that
23 could be coming into the total system from all sources for all customers was estimated.

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1 The maximum withdrawal rates for all the peaker fields, except Ray Storage Field, were
2 then estimated. Per Exhibit A-6 (JPP-2), line 47, column C, the design peak day total
3 system load for March 31, 2021 was 2,386 MMcfd, which was an updated estimate from
4 the GCR Plan estimate of 2,425 MMcfd, as shown in Exhibit A-6 (JPP-2), column A. A
5 supply balance for March 31, 2021 was then determined by reducing the load for that day
6 by the gas supplies available on that day from the base load fields, the peaker fields except
7 Ray Storage Field, and the flowing gas supply to determine the supply requirement from
8 Ray Storage Field. Using the Ray Storage Field deliverability curve and while considering
9 the deliverability limitations, the Company determined the inventory needed in Ray
10 Storage Field to deliver that amount of gas on March 31, 2021.

11 **Q. Were these determinations made by you or under your direction?**

12 A. Yes.

13 **Q. Please describe the Load Assessment Section of Exhibit A-16 (JPP-12).**

14 A. As shown in Exhibit A-6 (JPP-2), lines 35 through 38, column C, based on the Company's
15 59-year weather history, a 4% probability March could add approximately 220 additional
16 heating DDs' worth of incremental load or 7,812 MMcf of non-electric generation city gate
17 load. GCR and GCC would make up about 89.5% of that city gate load, or 6,992 MMcf
18 potential incremental GCR/GCC load. End users under the Transportation program make
19 up the balance. As shown in Exhibit A-16 (JPP-12), lines 40 through 42, column G, the
20 potential incremental GCR/GCC load was added to the normal weather GCR/GCC load,
21 including line loss and use, of 29,897 MMcf to obtain a total design GCR/GCC load of
22 36,889 MMcf for March.

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1 **Q. Please describe the Supply Assessment Section of Exhibit A-16 (JPP-12).**

2 A. Beginning in line 45, column G, of Exhibit A-16 (JPP-12), the total design GCR/GCC load
3 for March was reduced by the total available GCR/GCC working storage gas of
4 22,970 MMcf and Pipeline Imbalance of 0.0 MMcf to obtain the GCR/GCC flowing gas
5 supply needed of 13,919 MMcf. The GCR flowing gas supply needed was obtained by
6 reducing the GCR/GCC flowing gas supply needed by the expected GCC supply of
7 2,896 MMcf and the expected fuel credits of 120 MMcf. The result was a determination
8 that 10,903 MMcf was required for GCR purchase in March in order to provide protection
9 against design cold weather conditions.

10 **Q. How was the column labeled “MMcfd” in line 44, column H of Exhibit A-16 (JPP-12),**
11 **calculated?**

12 A. It was calculated by dividing the monthly volumes shown in column G by 31 days in
13 March.

14 **Q. What was the net result of these estimates and calculations?**

15 A. The net result of all these estimates and calculations was the lowest purchase that could be
16 made for the month of March 2021 that would be sufficient to supply a 4% probability
17 March and a potential design cold day between March 1 and March 31. If the weather
18 actually ended up warmer than this plan, then storage inventories would have been higher
19 than the cold weather plan. If the weather had actually ended up colder than this plan, then
20 some additional gas purchases would likely have been necessary.

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1 **I. Summary**

2 **Q. Please summarize Consumers Energy's purchase and storage utilization for the**
3 **winter withdrawal period.**

4 A. During the 2020-2021 winter, Consumers Energy and its customers experienced 394 DD
5 warmer than filed Normal Plan. As outlined above, Consumers Energy made purchase and
6 storage operating decisions and adjustments throughout the winter period based on the best
7 information available at the time. The decisions and actions taken by the Company resulted
8 in safe and reliable supply for all customers and were appropriate and reasonable for the
9 actual weather conditions experienced. The Company's operational storage and purchase
10 decisions were reasonable and prudent and in the best interest of its customers.

11 **Q. Does this conclude your direct testimony?**

12 A. Yes.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

EXHIBITS
OF
JAMES P. PNACEK
ON BEHALF OF
CONSUMERS ENERGY COMPANY

June 2021

Booked Actuals Versus Filed Normal Plan for the GCR Year 2019-2020

Volumes in MMcf @ 14.65 psia dry

	Summer Injection Period										Winter Withdrawal Period								
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R		
FILED NORMAL	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer Total	Injection Volume	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Winter Total	Withdrawal Volume	Total	
1 Degree Days		490	192	25	5	9	88	387	1,196		718	1,068	1,234	1,121	883	5,024		6,220	
2																			
3 Sales Requirements (GCR/GCC) (2)		16,739	8,155	4,651	4,539	4,226	5,802	13,700	57,812		23,697	36,293	43,073	37,145	29,707	169,914		227,725	
4 GCC Sales		4,393	2,347	1,209	818	733	778	1,199	11,476		2,833	5,406	7,464	6,925	6,099	28,728		40,204	
5 GCR Sales		12,346	5,809	3,442	3,720	3,493	5,024	12,501	46,336		20,864	30,887	35,608	30,219	23,607	141,186		187,521	
6																			
7 GCR Purchase		22,500	20,920	20,246	20,920	20,920	16,500	17,050	139,057		7,857	9,505	11,667	8,018	10,734	47,781		186,838	
8 GCC Supply		935	3,767	3,642	3,763	3,760	3,639	3,757	23,263		3,636	3,754	3,379	3,049	3,376	17,194		40,457	
9 Total GCR/GCC		23,435	24,687	23,888	24,684	24,681	20,139	20,807	162,320		11,493	13,259	15,046	11,067	14,109	64,975		227,295	
10																			
11 Imbalance Gas		0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	
12																			
13 Net Fuel Uses		9	25	9	75	69	94	60	341		(64)	20	102	35	49	143		484	
14																			
15 GCR Net Storage From/(To)		(10,145)	(15,087)	(16,794)	(17,125)	(17,359)	(11,382)	(4,488)	(92,380)		12,943	21,403	24,043	22,237	12,923	93,548		1,168	
16																			
17 End of Month Inventory Total								194,009			178,015	153,976	122,953	95,214	79,106				
18 End of Month Inventory Third Party								18,430			14,576	13,592	10,697	9,071	8,609				
19 End of Month Inventory GCR/GCC	71,412	78,099	94,606	113,833	133,903	154,289	168,532	175,579	104,167		163,439	140,384	112,256	86,143	70,497	105,082			
20 End of Month Inventory GCC	3,074	(383)	1,036	3,470	6,415	9,442	12,303	14,862	11,787		15,665	14,013	9,927	6,051	3,328	11,534			
21 End of Month Inventory GCR	68,337	78,483	93,569	110,363	127,488	144,847	156,229	160,717	92,380		147,774	126,372	102,329	80,092	67,170	93,548			
22 Inventory Adjustment GCR (3)		0	(0)	0	(0)	0	0	0			(0)	0	(0)	0	0				
23																			
24 BOOKED ACTUALS																			
25 Degree Days		592	284	25	0	0	114	469	1,485		596	1,009	1,135	1,191	699	4,630		6,114	
26																			
27 Sales Requirements (GCR/GCC) (2)		17,553	11,602	4,621	4,531	3,802	5,674	14,632	62,414		20,638	34,515	38,488	39,142	23,893	156,676		219,090	
28 GCC Sales		3,887	2,828	1,363	748	678	775	1,250	11,529		2,592	4,138	5,588	6,038	5,774	24,131		35,660	
29 GCR Sales		13,665	8,773	3,257	3,784	3,124	4,898	13,382	50,885		18,046	30,377	32,899	33,103	18,119	132,546		183,430	
30																			
31 GCR Purchase		14,663	20,943	25,244	25,371	23,881	16,904	15,006	142,013		7,336	9,345	11,655	6,531	10,922	45,788		187,801	
32 GCC Supply		(1,481)	3,318	3,285	3,343	3,319	3,213	3,035	18,031		3,245	3,386	3,387	2,635	2,508	15,161		33,192	
33 Total GCR/GCC		13,181	24,261	28,529	28,714	27,200	20,118	18,041	160,044		10,581	12,731	15,042	9,166	13,429	60,949		220,993	
34																			
35 Imbalance Gas		182	159	(398)	28	390	(268)	171	264		123	(158)	158	677	(830)	(31)		234	
36																			
37 Net Fuel Uses		(24)	(21)	31	106	91	71	(50)	203		(64)	29	51	59	(56)	19		222	
38																			
39 GCR Net Storage From/(To)		(1,202)	(12,350)	(21,557)	(21,510)	(21,056)	(11,667)	(1,846)	(91,189)		10,524	21,219	21,138	25,955	7,972	86,807		(4,382)	
40																			
41 End of Month Inventory Total (1)								196,025			177,970	150,242	119,026	89,966	73,326	122,699			
42 End of Month Inventory Third Party (1)								20,562			12,377	6,620	(1,258)	(959)	(6,360)	26,922			
43 End of Month Inventory GCR/GCC	77,772	73,606	86,447	109,924	134,030	157,728	171,832	175,463	0.07%	97,691	165,593	143,622	120,283	90,925	79,686	95,777			
44 End of Month Inventory GCC	5,027	(342)	148	2,069	4,664	7,306	9,744	11,529	6,502		12,182	11,430	9,229	5,825	2,559	8,970			
45 End of Month Inventory GCR	72,746	73,948	86,300	107,855	129,366	150,422	162,089	163,935	91,189		153,411	132,192	111,054	85,100	77,128	86,807			
46 Inventory Adjustment GCR (3)		(0)	2	(2)	0	0	0	(0)			0	0	0	0	0				
47																			
48 DIFFERENCE																			
49 Degree Days		101	92	1	(5)	(9)	26	82	288		(123)	(59)	(100)	70	(184)	(394)	-7.8%	(106)	
50																			
51 Sales Requirements (GCR/GCC)		814	3,446	(30)	(8)	(424)	(129)	932	4,602		(3,059)	(1,778)	(4,585)	1,997	(5,813)	(13,237)		(8,635)	
52 GCC Sales		(506)	482	155	(71)	(55)	(3)	51	53		(241)	(1,268)	(1,876)	(887)	(325)	(4,597)		(4,544)	
53 GCR Sales		1,320	2,965	(185)	63	(369)	(126)	881	4,549		(2,817)	(510)	(2,709)	2,884	(5,488)	(8,640)		(4,091)	
54																			
55 GCR Purchase		(7,837)	22	4,999	4,451	2,961	404	(2,044)	2,956		(522)	(160)	(13)	(1,487)	188	(1,993)		963	
56 GCC Supply		(2,416)	(449)	(357)	(420)	(441)	(426)	(722)	(5,232)		(391)	(368)	8	(415)	(868)	(2,033)		(7,266)	
57 Total GCR/GCC		(10,254)	(426)	4,641	4,031	2,519	(21)	(2,766)	(2,276)		(913)	(527)	(5)	(1,902)	(680)	(4,026)		(6,302)	
58																			
59 Imbalance Gas		182	159	(398)	28	390	(268)	171	264		123	(158)	158	677	(830)	(31)		234	
60																			
61 Net Fuel Uses		(32)	(46)	22	30	22	(23)	(111)	(138)		(1)	8	(51)	24	(105)	(124)		(262)	
62																			
63 GCR Net Storage From/(To)		8,943	2,737	(4,763)	(4,386)	(3,697)	(285)	2,643	1,191		(2,419)	(184)	(2,905)	3,718	(4,951)	(6,741)		(5,550)	
64																			
65 End of Month Inventory Total								2,016			(45)	(3,734)	(3,927)	(5,248)	(5,780)	122,699			
66 End of Month Inventory Third Party								2,132			(2,199)	(6,972)	(11,954)	(10,029)	(14,969)	26,922			
67 End of Month Inventory GCR/GCC	6,360	(4,493)	(8,158)	(3,909)	127	3,438	3,300	(116)	(6,476)		2,154	3,238	8,027	4,781	9,189	(9,305)			
68 End of Month Inventory GCC	1,952	41	(889)	(1,401)	(1,750)	(2,137)	(2,560)	(3,333)	(5,285)		(3,483)	(2,583)	(699)	(226)	(769)	(2,564)			
69 End of Month Inventory GCR	4,408	(4,535)	(7,269)	(2,508)	1,878	5,575	5,860	3,217	(1,191)		5,637	5,821	8,725	5,007	9,958	(6,741)			
70 Inventory Adjustment GCR (3)		0	2	(2)	0	(0)	(0)	(0)			(0)	0	(0)	0	0				

(1) Reflects Actuals from Monthly operating balances, March 2020 Actuals

(2) Includes System Line Loss

(3) The inventory adjustment is included in the End of Month Inventory GCR. This line separates it out to aid in the explanation of the data.

	A Filed Plan (U- 20541)	B Annual Update	C Late-Season Regression	D End of Season Regression Comparison April, 2021
	December, 2019	October, 2020	February, 2021	
1 Date Developed	10/7/2019	10/7/2020	2/15/2021	
2				
3 Data Range Used	11/1/03 - 3/31/19	11/1/04 - 3/31/20	11/1/20 - 2/14/21	11/1/20 - 3/31/21
4				
5				
6				
7 Incremental MMCF/WAWDD (For Calculating Incremental CTN Volume Requirement)				
8 MMCF/WAWDD	36.34	35.15	35.48	35.51
9				
10 Design Peak City Gate Load				
11 1/31/21 80 DD	3203	3161	3139	3148
12 2/28/21 65 DD	2658	2634	2606	2615
13 3/31/21 50 DD	2113	2107	2074	2082
14				
15				
16 FEBRUARY 2021				
17 February 2019 Incremental GCR/GCC/EUT Volume Requirement - 4% Probability Design				
18 4% Prob WAWDD	245	243		
19 MMCF (GCR/GCC)	8886	8556		
20 GCR/GCC %	89.5%	89.5%		
21 MMCF (GCR/GCC)	7953	7658		
22				
23 February 28, 2021 Design Peak Day (65 WAWDD)				
24 City Gate Deliveries	2658	2634		
25 (GCR/GCC/EUT)				
26				
27 Electric Peakers	77	77		
28 MCV(FT Contract)	210	210		
29 Fuel, Use & Loss	25	25		
30 Total	2970	2946		
31				
32				
33 MARCH 2021				
34 March 2019 Incremental GCR/GCC/EUT Volume Requirement - 4% Probability Design				
35 4% Prob WAWDD	219	220	220	
36 MMCF (GCR/GCC)	7971	7740	7812	
37 GCR/GCC %	89.5%	89.5%	89.5%	
38 MMCF (GCR/GCC)	7134	6928	6992	
39				
40 March 31, 2021 Design Peak Day (50 WAWDD)				
41 City Gate Deliveries	2113	2107	2074	
42 (GCR/GCC/EUT)				
43				
44 Electric Peakers	77	77	77	
45 MCV(FT Contract)	210	210	210	
46 Fuel, Use & Loss	25	25	25	
47 Total	2425	2419	2386	

WAWDD = Wind Adjusted Weighted Degree Day

2020-2021 DEGREE DAY WINTER DESIGN SCENARIO SUMMARY

NORMAL WINTER OPERATING PLAN SCENARIO

MONTH	Degree Days Above Normal					
	NORMAL WEATHER	DESIGN NOV/MAR	NORMAL NOV DESIGN DEC/MAR	NORMAL NOV/DEC DESIGN JAN/MAR	NORMAL NOV/JAN DESIGN FEB/MAR	NORMAL NOV/FEB DESIGN MARCH
NOVEMBER	0	172	0	0	0	0
DECEMBER	0	169	257	0	0	0
JANUARY	0	166	169	281	0	0
FEBRUARY	0	125	123	156	243	0
MARCH	0	112	114	109	128	220
	0	744	662	546	371	220

DESIGN COLD WINTER OPERATING PLAN

DESIGN NOVEMBER - MARCH EARLY SEASON BIAS

DEGREE DAYS/PERIOD		DEGREE DAYS/MONTH	
PERIOD	DD @ 4%	MONTH	DD @ 4%
NOV	172	NOV	172
NOV/DEC	341	DEC	169
NOV/JAN	507	JAN	166
NOV/FEB	632	FEB	125
NOV/MAR	744	MAR	112
			744

LATE NOVEMBER OPERATING PLAN

NORMAL NOVEMBER, DESIGN DECEMBER - MARCH

DEGREE DAYS/PERIOD		DEGREE DAYS/MONTH	
PERIOD	DD @ 4%	MONTH	DD @ 4%
NOV	0	NOV	0
DEC	257	DEC	257
DEC/JAN	426	JAN	169
DEC/FEB	548	FEB	123
DEC/MAR	662	MAR	114
			662

LATE DECEMBER OPERATING PLAN

NORMAL NOV-DEC, DESIGN JANUARY - MARCH

DEGREE DAYS/PERIOD		DEGREE DAYS/MONTH	
PERIOD	DD @ 4%	MONTH	DD @ 4%
NOV	0	NOV	0
DEC	0	DEC	0
JAN	281	JAN	281
JAN/FEB	437	FEB	156
JAN/MAR	546	MAR	109
			546

LATE JANUARY OPERATING PLAN

NORMAL NOV-JAN, DESIGN FEBRUARY - MARCH

DEGREE DAYS/PERIOD		DEGREE DAYS/MONTH	
PERIOD	DD @ 4%	MONTH	DD @ 4%
NOV	0	NOV	0
DEC	0	DEC	0
JAN	0	JAN	0
FEB	243	FEB	243
FEB/MAR	371	MAR	128
			371

LATE FEBRUARY OPERATING PLAN

NORMAL NOV-FEB, DESIGN MARCH

DEGREE DAYS/PERIOD		DEGREE DAYS/MONTH	
PERIOD	DD @ 4%	MONTH	DD @ 4%
NOV	0	NOV	0
DEC	0	DEC	0
JAN	0	JAN	0
FEB	0	FEB	0
MAR	220	MAR	220
			220

Filed Normal Plan Versus Normal Winter Operating Plan Versus Booked Actuals Comparison
Volumes in MMcf @ 14.65 psia dry

	A	B	C	D	E	F	G	H
	<u>Oct-20</u>	<u>Nov-20</u>	<u>Dec-20</u>	<u>Jan-21</u>	<u>Feb-21</u>	<u>Mar-21</u>	<u>TOTAL</u>	<u>CYCLIC</u>
NORMAL WINTER OPERATING PLAN								
1 Degree Days		732	1,057	1,217	1,084	866	4,956	
2								
3 Sales Requirements (GCR/GCC) (minus fuel)		23,472	35,742	41,741	37,482	29,777	168,214	
4								
5 GCR Purchase		7,280	9,986	10,911	8,175	11,026	47,378	
6 GCC Supply		3,249	3,351	3,683	3,320	3,339	16,942	
7 Total GCR/GCC		10,529	13,337	14,594	11,495	14,365	64,320	
8								
9 End of Month Inventory Total	197,146	183,282	154,991	124,373	95,865	79,661		117,485
10 End of Month Inventory Third Party	21,550	20,629	14,743	11,272	8,751	7,960		13,590
11 End of Month Inventory GCR/GCC	175,596	162,653	140,248	113,101	87,114	71,701		103,895
12								
13								
14								
DIFFERENCE FILED NORMAL VERSUS WINTER OPERATING PLAN								
16 Degree Days		14	(11)	(17)	(37)	(17)	(68)	
17								
18 Sales Requirements (GCR/GCC)		(225)	(551)	(1,332)	337	70	(1,700)	
19								
20 GCR Purchase		(577)	481	(756)	157	292	(403)	
21 GCC Supply		(387)	(403)	304	271	(37)	(252)	
22 Total GCR/GCC		(964)	78	(452)	428	256	(655)	
23								
24 End of Month Inventory Total	3,137	5,267	1,015	1,420	651	555		2,582
25 End of Month Inventory Third Party	3,120	6,053	1,151	575	(320)	(649)		3,769
26 End of Month Inventory GCR/GCC	17	(786)	(136)	845	971	1,204		(1,187)
27								
28								
DIFFERENCE WINTER OPERATING PLAN VERSUS BOOKED ACTUALS								
30 Degree Days		(136)	(48)	(82)	107	(167)	(326)	
31								
32 Sales Requirements (GCR/GCC)		(2,834)	(1,227)	(3,253)	1,660	(5,884)	(11,538)	
33								
34 GCR Purchase		56	(641)	744	(1,644)	(104)	(1,590)	
35 GCC Supply		(4)	35	(296)	(685)	(831)	(1,781)	
36 Total GCR/GCC		52	(606)	448	(2,329)	(936)	(3,371)	
37								
38 End of Month Inventory Total	(1,121)	(5,312)	(4,749)	(5,347)	(5,899)	(6,335)		5,214
39 End of Month Inventory Third Party	(988)	(8,252)	(8,123)	(12,530)	(9,710)	(14,320)		13,332
40 End of Month Inventory GCR/GCC	(133)	2,940	3,374	7,182	3,811	7,985		(8,118)

Refer to Exhibit A- 5 (JPP-1) for Booked Actuals

DESIGN WARM WINTER OPERATING PLAN VERSUS BOOKED ACTUALS COMPARISON

Volumes in MMcf @ 14.65 psia dry

	A	B	C	D	E	F	G	H
	<u>Oct-20</u>	<u>Nov-20</u>	<u>Dec-20</u>	<u>Jan-21</u>	<u>Feb-21</u>	<u>Mar-21</u>	<u>TOTAL</u>	<u>CYCLIC</u>
DESIGN WARM WINTER OPERATING PLAN								
1 Degree Days		560	800	936	841	646	3,783	
2								
3 Sales Requirements (GCR/GCC) (minus fuel)		18,076	30,428	36,542	33,564	26,251	144,861	
4							0	
5 GCR Purchase		7,280	5,899	5,597	2,975	8,130	29,881	
6 GCC Supply		3,249	3,351	3,683	3,320	3,339	16,942	
7 Total GCR/GCC		10,529	9,250	9,280	6,295	11,469	46,823	
8								
9 End of Month Inventory Total	197,146	188,678	161,615	130,881	101,091	85,516		111,630
10 End of Month Inventory Third Party	21,550	20,630	14,744	11,272	8,751	7,959		13,591
11 End of Month Inventory GCR/GCC	175,596	168,048	146,871	119,609	92,340	77,557		98,039
12								
13								
DIFFERENCE DESIGN WARM WINTER OPERATING PLAN VERSUS BOOKED ACTUALS								
15 Degree Days		36	209	199	350	53	847	
16								
17 Sales Requirements (GCR/GCC)		2,562	4,087	1,946	5,578	(2,358)	11,815	
18								
19 GCR Purchase		56	3,446	6,058	3,556	2,792	15,907	
20 GCC Supply		(4)	35	(296)	(685)	(831)	(1,781)	
21 Total GCR/GCC		52	3,481	5,762	2,871	1,960	14,126	
22								
23 End of Month Inventory Total	(1,121)	(10,708)	(11,373)	(11,855)	(11,125)	(12,190)		11,069
24 End of Month Inventory Third Party	(988)	(8,253)	(8,124)	(12,530)	(9,710)	(14,319)		13,331
25 End of Month Inventory GCR/GCC	(133)	(2,455)	(3,249)	674	(1,415)	2,129		(2,262)

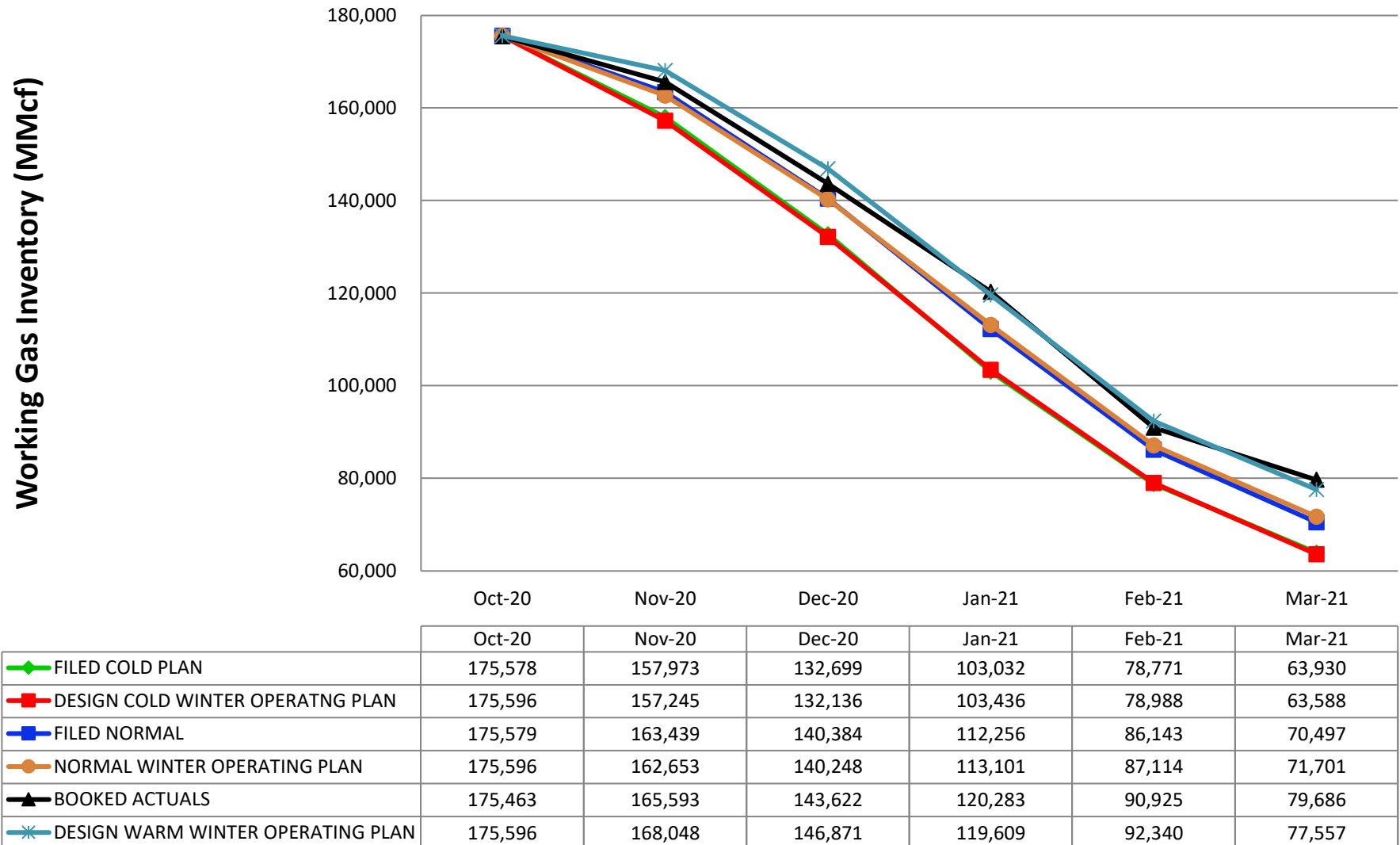
Refer to Exhibit A- 5 (JPP-1) for Booked Actuals

Comparison Between Filed Design Cold Plan, Design Cold Winter Operating Plan, and Booked Actuals
Volumes in MMcf @ 14.65 psia dry

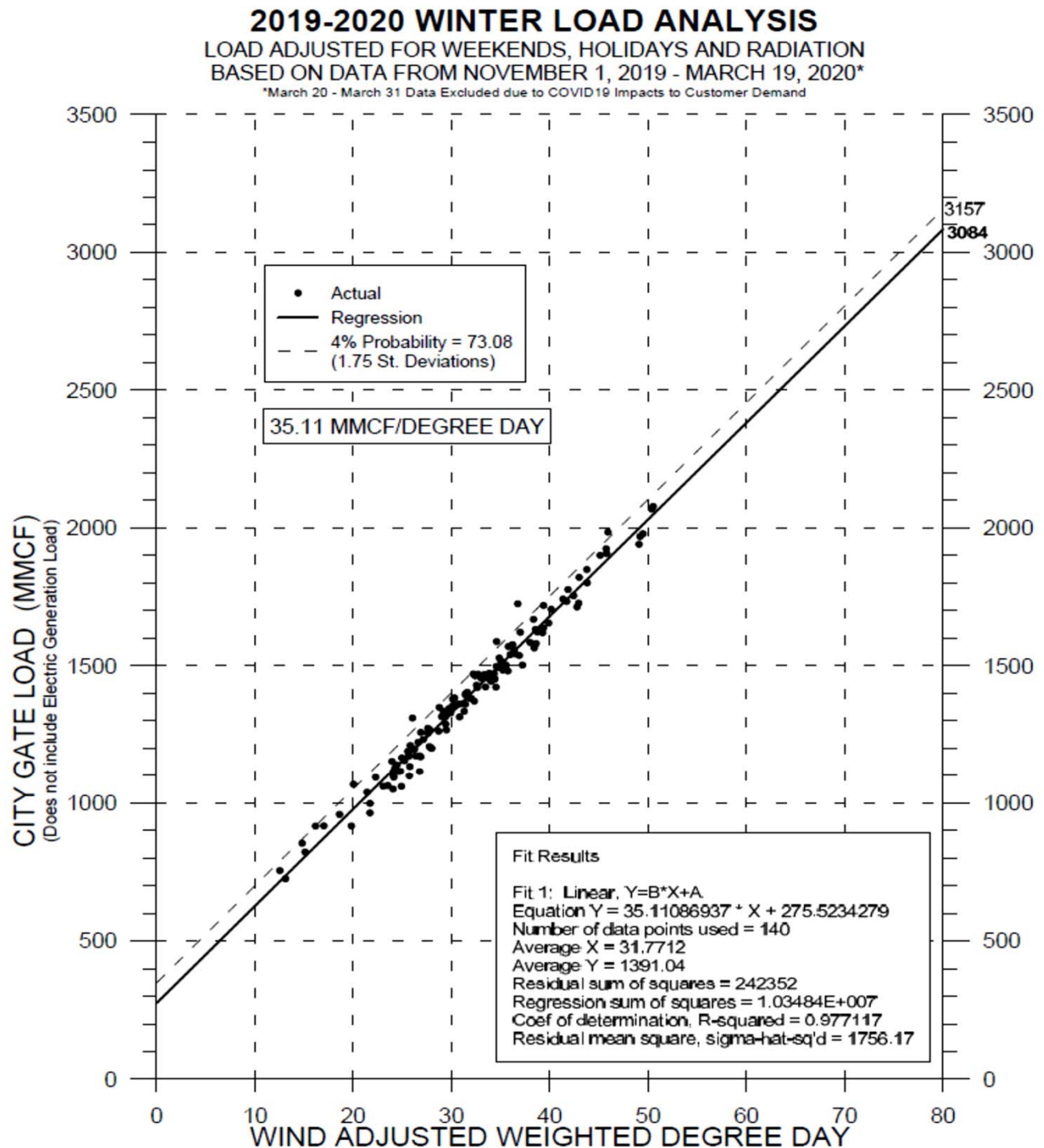
	A	B	C	D	E	F	G	H
	<u>Oct-20</u>	<u>Nov-20</u>	<u>Dec-20</u>	<u>Jan-21</u>	<u>Feb-21</u>	<u>Mar-21</u>	<u>TOTAL</u>	<u>CYCLIC</u>
FILED COLD PLAN								
1 Degree Days		888	1,323	1,512	1,365	1,102	6,191	
2								
3 End of Month Inventory Total	194,008	172,531	145,656	111,505	84,696	69,202		124,806
4 End of Month Inventory Third Party	18,430	14,558	12,957	8,473	5,925	5,272		13,158
5 End of Month Inventory GCR/GCC	175,578	157,973	132,699	103,032	78,771	63,930		111,648
6								
7								
DESIGN COLD WINTER OPERATING PLAN								
9 Degree Days		904	1,314	1,498	1,327	1,086	6,129	
10								
11 End of Month Inventory Total	197,146	177,874	146,879	114,708	87,739	71,548		125,598
12 End of Month Inventory Third Party	21,550	20,629	14,743	11,272	8,751	7,960		13,590
13 End of Month Inventory GCR/GCC	175,596	157,245	132,136	103,436	78,988	63,588		112,008
14								
15								
DIFFERENCE FILED COLD PLAN VERSUS DESIGN COLD WINTER OPERATING PLAN								
17 Degree Days		16	(9)	(14)	(38)	(16)	(62)	
18								
19 End of Month Inventory Total	3,138	5,343	1,223	3,203	3,043	2,346		792
20 End of Month Inventory Third Party	3,120	6,071	1,786	2,799	2,826	2,688		432
21 End of Month Inventory GCR/GCC	18	(728)	(563)	404	217	(342)		360
22								
23								
DIFFERENCE DESIGN COLD WINTER OPERATING PLAN VERSUS BOOKED ACTUALS								
25 Degree Days		(308)	(305)	(363)	(136)	(387)	(1,499)	
26								
27 End of Month Inventory Total	(1,121)	96	3,363	4,318	2,227	1,778		(2,899)
28 End of Month Inventory Third Party	(988)	(8,252)	(8,123)	(12,530)	(9,710)	(14,320)		13,332
29 End of Month Inventory GCR/GCC	(133)	8,348	11,486	16,847	11,937	16,098		(16,231)
30								
31								
DIFFERENCE FILED COLD PLAN VERSUS BOOKED ACTUALS								
33 Degree Days		(292)	(314)	(377)	(174)	(403)	(1,561)	
34								
35 End of Month Inventory Total	2,017	5,439	4,586	7,521	5,270	4,124		(2,107)
36 End of Month Inventory Third Party	2,132	(2,181)	(6,337)	(9,731)	(6,884)	(11,632)		13,764
37 End of Month Inventory GCR/GCC	(115)	7,620	10,923	17,251	12,154	15,756		(15,871)

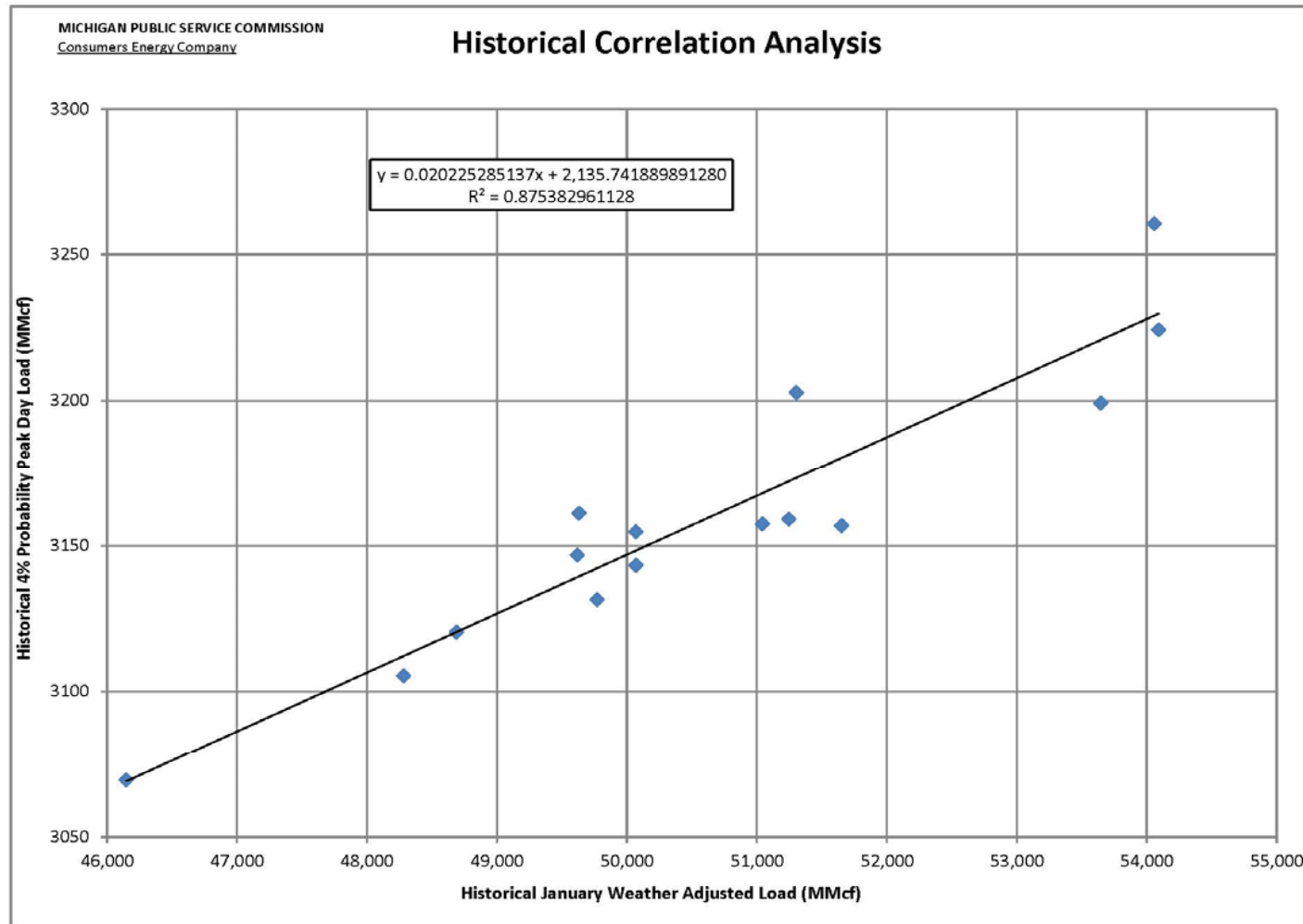
Refer to Exhibit A- 5 (JPP-1) for Booked Actuals

GCR/GCC STORAGE UTILIZATION PLAN COMPARISON BETWEEN FILED DESIGN COLD PLAN, DESIGN COLD WINTER OPERATING PLAN, AND BOOKED ACTUALS

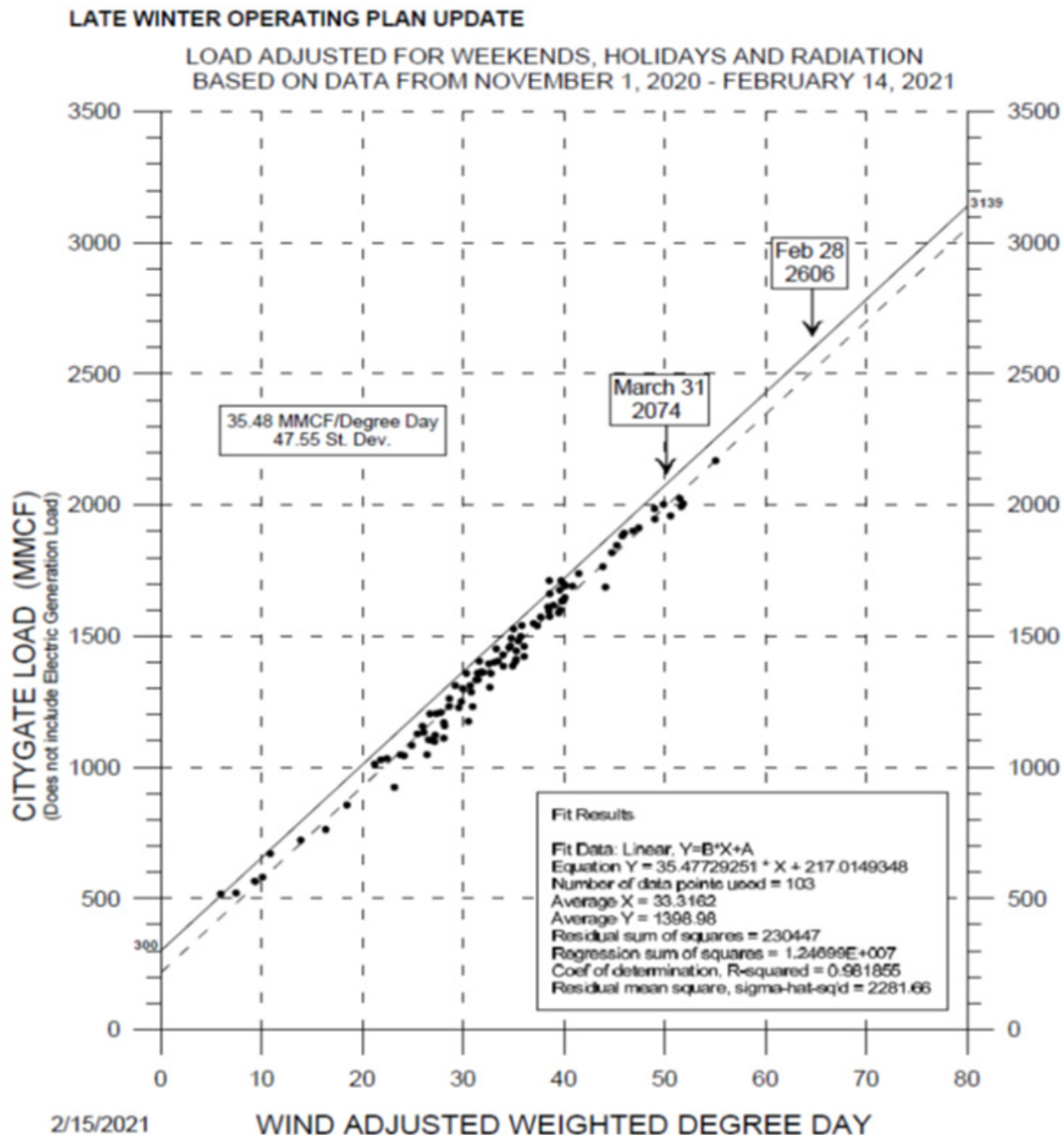


END OF SEASON 2019-2020 LINEAR REGRESSION PLOT

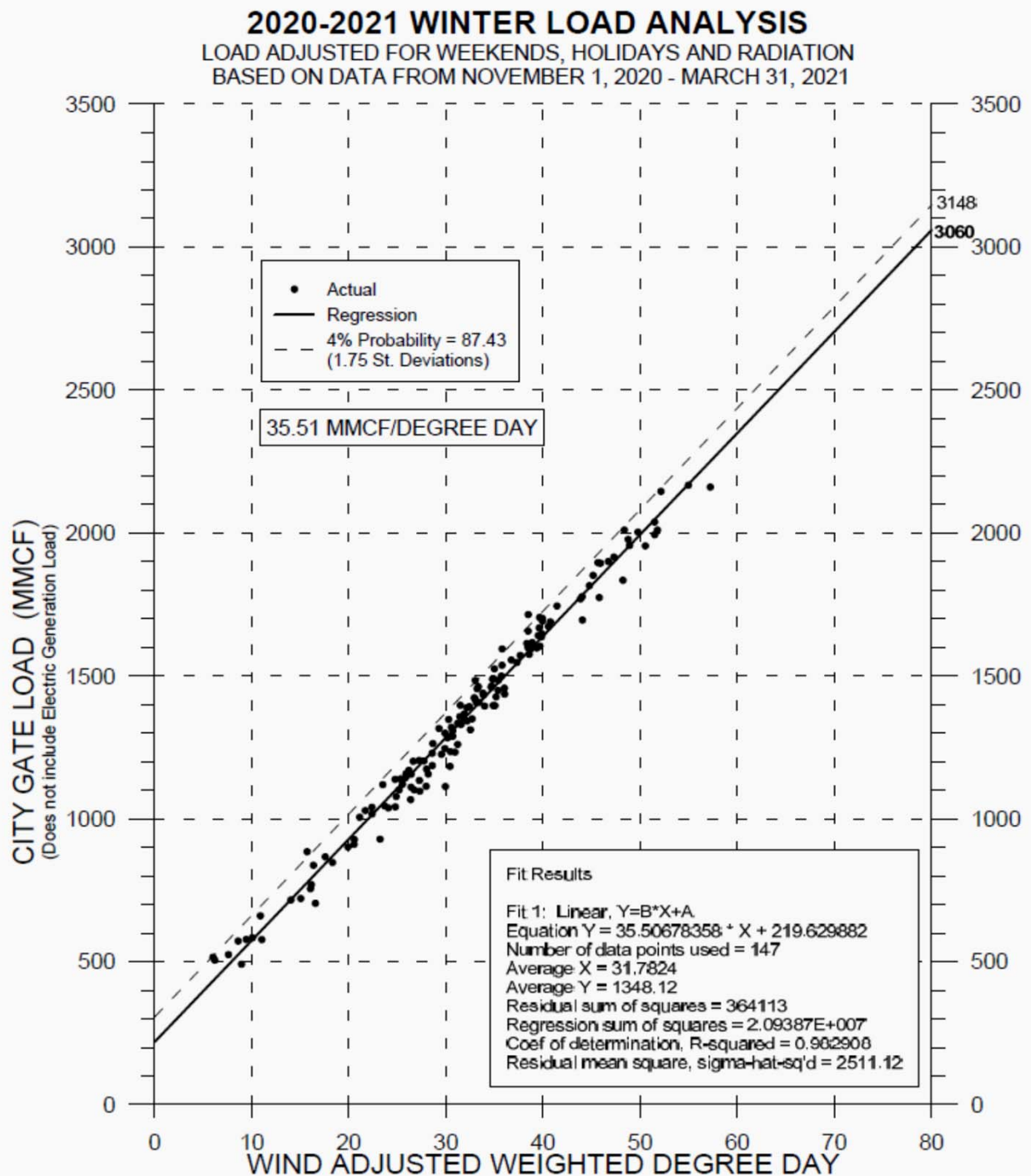




LATE SEASON LINEAR REGRESSION PLOT



END OF SEASON 2020-2021 LINEAR REGRESSION PLOT



**MARCH 2021 PURCHASE DECISION
ASSESSMENT OF GAS AVAILABLE FROM STORAGE
AND GCR PURCHASES REQUIRED TO MEET MONTHLY AND DAILY LOADS
2/17/2021**

Volumes in MMcf @ 14.65 psia dry

	A	B	C	D	E	F	G	H
Field Name	Actual 2/16/2021 Geologic Inventory	Projection for 2/28/2021 Geologic Inventory	4% Design 3/31/21 Geologic Inventory	Accounting Working Gas Conversion Factor	Actual 2/16/2021 Acct Working Gas Inventory	Projection for 2/28/2021 Acct Working Gas Inventory	4% Design 3/31/21 Acct Working Gas Inventory	
<u>STORAGE ASSESSMENT</u>								
<u>Base Load</u>								
1 Winterfield	-5488	-6440	-8236	11856	6368	5416	3620	
2 Cranberry	-2463	-2940	-4047	6718	4255	3778	2671	
3 Riverside	-174	-183	-192	1482	1308	1299	1290	
4 Overisel	-10505	-11616	-12616	34580	24075	22964	21964	
5 Salem	-4345	-4907	-5407	24700	20355	19793	19293	Lowest
6 Hessen	-7597	-9062	-10052	12814	5217	3752	2762	Attainable
7 Puttygut	-8832	-10288	-11278	14445	5613	4157	3167	
8 Four Corners	-1483	-1815	-2067	3250	1767	1435	1183	
9 Swan Creek	-239	-304	-349	514	275	210	165	
10 Base Total	-41126	-47555	-54244	110359	69233	62804	56115	
11								
<u>Peaker</u>								
13 Ray	-9542	-16811	-32215	44460	34918	27649	12245	
14 Ira	-33	-33	-1320	5187	5154	5154	3867	
15 Lenox	-874	-581	-1260	2964	2090	2383	1704	Lowest Allowable
16 N Reef	-20	-20	-420	494	474	474	74	To Meet
17 Lyon 34	-4	-4	-150	692	688	688	542	Peak Day
18 Lyon 29	3	3	-490	1215	1218	1218	725	Load Design
19 Peaker Total	-10470	-17446	-35855	55012	44542	37566	19157	
20								
21 Total Inv	-51596	-65001	-90099	165371				
22 Total Working Gas					113775	100370	75272	
23								
24 TOTAL Gas Available for Withdrawal =							25098	
25								
<u>Inventory of Others</u>								
27 End Users						3056	2727	
28 MCV						4911	3111	
29 Other Utilities						0	0	
30 Buy/Sell						4237	4237	
31 Total Other						12204	10075	
32								
33 OTHERS Gas Available for Withdrawal							2128	
34								
35 GCR/GCC WORKING INVENTORY						88167	65197	
36								
37 GCR/GCC Gas Available for Withdrawal =							22970	
38								
<u>LOAD ASSESSMENT</u>								
40 Normal Weather GCR/GCC load (including loss and use)							29897	
41 Potential Incremental GCR/GCC load							6992	
42 Total Design GCR/GCC Load							36889	
43								
<u>SUPPLY ASSESSMENT</u>								
45 GCR/GCC Flowing Supply Needed							13919	MMcfd 449
46 GCC Flowing Supply							2896	93
47 Fuel Credits							120	4
48 GCR Flowing Supply Needed							10903	352

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

DIRECT TESTIMONY

OF

MICHAEL H. ROSS

ON BEHALF OF

CONSUMERS ENERGY COMPANY

June 2021

MICHAEL H. ROSS
DIRECT TESTIMONY

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

2 A. My name is Michael H. Ross, and my business address is 1945 West Parnall Road, Jackson,
3 Michigan 49201.

4 **Q. By whom are you employed?**

5 A. I am employed by Consumers Energy Company (“Consumers Energy” or the “Company”).

6 **Q. What is your position at Consumers Energy?**

7 A. I am the Director of Gas Supply within Gas Management Services.

8 **Q. Please state your educational background and work experience.**

9 A. I graduated from the University of Michigan in August 1993 with a Bachelor of Fine Arts
10 degree. In addition, I received both a Bachelor of Accountancy degree from New Mexico
11 State University in August 1997, and a Master of Accountancy degree in December 1998.
12 I joined PricewaterhouseCoopers in January 1999, working within their Middle Market
13 and International Tax Departments.

14 In June 2001, I accepted a position with Consumers Energy in the General
15 Accounting area, where my primary responsibility was accounting and external reporting
16 related to Consumers Energy’s transmission subsidiary Michigan Electric Transmission
17 Company (“METC”). Subsequent to Consumers Energy’s sale of METC, I transferred to
18 General Accounting’s Electric Fuel and Reconciliation area where my duties included the
19 accounting for electric generation and power supply expenses, electric revenue analysis,
20 and gross margin analysis. In December 2003, my responsibilities within the General
21 Accounting Department were redirected toward external financial reporting, earnings
22 variance analysis, corporate cost analysis, and accounting and external reporting for
23 Consumers Funding, LLC. In December 2005, I accepted the lead position in the Gas Fuel

MICHAEL H. ROSS
DIRECT TESTIMONY

1 and Reconciliation Accounting section of the General Accounting Department. My duties
2 included the accounting for the cost of natural gas, the analysis of natural gas revenues and
3 costs, and the the analysis of associated natural gas cost over- or under-recoveries. In
4 October 2009, I accepted a position in the Rates and Business Support Department of
5 Consumers Energy. In this role, I assisted in the preparation of studies relating to the
6 Company's overall profitability for its business units as well as aided in the development
7 of analyses related to the Company's revenue requirements and the preparation of electric
8 and gas rate case filings at the Michigan Public Service Commission ("MPSC" or the
9 "Commission"). In addition, I developed cost-of-service studies, assisted in tariff and
10 surcharge rate design, assisted with associated research and analysis, and responded to
11 various internal and external inquiries regarding rate-related issues. In February 2016, I
12 accepted the position of Director of Gas Supply. In this role I am responsible for directing
13 the Company's efforts to obtain reliable and reasonably priced natural gas supply for
14 customers, and I am also responsible for the negotiation and administration of all natural
15 gas supply and transportation contracts.

16 **Q. Are you a member of any professional organizations?**

17 A. I am a member of the Institute of Management Accountants.

18 **Q. Do you hold any professional certifications?**

19 A. I am a Certified Management Accountant.

MICHAEL H. ROSS
DIRECT TESTIMONY

Q. Have you previously filed testimony with the Commission?

A. Yes. I filed testimony in Case Nos. U-14403-R, U-14716-R, U-15041-R, U-15454-R, U-16247, U-16418, U-16761, U-16929, U-17038, U-17043, U-17087, U-17301, U-15645 Remand, U-17598, U-17688, U-17735, U-17693-R, U-18151, U-17943-R, U-18411, U-20075, U-20233, U-20209, U-20234, U-20541, and U-20814.

I. BACKGROUND

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

A. The purpose of my direct testimony is to demonstrate that Consumers Energy's 2020 - 2021 Gas Cost Recovery ("GCR") expenditures are reasonable and prudent and consistent with the GCR Plan filed by the Company in Case No. U-20541 ("GCR Plan" or "Plan").

Q. How is your direct testimony organized?

A. My direct testimony is organized as follows:

- I. BACKGROUND
- II. OVERVIEW
- III. GCR PURCHASE REQUIREMENTS
- IV. GAS PURCHASES
- V. ASSET MANAGEMENT AGREEMENTS AND BUY/SELL REVENUE
- VI. CAPACITY RELEASE
- VII. TRANSPORTATION
- VIII. CONCLUSION

Q. Are you sponsoring any exhibits?

A. Yes. I am sponsoring the following exhibits:

- | | |
|----------------------|--|
| Exhibit A-17 (MHR-1) | 2020-2021 GCR Purchases - Filed Plan Versus Booked Actual (MMcf); |
| Exhibit A-18 (MHR-2) | Gas Purchasing Strategy Guidelines; |
| Exhibit A-19 (MHR-3) | Quartile Fixed Price Triggers Guideline Analysis; |
| Exhibit A-20 (MHR-4) | Quartile Fixed Price Trigger Requirements and Purchases After 12/30/19 Plan Case Filing; |

MICHAEL H. ROSS
DIRECT TESTIMONY

1	Exhibit A-21 (MHR-5)	2020-2021 GCR Purchases;
2	Exhibit A-22 (MHR-6)	2020-2021 AMA and Buy/Sell Revenue;
3	Exhibit A-23 (MHR-7)	Capacity Utilization; and
4	Exhibit A-24 (MHR-8)	Summary of Firm and Interruptible Transportation
5		Contracts.

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

7 A. Yes.

8 **II. OVERVIEW**

9 **Q. Please provide a brief overview of the 2020 - 2021 GCR Plan year.**

10 A. The Company's purchase requirements for April through October 2020 were 3 Bcf above
11 Plan levels, and the November 2020 through March 2021 purchase requirements were
12 2 Bcf below normal weather Plan levels. The higher summer purchases primarily reflect
13 higher than filed Plan sales during this period partially offset by higher prior year ending
14 inventory. Conversely, the lower winter purchase requirements reflect the impact on
15 decreased sales from a winter with fewer Degree Days ("DD") than the filed Normal Plan.
16 Company witness James P. Pnacek discusses the progression toward the October inventory
17 target and actual winter purchase volumes versus the filed GCR Plan in greater detail. The
18 Company's Plan was instrumental in allowing Consumers Energy to deliver natural gas to
19 its customers safely, and at a reasonable and prudent price.

20 **Q. Please give a brief overview of Consumers Energy's 2020 - 2021 GCR Plan.**

21 A. Consumers Energy originally filed its 2020-2021 GCR Plan on December 30, 2019 (Case
22 No. U-20541). Consumers Energy reviewed the Gas Purchasing Strategy Guidelines in
23 light of current and expected conditions and, on a go-forward basis, proposed the same gas
24 purchasing strategy that was presented in the 2019 - 2020 GCR Plan (Case No. U-20233).

MICHAEL H. ROSS
DIRECT TESTIMONY

Consistent with recent GCR Plan filings, the Company's purchasing strategy relied on limited amounts of fixed price purchases and greater amounts of index priced purchases. Lower fixed price purchases allowed greater access to declining prices if that trend continued, while taking advantage of prices that, compared to history, were favorable. Consumers Energy's purchasing strategy provided a reasonable balance of helping to mitigate price volatility and price risk while helping to reduce the cost of gas if prices declined. The Company's 2020 - 2021 GCR Plan took into consideration, among other things: (i) changes in supply and demand forecasts for natural gas; (ii) current and projected gas prices; (iii) the historic volatility of natural gas prices; and (iv) the goal of securing reliable natural gas supply for customers that reduces exposure to price risk and price volatility.

Q. Did the MPSC approve the Company's filed GCR Plan in Case No. U-20541?

A. Yes. On September 24, 2020, the Commission issued an Order approving the Company's as-filed Plan with an adjusted base GCR factor of \$2.4945 per thousand cubic feet.

Q. Were Consumers Energy's purchases during the 2020 - 2021 GCR Plan year consistent with its filed GCR Plan guidelines and reasonable, based on the current and expected market factors available at the time purchases were made?

A. Yes. Costs incurred and actions taken were reasonable and prudent. The prices for the supplies purchased were the best available at the time of purchase. What actually occurred in the pricing realm after the fact is not a standard by which the purchase, the GCR Plan, or the Company can or should be reasonably judged. Any comparison to situations that occurred after the fact does not address the fact that the purchases made were the best alternative at the time of purchase. As set forth in the approved Gas Purchasing Strategy

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Guidelines, when fixed price purchases were not triggered, index price purchases were made to meet projected requirements.

III. GCR PURCHASE REQUIREMENTS

Q. In general, how does Consumers Energy plan its purchases?

A. Consumers Energy plans its purchases to obtain reliable supplies at reasonable prices through purchases from various suppliers and supply basins. Diversity of supply provides the Company: (i) reliability of supply if there is an unforeseen supply disruption in a single supply basin; (ii) an opportunity for balanced overall gas costs when, and as, price basis values change due to weather or supply availability; and (iii) increased supply options to choose from due to a larger number of suppliers at various locations throughout North America. The Company has entered into gas supply contracts and related firm transportation contracts which meet these objectives. In addition, the Company uses its natural gas storage facilities to take advantage of generally lower priced summer supplies as well as to meet expected customer requirements during the peak heating season. The Company's gas storage facilities also enable Consumers Energy to contract for less firm pipeline capacity from interstate pipelines which reduces interstate pipeline demand charges and provides an economic benefit for its customers.

Q. How did the Filed Plan forecast of GCR Purchases compare to the Booked GCR Purchases for the 2020 - 2021 GCR period?

A. Exhibit A-17 (MHR-1) compares the Booked Actuals to the Filed GCR Plan Case Purchases by month, season, and for the April 2020 - March 2021 GCR period. As shown on Exhibit A-17 (MHR-1), line 16, GCR purchases were 1.0 Bcf, or 0.52% higher than assumed in the Plan forecast.

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1 **Q. Why were GCR purchases 3 Bcf higher for the summer period and 2 Bcf less for the**
2 **winter period than assumed in the GCR Plan forecast?**

3 A. The higher summer purchases primarily reflect higher summer sales, and the lower winter
4 purchase requirements reflect the impact from a warmer winter than contemplated in the
5 filed Normal Plan. Consumers Energy witness Pnacek discusses the progression toward
6 the October 31, 2020 working inventory target, and the winter purchase decisions details
7 in his direct testimony.

8 **IV. GAS PURCHASES**

9 **Q. How does the Company decide what volumes should be purchased?**

10 A. Purchases are determined after review of the customers' requirements and the operational
11 considerations surrounding storage, pipeline integrity work, interstate pipeline capacity,
12 and weather. Each month during the GCR Plan year, the Company evaluates its supply
13 needs based on current and projected sales and weather forecasts, storage availability, and
14 market conditions. After considering the existing volumes available from storage and those
15 under fixed and/or indexed price supply contracts, the Company determines what volume
16 of incremental supply would be necessary to meet projected sales demand. The required
17 incremental supply is then purchased based on an analysis of the market at the time of
18 purchasing. In pricing incremental supply, the wellhead cost of gas plus the variable cost
19 on the pipeline are compared to a delivered cost of gas at Consumers Energy's city gate.

20 **Q. Please identify Exhibit A-18 (MHR-2).**

21 A. Exhibit A-18 (MHR-2) is a copy of the Gas Purchasing Strategy Guidelines.

22 **Q. Have the Gas Purchasing Strategy Guidelines changed from the prior year?**

23 A. No.

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1 **Q. Have the Company's execution and adherence to the Gas Purchasing Strategy**
2 **Guidelines changed from the prior year?**

3 A. No.

4 **Q. Were there any fixed price purchases delivered in the 2020 - 2021 GCR Plan year**
5 **transacted under previous versions of the Company's Gas Purchasing Strategy**
6 **Guidelines?**

7 A. No.

8 **Q. Please identify Exhibit A-19 (MHR-3).**

9 A. The Gas Purchasing Strategy Guidelines include Quartile Fixed Price Triggers Guidelines
10 which apply if the current market price is below certain historical price ranges or quartiles.
11 This analysis is used to determine if monthly triggers need to be executed and, if so, at
12 what level. Exhibit A-19 (MHR-3), page 1, contains the Quartile Fixed Price Triggers
13 Guideline analyses. Page 2 of the exhibit shows the quartile ranges graphically for the
14 GCR period. These analyses were conducted monthly in accordance with the Gas
15 Purchasing Strategy Guidelines.

16 **Q. Did the quartile fixed price guidelines trigger during the 2020 - 2021 GCR period?**

17 A. Yes. Current market prices fell below the first quartile within the 2020 - 2021 GCR Plan
18 year. Quartile purchases were made in March, as reflected in Exhibit A-20 (MHR-4).

19 **Q. Please identify Exhibit A-20 (MHR-4).**

20 A. Exhibit A-20 (MHR-4) identifies the Quartile Fixed Price Trigger Requirements and
21 Purchases after the GCR Plan case filing by month. Quartile fixed price purchases were
22 executed for the 2020 – 2021 GCR period in March for 16.3 Bcf.

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1 **Q. What fixed price contract coverage did Consumers Energy have for the 2020 - 2021**
2 **GCR year at the beginning of April 2020?**

3 A. The Company had 22.7 Bcf of contract volumes under a fixed price at the beginning of the
4 2020 - 2021 GCR year, as reflected on Exhibit A-20 (MHR-4), page 1, line 4, column (A).

5 **Q. Please explain Exhibit A-21 (MHR-5).**

6 A. Exhibit A-21 (MHR-5) details the 2020 - 2021 GCR purchases. Page 1 of this exhibit
7 summarizes the associated volumes and dollars included in the 2020 - 2021 GCR
8 purchases. Page 2 of this exhibit sets forth the purchases by month for the 2020 - 2021
9 GCR Plan period. Pages 3 through 14 detail the monthly volumes and prices. Pages 15
10 through 20 detail the 2020 - 2021 purchase transactions, and page 21 provides details
11 relative to the Quartile purchases noted above.

12 **Q. Please explain the different “Receipt Points” reflected on Exhibit A-21 (MHR-5),**
13 **pages 15-20, column I.**

14 A. Receipt points reflect the locations where the Company has taken receipt of purchased gas
15 supply. Receipt points can reflect a specific point on an interstate pipeline, a point where
16 Consumers Energy’s system interconnects with an external pipeline, or a locational pool
17 of points. Within Exhibit A-21 (MHR-5), pages 15 through 20, column (I), the “CE
18 Citygate” references reflect receipt points at any of the Company’s system interconnects.
19 “REX Douglas” references reflect the Trunkline Gas Company (“Trunkline”) pipeline’s
20 Douglas County receipt point at their interconnect with the Rockies Express Pipeline. The
21 “REX Putnam” references reflect the Panhandle Eastern Pipeline Company’s
22 (“Panhandle”) Putnam County receipt point at their interconnect with the Rockies Express
23 Pipeline. Lastly, the “Zone 1A” references a portion of Trunkline’s system located on the

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1 discharge side of its Longville, Louisiana, compressor station and extending north to the
2 suction side of its Dyersburg, Tennessee, compressor station.

3 **Q. Please explain the different “Deal Terms” reflected on Exhibit A-21 (MHR-5), pages**
4 **15 through 20.**

5 A. Deal terms relate to the length of time or the “term” under which contract purchases are
6 made. Monthly contracts reflect gas flows for a single month and are generally transacted
7 in the month preceding the month of flow. Multi-month terms represent transactions
8 covering more than a single month, and an intra-month term indicates gas purchases made
9 during shorter time periods within the same month.

10 **Q. Please explain why Consumers Energy would enter into a multi-month term deal.**

11 A. Multi-month term deals took advantage of historically low basis prices or otherwise
12 favorable pricing and/or mitigated uncertain future price environments, ensured supply
13 within new market areas, or were executed in concert with the approved Quartile Fixed
14 Price Trigger Guidelines. Consumers Energy’s summer non-quartile term deals fall within
15 the GCR Plan’s Gas Purchasing Guidelines, being market based, executed to provide
16 summer delivery to leverage the Company’s storage assets and historically lower priced
17 supplies, and executed at prudent and reasonable prices. Similarly, the winter non-quartile
18 term deals align with the approved GCR Plan to meet incremental supply utilizing
19 Trunkline reserved capacity first, were market based, executed at favorable pricing, and
20 ensured supply attachment within a new market area.

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1 **Q. Please explain why Consumers Energy entered into intra-month gas purchases in the**
2 **2020 -2021 GCR Plan year.**

3 A. Generally, intra-month purchases are made on the spot market when the flexibility not
4 available using monthly term deals is needed or beneficial. Consumers Energy's June
5 intra-month purchases were used to maximize the utilization of Trunkline reserved capacity
6 before and after Trunkline's maintenance outage scheduled for June 15-25 that effectively
7 shut-in the Company's Trunkline Elkhart interconnect. June intra-month city gate supply
8 purchases were used as an alternative supply source during this outage period.

9 Intra-month supply was also procured in September and October, as discussed in greater
10 detail by Company witness Phacek. The September intra-month purchases were used to
11 work around planned outages at the Muskegon River and Ray Compressor stations that
12 limited injectability. As in prior years, the October intra-month gas purchases provided
13 the flexibility needed to manage toward the October month-end Planned inventory storage
14 target in the final days of injection encompassing changing weather impacts, if needed.

15 **Q. Are intra-month purchases consistent with the Gas Purchasing Guidelines included**
16 **in the Company's GCR Plan filing, Case No. U-20541?**

17 A. Yes. These transactions were market based, executed to leverage storage assets and
18 historically lower priced summer supplies to meet the Planned ending injection inventory
19 target, and/or to satisfy operational requirements and obligations to serve, and were
20 executed at prudent and reasonable prices.

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DIRECT TESTIMONY

1 **Q. Please explain how you calculated the difference between a wellhead volume**
2 **purchased in MMBtu and a delivered volume in MMcf?**

3 A. The wellhead volume purchased in MMBtu is first reduced by pipeline fuel to determine
4 the Company's delivered volume in MMBtu. The delivered volume in MMBtu is then
5 divided by the pipeline Btu to determine the delivered volume in MMcf.

6 **V. ASSET MANAGEMENT AGREEMENTS AND BUY/SELL REVENUE**

7 **Q. Please explain Exhibit A-22 (MHR-6).**

8 A. Exhibit A-22 (MHR-6), pages 1 and 2, reflect the actual asset management agreements
9 ("AMA") and Buy/Sell revenues collected during the 2020 - 2021 GCR year. Consumers
10 Energy enters into AMA and Buy/Sell transactions on a voluntary basis to leverage
11 Company assets and defray costs incurred on behalf of its GCR customers. These revenues
12 are reflected in Exhibit A-2 (AMP-1) as reductions to the GCR costs of gas sold, consistent
13 with the Commission's January 13, 2015 Final Order approving Settlement Agreement in
14 Case No. U-17643.

15 **Q. Would you please describe Buy/Sell transactions?**

16 A. Yes. In Buy/Sell transactions, Consumers Energy agrees to purchase natural gas from a
17 supplier for a specific term and price. On the same trade date, Consumers Energy agrees
18 to sell natural gas back to that same supplier for a specific term and price. Buy/Sell
19 revenues then reflect the difference between the purchase and sale price.

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DIRECT TESTIMONY

1 **Q. Would you please describe AMA transactions?**

2 A. Yes. AMA transactions are contractual agreements between the Company and various
3 GCR natural gas suppliers which essentially change the delivery point on the subject supply
4 purchase from the field (i.e., wellhead) to the Company's city gate in combination with
5 release by the Company to the supplier of the GCR firm transportation capacity that would
6 otherwise have been used by the Company to transport the gas to the city gate. This action
7 allows the supplier to retain title to both the natural gas and firm transportation, which
8 gives the supplier an opportunity to sell the original field volumes to third parties while
9 replacing like volumes at Consumers Energy's city gate. In return, Consumers Energy
10 receives 70% of the incremental revenue generated from these transactions. The Company
11 makes the replacement shipper (supplier) whole for actual transportation costs up to what
12 the Company would have paid absent the AMA, so that the net cost for purchasing the
13 supplies and transporting to the Company's city gate are no higher than the costs prior to
14 the AMA transaction. This assures the Company receives the volumes it bargained for, at
15 the price agreed to, while taking advantage of commercial opportunities along the interstate
16 pipeline.

17 **Q. Please explain what Consumers Energy's "city gate" refers to in the explanation**
18 **above.**

19 A. Consumers Energy's city gate refers to locations where an interstate pipeline, or another
20 company's pipeline, delivers gas into Consumers Energy's gas high pressure transmission
21 system.

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DIRECT TESTIMONY

VI. CAPACITY RELEASE

Q. Did Consumers Energy offer any firm capacity to release during the GCR period?

A. Yes, the Company offered released Panhandle pipeline capacity in November, February, and March. The Company attempted to release the remaining unutilized March Panhandle pipeline capacity but found no market interest. The reduced Trunkline June utilization percentage reflects the Trunkline maintenance outage impact previously discussed. Please see Exhibit A-23 (MHR-7) for a breakdown of the capacity utilization by pipeline and capacity release demand credits.

Q. What process is used to determine what capacity is utilized and what capacity is released?

A. Each month throughout the GCR Plan year the Company performs an avoidable cost analysis to determine what is the lowest cost delivered purchase to execute. With exceptions for operational concerns or peak day requirements, existing and underutilized firm transportation is posted for release. The capacity release demand credits received as a reduction in customers gas costs would be reflected within Exhibit A-23 (MHR-7), page 2, when received. The exception to the above lowest delivered cost consideration were the winter Trunkline firm transportation capacity volumes, which were executed ahead of other supply options in accordance with the approved GCR Plan.

VII. TRANSPORTATION

Q. Please identify Exhibit A-24 (MHR-8).

A. Exhibit A-24 (MHR-8) is a summary of the firm and interruptible transportation contracts that covered all or a portion of the GCR Plan year.

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1 **Q. Based on the Company's 2020 - 2021 GCR requirements, was incremental firm**
2 **transportation contracted for during the GCR period?**

3 A. No. As depicted in Exhibit A-24 (MHR-8), no incremental firm transportation was
4 purchased during the 2020 - 2021 GCR year.

5 **Q. Were there any Federal Energy Regulatory Commission ("FERC") pipeline filings**
6 **made during the 2020 - 2021 GCR period that materially impacted Consumers**
7 **Energy's gas customers?**

8 A. No. As discussed in prior proceedings, however, Panhandle pipeline self implemented
9 proposed rates on March 1, 2020, related to their September 11, 2019 Section 4 rate filing,
10 in which the Company filed a Motion to Intervene and Protest. The Company, along with
11 FERC, the MPSC, other intervenors, and Panhandle, had previously pursued settlement
12 of the Section 4 filing unsuccessfully. On March 26, 2021 the Presiding Administrative
13 Law Judge issued the Initial Decision. As of June 1, 2021, the Company does not know
14 what ultimate customer impacts may result from the final FERC Order.

15 **Q. Did Consumers Energy incur any costs associated with its interstate transport**
16 **providers' cash out mechanisms or any other cash out mechanism?**

17 A. No.

18 **Q. Did Consumers Energy enter into any contracts during April 2020 through**
19 **March 2021 to purchase or release any pipeline capacity with any affiliate?**

20 A. No.

1 **VIII. CONCLUSION**

2 **Q. Were the Company's supply and transportation arrangements during the 2020 - 2021**
3 **GCR Plan period reasonable and prudent?**

4 A. Yes. The Company's purchases were made using current or expected market factors to
5 purchase supply consistent with its MPSC-approved gas purchasing guidelines and resulted
6 in securing reliable supplies at both reasonable and prudent costs at the time the purchases
7 were made. The Company's actions have resulted in securing reliable supplies at just and
8 reasonable costs for its customers and should be approved in this proceeding.

9 **Q. Does that conclude your direct testimony?**

10 A. Yes, it does.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

EXHIBITS
OF
MICHAEL H. ROSS
ON BEHALF OF
CONSUMERS ENERGY COMPANY

June 2021

2020 - 2021 GCR Purchases
Filed Plan Versus Booked Actual (MMcf)

Line No.			GCR Filed Plan GCR Purchases (1)	Booked Actuals GCR Purchases	Difference GCR Purchases (B) - (A)	Design Plan (2)
			(A)	(B)	(B) - (A)	
1	Summer	Apr-20	22,500	14,663	(7,837)	
2		May-20	20,920	20,943	22	
3		Jun-20	20,246	25,244	4,999	
4		Jul-20	20,920	25,371	4,451	
5		Aug-20	20,920	23,881	2,961	
6		Sep-20	16,500	16,904	404	
7		Oct-20	17,050	15,006	(2,044)	
8		Sub-Total	139,057	142,013	2,956	
9	Winter	Nov-20	7,857	7,336	(522)	7,950
10		Dec-20	9,505	9,345	(160)	12,927
11		Jan-21	11,667	11,655	(13)	15,469
12		Feb-21	8,018	6,531	(1,487)	13,748
13		Mar-21	10,734	10,922	188	15,004
14		Sub-Total	47,781	45,788	(1,993)	65,098
15						
16		Total	186,838	187,801	963	
17						

(1) From line 21 of Exhibit A-28 (MHR-4) Case No. U-20541

(2) From Line 3 on Exhibit A-38 (MHR-14) page 3 of 3 Case No. U-20541

CONSUMERS ENERGY
GAS PURCHASING STRATEGY GUIDELINES

Consumers Energy's Gas Supply Department is responsible for securing adequate gas supplies to meet the needs of the Company's customers. It is responsible for securing needed supplies in a manner that satisfies operational and obligation-to-serve requirements at prudent and reasonable prices. The following guidelines represent the Company's Gas Purchasing Strategy.

Consumers Energy's underlying strategy for purchasing its gas supply consists of the use of a combination of index based price purchases and fixed price purchases. Gas purchased during the GCR Year will be purchased at index based prices unless fixed price purchases are triggered pursuant to the Quartile Fixed Price Triggers guideline contained within these Gas Purchasing Strategy guidelines. The Quartile Fixed Price Triggers guideline involves purchasing gas at a fixed price if the market price of gas is below certain historical price ranges. If prices are not below the historical quartile price ranges then index related purchases will be made to meet projected requirements.

1. Quartile Fixed Price Triggers Guideline

Quartile Fixed Price Triggers is a method of fixing the price of gas on a portion of Consumers' annual supply requirements if the current market price is below certain historical price ranges or quartiles. Specifically, upon settlement on the last trading day for each monthly NYMEX natural gas contract, Consumers will determine the average of the settlement prices for the NYMEX contract that has settled for the current month plus the next consecutive eleven monthly settled NYMEX contracts. This 12 month average strip price will be summarized along with the comparable 12 month average strip prices for the previous 35 months. All 36 prices will be sorted from lowest to highest and grouped into four quartiles. If the current market price of gas falls below the First Quartile, Consumers would then implement measures to fix prices on a portion of its supply requirement for the balance of the current GCR Plan year and the next GCR Plan year.

- (a) If the average of the NYMEX natural gas contracts for the current remaining portion of the current GCR period (balance of the GCR year) falls below the First Quartile, Consumers would then fix the price of up to 10% of the total estimated supply required for the balance of the current year which is not yet under fixed price contract, subject to an annual GCR period fixed price cap of 60%.
- (b) If the average of the 12 NYMEX natural gas contracts for the second GCR period (April through March) falls below the First Quartile, Consumers would then fix the price of up to 5% of the total estimated annual supply requirement for the applicable period which is not yet under fixed price contract subject to an annual GCR period fixed price cap of 40%.

Monthly fixed price caps will be determined based upon estimated supply requirements which are not yet under fixed price contract at the time fixed price purchase requirements are calculated and annual price caps will be based upon estimated annual supply requirements at the time fixed price purchase requirements are calculated.

2. Summary

The following chart summarizes the fixed price percentage monthly and annual caps.

Fixed Price Percentage Caps

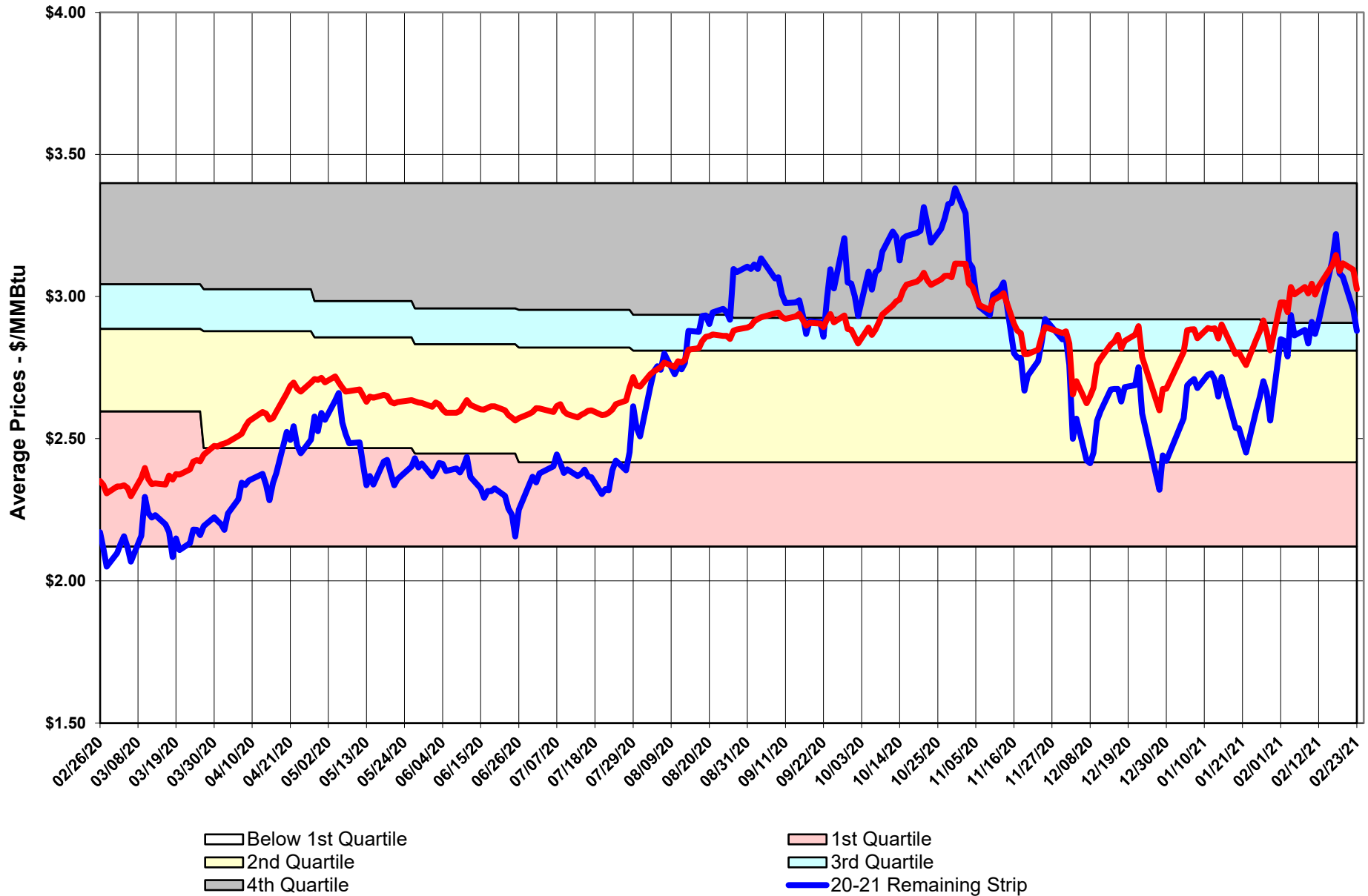
<u>Quartile</u>	<u>Current GCR Year</u>	<u>Second GCR Year</u>
<u>Monthly Caps</u>		
<1 Quartile	10%	5%
<u>Annual Caps</u>		
<1 Quartile	60%	40%

It is the responsibility of the Vice President of Gas Engineering and Supply to exercise discretion in administering these guidelines.

[illegible]

NYMEX NATURAL GAS CONTRACTS
12 Month Forward Strips on Contract Close
GCR 20/21 Quartile Ranges & Strip Prices

Case No: U-20542
Exhibit: A-19 (MHR-3)
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Date: June 2021



GCR 2020 / 2021

Quartile Fixed Price Trigger Requirements and Purchases After 12/30/19 Plan Case Filing

	(A)	(B)	(C)	(D)	(E)	(F)
	Quartile Month					
Current GCR Year: GCR 20/21	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
Quartile Triggers						
1 Date of Quartile Trigger	2/27-3/2, 3/5-3/6, 3/18, 3/20 No quartiles triggered.					
Purchase Requirements						
2 Run Date	03/10/20	04/09/20	05/11/20	06/09/20	07/09/20	08/11/20
3 Total Requirements (Bcf)	190.1	187.6	188.0	189.8	190.3	190.4
4 Fixed Price Purchases (Bcf) ⁽¹⁾	22.7	30.3	37.3	53.8	74.8	95.7
5 Priced Index (Bcf)	0	7.4	16.5	21.0	20.9	19.4
6 Fixed Price Coverage %	12%	20%	29%	39%	50%	60%
7 Remaining Index Purchases (Bcf)	167.3	149.9	134.2	114.9	94.6	75.2
8 Below 1st Q - 10% of Remaining, up to 60% cap (Bcf)	16.7	15.0	13.4	11.5	9.5	
Quartile Fixed Price Purchases						
9 Fixed Price Coverage Cap(s) Met?	NO	NO	NO	NO	NO	YES
10 If No, Purchase Dates	2/27, 2/28, 3/6, 3/18, 3/23					
11 Delivered Volumes (Bcf)	16.3					
Second GCR Year: GCR 21/22	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
Quartile Triggers						
12 Date of Quartile Trigger	No quartiles triggered.					
Purchase Requirements						
13 Run Date	03/10/20	04/09/20	05/11/20	06/09/20	07/09/20	08/11/20
14 Total Requirements (Bcf)	191.7	193.5	193.4	192.4	193.0	193.1
15 Fixed Price Purchases (Bcf) ⁽¹⁾	0.0	0.0	0.0	0.0	0.0	0.0
16 Fixed Price Coverage %	0%	0%	0%	0%	0%	0%
17 Remaining Index Purchases (Bcf)	191.7	193.5	193.4	192.4	193.0	193.1
18 Below 1st Q - 5% of Remaining, up to 40% cap (Bcf)	9.6	9.7	9.7	9.6	9.6	9.7
Quartile Fixed Price Purchases						
19 Fixed Price Coverage Cap(s) Met?	NO	NO	NO	NO	NO	NO
20 If No, Purchase Dates						
21 Delivered Volumes (Bcf)						
Current GCR Year: GCR 20/21	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
Quartile Triggers						
1 Date of Quartile Trigger	No quartiles triggered.					
Purchase Requirements						
2 Run Date	09/10/20	10/09/20	11/09/20	12/09/20	01/12/21	02/09/21
3 Total Requirements (Bcf)	189.3	189.5	188.5	186.7	186.7	184.7
4 Fixed Price Purchases (Bcf) ⁽¹⁾	115.1	129.6	142.0	149.3	158.7	170.3
5 Priced Index (Bcf)	14.5	11.8	7.3	9.3	11.6	6.5
6 Fixed Price Coverage %	68%	75%	79%	85%	91%	96%
7 Remaining Index Purchases (Bcf)	59.7	48.1	39.2	28.1	16.3	7.9
8 Below 1st Q - 10% of Remaining, up to 60% cap (Bcf)						
Quartile Fixed Price Purchases						
9 Fixed Price Coverage Cap(s) Met?	YES	YES	YES	YES	YES	YES
10 If No, Purchase Dates						
11 Delivered Volumes (Bcf)						
Second GCR Year: GCR 21/22	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
Quartile Triggers						
12 Date of Quartile Trigger	No quartiles triggered.					
Purchase Requirements						
13 Run Date	09/10/20	10/09/20	11/09/20	12/09/20	01/12/21	02/09/21
14 Total Requirements (Bcf)	193.5	193.6	191.2	191.7	190.4	191.1
15 Fixed Price Purchases (Bcf) ⁽¹⁾	0.0	0.0	0.0	0.0	0.0	0.0
16 Fixed Price Coverage %	0%	0%	0%	0%	0%	0%
17 Remaining Index Purchases (Bcf)	193.5	193.6	191.2	191.7	190.4	191.1
18 Below 1st Q - 5% of Remaining, up to 40% cap (Bcf)	9.7	9.7	9.6	9.6	9.5	9.6
Quartile Fixed Price Purchases						
19 Fixed Price Coverage Cap(s) Met?	NO	NO	NO	NO	NO	NO
20 If No, Purchase Dates						
21 Delivered Volumes (Bcf)						

⁽¹⁾ Fixed price purchase volume does not include Quartile purchases completed for current Quartile month which were executed prior to the run date.

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Case No: U-20542
Exhibit No.: A-21 (MHR-5)
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Date: June 2021

SUPPLIER	DELIVERED MMBtu (000)	TOTAL \$ (000)	\$/MMBtu
A	4,775	\$10,509	\$2.201
B	5,365	\$10,767	\$2.007
C	46,496	\$82,866	\$1.782
D	620	\$1,108	\$1.788
E	4,590	\$9,270	\$2.020
F	7,562	\$13,498	\$1.785
G	10,067	\$28,548	\$2.836
H	20	\$33	\$1.650
I	4,042	\$10,728	\$2.654
J	3,830	\$6,613	\$1.727
K	8,090	\$19,621	\$2.425
L	3,565	\$7,612	\$2.135
M	6,863	\$19,696	\$2.870
N	3,898	\$7,573	\$1.943
O	2,990	\$5,669	\$1.896
P	98	\$162	\$1.650
Q	3,136	\$8,733	\$2.784
R	8,738	\$19,726	\$2.258
S	38,226	\$73,551	\$1.924
T	7,970	\$16,845	\$2.113
U	21,809	\$47,168	\$2.163
V	5,735	\$14,238	\$2.483
Grand Total	198,485	\$414,530	\$2.088

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

DELIVERED
MMBtu
(000)

SUPPLIER	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Grand Total
A	594	614	515	614	614	594	1,228	0	0	0	0	0	4,775
B	0	775	900	930	930	900	930	0	0	0	0	0	5,365
C	3,450	7,161	12,560	9,145	6,076	2,760	725	0	0	3,069	0	1,550	46,496
D	0	0	0	0	620	0	0	0	0	0	0	0	620
E	0	0	900	930	930	900	930	0	0	0	0	0	4,590
F	495	1,085	1,350	1,085	1,395	750	1,092	0	0	310	0	0	7,562
G	0	0	0	0	0	0	0	1,841	2,150	1,840	1,774	2,460	10,067
H	0	0	20	0	0	0	0	0	0	0	0	0	20
I	594	614	396	614	614	594	614	0	0	0	0	0	4,042
J	600	620	760	930	310	300	0	0	0	310	0	0	3,830
K	0	0	35	878	878	849	1,044	444	1,544	1,544	415	459	8,090
L	0	1,240	0	930	0	0	0	0	0	0	0	1,395	3,565
M	0	0	0	0	0	0	0	2,085	1,224	1,224	1,106	1,224	6,863
N	0	0	375	0	1,550	1,500	473	0	0	0	0	0	3,898
O	0	233	225	233	775	750	775	0	0	0	0	0	2,990
P	0	0	98	0	0	0	0	0	0	0	0	0	98
Q	0	0	0	155	0	0	0	592	612	612	553	612	3,136
R	897	927	897	927	927	297	1,075	0	0	1,240	0	1,550	8,738
S	8,380	7,454	4,712	5,027	5,027	2,915	1,152	1,200	0	0	1,120	1,240	38,226
T	784	775	750	930	1,085	1,050	1,086	300	310	310	280	310	7,970
U	0	620	1,786	3,023	3,023	3,265	4,291	648	3,211	669	605	669	21,809
V	0	0	450	465	465	450	465	600	775	1,085	980	0	5,735
Grand Total	15,795	22,118	26,730	26,815	25,218	17,875	15,881	7,710	9,827	12,214	6,832	11,470	198,485

COST \$ 000

SUPPLIER	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Grand Total
A	\$1,315	\$1,356	\$1,187	\$1,356	\$1,356	\$1,315	\$2,623	\$0	\$0	\$0	\$0	\$0	\$10,509
B	\$0	\$1,503	\$1,638	\$1,533	\$1,834	\$2,322	\$1,938	(\$1)	\$0	\$0	\$0	\$0	\$10,767
C	\$5,235	\$13,105	\$20,598	\$13,443	\$10,872	\$6,348	\$1,574	\$0	\$0	\$7,274	\$0	\$4,418	\$82,866
D	\$0	\$0	\$0	\$0	\$1,108	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,108
E	(\$0)	\$0	\$1,639	\$1,533	\$1,835	\$2,324	\$1,941	(\$1)	\$0	\$0	\$0	\$0	\$9,270
F	\$732	\$1,895	\$2,180	\$1,533	\$2,451	\$1,723	\$2,250	\$0	\$0	\$734	\$0	\$0	\$13,498
G	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,488	\$6,157	\$4,693	\$5,178	\$7,032	\$28,548
H	\$0	\$0	\$33	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$33
I	\$1,551	\$1,599	\$1,230	\$1,599	\$1,599	\$1,551	\$1,599	\$0	\$0	\$0	\$0	\$0	\$10,728
J	\$900	\$1,135	\$1,232	\$1,367	\$555	\$690	\$0	\$0	\$0	\$735	\$0	\$0	\$6,613
K	\$0	\$0	\$54	\$1,367	\$1,650	\$2,114	\$2,168	\$1,337	\$4,413	\$3,948	\$1,203	\$1,368	\$19,621
L	\$0	\$2,269	\$0	\$1,367	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,976	\$7,612
M	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$6,221	\$3,529	\$3,098	\$3,205	\$3,643	\$19,696
N	\$0	\$0	\$615	\$0	\$2,771	\$3,446	\$741	\$0	\$0	\$0	\$0	\$0	\$7,573
O	\$0	\$425	\$369	\$342	\$1,385	\$1,723	\$1,424	\$0	\$0	\$0	\$0	\$0	\$5,669
P	\$0	\$0	\$162	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$162
Q	\$0	\$0	\$0	\$228	\$0	\$0	\$0	\$1,777	\$1,763	\$1,546	\$1,600	\$1,819	\$8,733
R	\$1,779	\$1,837	\$1,764	\$1,838	\$1,836	\$739	\$2,358	(\$0)	\$0	\$3,075	\$0	\$4,501	\$19,726
S	\$14,112	\$13,859	\$8,284	\$8,475	\$9,269	\$6,803	\$2,401	\$3,468	(\$0)	\$0	\$3,221	\$3,659	\$73,551
T	\$1,240	\$1,504	\$1,359	\$1,500	\$2,078	\$2,618	\$2,227	\$902	\$896	\$786	\$812	\$923	\$16,845
U	\$0	\$1,135	\$2,844	\$4,442	\$5,407	\$6,734	\$10,362	\$1,949	\$8,849	\$1,697	\$1,754	\$1,995	\$47,168
V	(\$0)	\$0	\$816	\$766	\$917	\$1,159	\$968	\$1,770	\$2,206	\$2,770	\$2,867	\$0	\$14,238
Grand Total	\$26,862	\$41,623	\$46,002	\$42,689	\$46,923	\$41,610	\$34,573	\$22,910	\$27,811	\$30,355	\$19,839	\$33,333	\$414,530

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Apr-20	Fixed	Consumers	Pool	C	3,000,000	3,000,000	\$1.5200	\$0.0000	\$1.5200	\$4,560,000
				R	600,000	600,000	\$1.7311	\$0.0000	\$1.7311	\$1,038,675
				S	1,350,000	1,350,000	\$1.6813	\$0.0000	\$1.6813	\$2,269,800
				T	450,000	450,000	\$1.5200	\$0.0000	\$1.5200	\$684,000
		Trunkline	12538	A	600,000	594,395	\$2.0341	\$0.1785	\$2.2126	\$1,315,166
				I	600,000	594,420	\$2.4265	\$0.1821	\$2.6086	\$1,550,625
				R	300,000	297,210	\$2.3120	\$0.1810	\$2.4930	\$740,955
				S	1,125,000	1,114,530	\$1.9176	\$0.1771	\$2.0948	\$2,334,664
	Indexed	Consumers	Pool	C	450,000	450,000	\$1.5000	\$0.0000	\$1.5000	\$675,000
				F	495,000	495,000	\$1.4779	\$0.0000	\$1.4779	\$731,550
				J	600,000	600,000	\$1.5000	\$0.0000	\$1.5000	\$900,000
				S	600,000	600,000	\$1.4565	\$0.0000	\$1.4565	\$873,900
		Panhandle	18849	E			\$0.0000	\$0.0000	\$0.0000	(\$310)
				R			\$0.0000	\$0.0000	\$0.0000	(\$775)
				S	2,700,000	2,665,980	\$1.3875	\$0.2813	\$1.6688	\$4,449,017
				T	338,280	334,020	\$1.3825	\$0.2806	\$1.6631	\$555,501
				V			\$0.0000	\$0.0000	\$0.0000	(\$155)
		Trunkline	12538	S	2,674,260	2,649,390	\$1.4075	\$0.1720	\$1.5795	\$4,184,729
Apr-20 Total					15,882,540	15,794,945	\$1.5891	\$0.1116	\$1.7007	\$26,862,343

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Case No: U-20542
Exhibit No.: A-21 (MHR-5)
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Witness: MHRoss
Date: June 2021

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
May-20	Fixed	Consumers	Pool	R	620,000	620,000	\$1.7311	\$0.0000	\$1.7311	\$1,073,298
				S	1,395,000	1,395,000	\$1.6813	\$0.0000	\$1.6813	\$2,345,460
		Trunkline	12538	A	620,000	614,211	\$2.0341	\$0.1736	\$2.2077	\$1,355,996
				I	620,000	614,234	\$2.4265	\$0.1772	\$2.6037	\$1,599,303
				R	310,000	307,117	\$2.3120	\$0.1753	\$2.4873	\$763,889
				S	1,162,500	1,151,681	\$1.9176	\$0.1717	\$2.0894	\$2,406,298
	Indexed	Consumers	Pool	C	7,161,000	7,161,000	\$1.8300	\$0.0000	\$1.8300	\$13,104,630
				F	1,085,000	1,085,000	\$1.7467	\$0.0000	\$1.7467	\$1,895,185
				J	620,000	620,000	\$1.8300	\$0.0000	\$1.8300	\$1,134,600
				L	1,240,000	1,240,000	\$1.8300	\$0.0000	\$1.8300	\$2,269,200
				O	232,500	232,500	\$1.8300	\$0.0000	\$1.8300	\$425,475
				S	620,000	620,000	\$1.6165	\$0.0000	\$1.6165	\$1,002,230
				U	620,000	620,000	\$1.8300	\$0.0000	\$1.8300	\$1,134,600
		Panhandle	18849	B	784,889	775,000	\$1.6550	\$0.2846	\$1.9396	\$1,503,204
				S	1,569,778	1,550,000	\$1.6650	\$0.2838	\$1.9488	\$3,020,622
				T	784,889	775,000	\$1.6550	\$0.2858	\$1.9408	\$1,504,094
		Trunkline	12538	S	2,763,402	2,737,703	\$1.6875	\$0.1698	\$1.8573	\$5,084,649
May-20 Total					22,208,958	22,118,446	\$1.7998	\$0.0820	\$1.8818	\$41,622,733

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Case No: U-20542
Exhibit No.: A-21 (MHR-5)
Page: 5 of 21
Witness: MHRoss
Date: June 2021

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Jun-20	Fixed	Consumers	Pool	H	20,000	20,000	\$1.6500	\$0.0000	\$1.6500	\$33,000
				P	97,900	97,900	\$1.6500	\$0.0000	\$1.6500	\$161,535
				R	600,000	600,000	\$1.7311	\$0.0000	\$1.7311	\$1,038,675
				S	1,350,000	1,350,000	\$1.6813	\$0.0000	\$1.6813	\$2,269,800
		Trunkline	12538	A	400,000	396,280	\$2.3284	\$0.1812	\$2.5096	\$994,495
				I	400,000	396,280	\$2.9170	\$0.1867	\$3.1037	\$1,229,950
				R	300,000	297,210	\$2.3120	\$0.1272	\$2.4392	\$724,963
				S	1,125,000	1,114,530	\$1.9176	\$0.1240	\$2.0417	\$2,275,498
	Indexed	Consumers	Pool	C	12,560,000	12,560,000	\$1.6399	\$0.0000	\$1.6399	\$20,597,600
				F	1,350,000	1,350,000	\$1.6146	\$0.0000	\$1.6146	\$2,179,650
				J	760,000	760,000	\$1.6207	\$0.0000	\$1.6207	\$1,231,700
				K	35,000	35,000	\$1.5293	\$0.0000	\$1.5293	\$53,525
				N	375,000	375,000	\$1.6400	\$0.0000	\$1.6400	\$615,000
				O	225,000	225,000	\$1.6400	\$0.0000	\$1.6400	\$369,000
				S	600,000	600,000	\$1.5445	\$0.0000	\$1.5445	\$926,700
				U	1,786,100	1,786,100	\$1.5925	\$0.0000	\$1.5925	\$2,844,428
		Panhandle	18849	B	911,490	900,000	\$1.5375	\$0.2825	\$1.8200	\$1,638,000
				E	911,490	900,000	\$1.5375	\$0.2832	\$1.8207	\$1,638,598
				S			\$0.0000	\$0.0000	\$0.0000	(\$1,133)
				T	759,570	750,000	\$1.5275	\$0.2848	\$1.8123	\$1,359,195
				V	455,730	450,000	\$1.5275	\$0.2862	\$1.8137	\$816,162
		Trunkline	12538	A	120,000	118,884	\$1.4483	\$0.1730	\$1.6213	\$192,745
				S	1,662,840	1,647,376	\$1.5341	\$0.1734	\$1.7075	\$2,812,898
Jun-20 Total					26,805,120	26,729,560	\$1.6659	\$0.0552	\$1.7210	\$46,001,984

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Case No: U-20542
Exhibit No.: A-21 (MHR-5)
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Witness: MHRoss
Date: June 2021

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Jul-20	Fixed	Consumers	Pool	R	620,000	620,000	\$1.7311	\$0.0000	\$1.7311	\$1,073,298
				S	1,395,000	1,395,000	\$1.6813	\$0.0000	\$1.6813	\$2,345,460
		Trunkline	12538	A	620,000	614,234	\$2.0341	\$0.1736	\$2.2076	\$1,356,000
				I	620,000	614,234	\$2.4265	\$0.1772	\$2.6037	\$1,599,303
				R	310,000	307,117	\$2.3120	\$0.1787	\$2.4907	\$764,950
				S	1,162,500	1,151,681	\$1.9176	\$0.1848	\$2.1024	\$2,421,299
	Indexed	Consumers	Pool	C	9,145,000	9,145,000	\$1.4700	\$0.0000	\$1.4700	\$13,443,150
				F	1,085,000	1,085,000	\$1.4129	\$0.0000	\$1.4129	\$1,532,950
				J	930,000	930,000	\$1.4700	\$0.0000	\$1.4700	\$1,367,100
				L	930,000	930,000	\$1.4700	\$0.0000	\$1.4700	\$1,367,100
				O	232,500	232,500	\$1.4700	\$0.0000	\$1.4700	\$341,775
				Q	155,000	155,000	\$1.4700	\$0.0000	\$1.4700	\$227,850
				S	620,000	620,000	\$1.3175	\$0.0000	\$1.3175	\$816,850
				T	155,000	155,000	\$1.4700	\$0.0000	\$1.4700	\$227,850
				U	3,022,500	3,022,500	\$1.4695	\$0.0000	\$1.4695	\$4,441,603
		Panhandle	18849	B	941,873	930,000	\$1.3675	\$0.2806	\$1.6481	\$1,532,697
				E	941,873	930,000	\$1.3675	\$0.2806	\$1.6481	\$1,532,735
				T	784,889	775,000	\$1.3575	\$0.2846	\$1.6421	\$1,272,634
				V	470,921	465,000	\$1.3575	\$0.2896	\$1.6471	\$765,895
		Trunkline	12538	K	885,949	877,703	\$1.3900	\$0.1675	\$1.5575	\$1,367,037
				S	1,877,453	1,860,000	\$1.3887	\$0.1660	\$1.5547	\$2,891,776
Jul-20 Total					26,905,458	26,814,969	\$1.5245	\$0.0675	\$1.5920	\$42,689,312

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Aug-20	Fixed	Consumers	Pool	R	620,000	620,000	\$1.7311	\$0.0000	\$1.7311	\$1,073,298
				S	1,395,000	1,395,000	\$1.6813	\$0.0000	\$1.6813	\$2,345,460
		Trunkline	12538	A	620,000	614,234	\$2.0341	\$0.1736	\$2.2076	\$1,356,000
				I	620,000	614,234	\$2.4265	\$0.1772	\$2.6037	\$1,599,303
				R	310,000	307,117	\$2.3120	\$0.1701	\$2.4821	\$762,304
				S	1,162,500	1,151,681	\$1.9176	\$0.1676	\$2.0853	\$2,401,551
	Indexed	Consumers	Pool	C	6,076,000	6,076,000	\$1.7894	\$0.0000	\$1.7894	\$10,872,165
				D	620,000	620,000	\$1.7875	\$0.0000	\$1.7875	\$1,108,250
				F	1,395,000	1,395,000	\$1.7569	\$0.0000	\$1.7569	\$2,450,860
				J	310,000	310,000	\$1.7898	\$0.0000	\$1.7898	\$554,838
				N	1,550,000	1,550,000	\$1.7875	\$0.0000	\$1.7875	\$2,770,625
				O	775,000	775,000	\$1.7875	\$0.0000	\$1.7875	\$1,385,313
				S	620,000	620,000	\$1.6765	\$0.0000	\$1.6765	\$1,039,430
				T	310,000	310,000	\$1.7900	\$0.0000	\$1.7900	\$554,900
				U	3,022,500	3,022,500	\$1.7890	\$0.0000	\$1.7890	\$5,407,253
		Panhandle	18849	B	941,873	930,000	\$1.6875	\$0.2848	\$1.9723	\$1,834,237
				E	941,873	930,000	\$1.6875	\$0.2852	\$1.9727	\$1,834,652
				T	784,889	775,000	\$1.6775	\$0.2874	\$1.9649	\$1,522,801
				V	470,921	465,000	\$1.6775	\$0.2938	\$1.9713	\$916,658
		Trunkline	12538	K	885,949	877,703	\$1.7100	\$0.1704	\$1.8804	\$1,650,413
				S	1,877,453	1,860,000	\$1.7087	\$0.1635	\$1.8723	\$3,482,418
Aug-20 Total					25,308,958	25,218,469	\$1.7892	\$0.0715	\$1.8606	\$46,922,728

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

Case No: U-20542
Exhibit No.: A-21 (MHR-5)
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Witness: MHRoss
Date: June 2021

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Sep-20	Fixed	Trunkline	12538	A	600,000	594,420	\$2.0341	\$0.1785	\$2.2125	\$1,315,170
				I	600,000	594,420	\$2.4265	\$0.1821	\$2.6086	\$1,550,625
				R	300,000	297,210	\$2.3120	\$0.1759	\$2.4879	\$739,425
				S	1,125,000	1,114,530	\$1.9176	\$0.1748	\$2.0924	\$2,332,026
	Indexed	Consumers	Pool	C	2,760,000	2,760,000	\$2.3000	\$0.0000	\$2.3000	\$6,348,000
				F	750,000	750,000	\$2.2975	\$0.0000	\$2.2975	\$1,723,125
				J	300,000	300,000	\$2.3000	\$0.0000	\$2.3000	\$690,000
				N	1,500,000	1,500,000	\$2.2975	\$0.0000	\$2.2975	\$3,446,250
				O	750,000	750,000	\$2.2975	\$0.0000	\$2.2975	\$1,723,125
				T	300,000	300,000	\$2.3000	\$0.0000	\$2.3000	\$690,000
				U	3,265,000	3,265,000	\$2.0624	\$0.0000	\$2.0624	\$6,733,757
		Panhandle	18849	B	911,490	900,000	\$2.2875	\$0.2921	\$2.5796	\$2,321,628
				E	911,490	900,000	\$2.2875	\$0.2950	\$2.5825	\$2,324,233
				T	759,570	750,000	\$2.2775	\$0.2933	\$2.5708	\$1,928,130
				V	455,730	450,000	\$2.2775	\$0.2983	\$2.5758	\$1,159,115
		Trunkline	12538	K	857,370	849,390	\$2.3100	\$0.1792	\$2.4892	\$2,114,270
				S	1,816,890	1,800,000	\$2.3087	\$0.1752	\$2.4840	\$4,471,129
Sep-20 Total					17,962,540	17,874,970	\$2.2266	\$0.1013	\$2.3278	\$41,610,008

CONSUMERS ENERGY

GAS SUPPLY DEPARTMENT
2020-2021 GCR PURCHASES

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Date: June 2021

Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Oct-20	Fixed	Trunkline	12538	A	620,000	614,234	\$2.0341	\$0.1734	\$2.2074	\$1,355,877
				I	620,000	614,234	\$2.4265	\$0.1770	\$2.6035	\$1,599,181
				R	310,000	307,117	\$2.3120	\$0.1695	\$2.4815	\$762,125
				S	1,162,500	1,151,681	\$1.9176	\$0.1672	\$2.0849	\$2,401,116
	Indexed	Consumers	Pool	C	725,000	725,000	\$2.1709	\$0.0000	\$2.1709	\$1,573,938
				F	1,091,800	1,091,800	\$2.0607	\$0.0000	\$2.0607	\$2,249,856
				N	473,000	473,000	\$1.5660	\$0.0000	\$1.5660	\$740,738
				O	775,000	775,000	\$1.8374	\$0.0000	\$1.8374	\$1,423,985
				U	4,290,800	4,290,800	\$2.4149	\$0.0000	\$2.4149	\$10,361,737
		Panhandle	18849	B	941,873	930,000	\$1.7975	\$0.2861	\$2.0836	\$1,937,792
				E	941,873	930,000	\$1.7975	\$0.2900	\$2.0875	\$1,941,372
				T	784,889	775,000	\$1.7875	\$0.2878	\$2.0753	\$1,608,348
				V	470,921	465,000	\$1.7875	\$0.2935	\$2.0810	\$967,669
		Trunkline	12538	A	620,000	614,206	\$1.8910	\$0.1721	\$2.0631	\$1,267,166
				K	1,054,000	1,044,203	\$1.9038	\$0.1721	\$2.0759	\$2,167,634
				R	775,000	767,781	\$1.9060	\$0.1722	\$2.0782	\$1,595,586
				S			\$0.0000	\$0.0000	\$0.0000	(\$54)
				T	314,371	311,457	\$1.8200	\$0.1665	\$1.9865	\$618,714
Oct-20 Total					15,971,027	15,880,513	\$2.0613	\$0.1158	\$2.1771	\$34,572,780

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Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Nov-20	Fixed	Trunkline	12538	R			\$0.0000	\$0.0000	\$0.0000	(\$69)
				S			\$0.0000	\$0.0000	\$0.0000	(\$329)
	Indexed	Panhandle	18849	B			\$0.0000	\$0.0000	\$0.0000	(\$780)
				E			\$0.0000	\$0.0000	\$0.0000	(\$787)
				G	971,670	960,000	\$2.6600	\$0.2953	\$2.9553	\$2,837,050
				M	910,920	900,000	\$2.6600	\$0.2955	\$2.9555	\$2,659,969
				T			\$0.0000	\$0.0000	\$0.0000	(\$655)
				V	607,290	600,000	\$2.6500	\$0.2999	\$2.9499	\$1,769,937
		Trunkline	12538	S	1,211,880	1,200,000	\$2.7050	\$0.1851	\$2.8901	\$3,468,084
				T			\$0.0000	\$0.0000	\$0.0000	(\$92)
			12538A	G	892,500	881,070	\$2.7600	\$0.2484	\$3.0084	\$2,650,591
				K	450,000	444,240	\$2.7600	\$0.2489	\$3.0089	\$1,336,676
				M	1,200,000	1,184,640	\$2.7575	\$0.2489	\$3.0064	\$3,561,470
				Q	600,000	592,320	\$2.7550	\$0.2453	\$3.0003	\$1,777,125
				T	303,900	300,000	\$2.7600	\$0.2490	\$3.0090	\$902,700
				U	656,130	647,730	\$2.7600	\$0.2489	\$3.0089	\$1,948,963
Nov-20 Total					7,804,290	7,710,000	\$2.7180	\$0.2534	\$2.9714	\$22,909,854

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Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Dec-20	Indexed	Consumers	Pool	U	1,302,000	1,302,000	\$2.6674	\$0.0000	\$2.6674	\$3,472,955
		Panhandle	18849	G	1,255,066	1,240,000	\$2.5500	\$0.2937	\$2.8437	\$3,526,148
				K	1,098,175	1,085,000	\$2.5500	\$0.2941	\$2.8441	\$3,085,820
				M			\$0.0000	\$0.0000	\$0.0000	(\$491)
				V	784,424	775,000	\$2.5500	\$0.2961	\$2.8461	\$2,205,715
		Trunkline	12538	S			\$0.0000	\$0.0000	\$0.0000	(\$397)
				U	1,252,276	1,240,000	\$2.5950	\$0.1799	\$2.7749	\$3,440,936
			12538A	G	922,250	910,439	\$2.6490	\$0.2406	\$2.8896	\$2,630,836
				K	465,000	459,048	\$2.6500	\$0.2406	\$2.8906	\$1,326,937
				M	1,240,000	1,224,128	\$2.6475	\$0.2359	\$2.8834	\$3,529,644
				Q	620,000	612,064	\$2.6450	\$0.2352	\$2.8802	\$1,762,894
				T	314,030	310,000	\$2.6500	\$0.2394	\$2.8894	\$895,727
				U	678,001	669,321	\$2.6500	\$0.2406	\$2.8906	\$1,934,763
Dec-20 Total					9,931,222	9,827,000	\$2.6130	\$0.2171	\$2.8301	\$27,811,488

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Month	Type	Pipeline	Contract	Supplier	PURCHASED/ MONTH (MMBtu)	DELIVERED/M ONTH (MMBtu)	Purchase Price (\$/MMBtu)	Transport Price (\$/MMBtu)	Delivered Price (\$/MMBtu)	\$ DELIVERED
Jan-21	Indexed	Consumers	Pool	C	3,069,000	3,069,000	\$2.3700	\$0.0000	\$2.3700	\$7,273,530
				F	310,000	310,000	\$2.3690	\$0.0000	\$2.3690	\$734,390
				J	310,000	310,000	\$2.3700	\$0.0000	\$2.3700	\$734,700
		Panhandle	18849	G	941,284	930,000	\$2.2750	\$0.2906	\$2.5656	\$2,385,963
				K	1,098,175	1,085,000	\$2.2750	\$0.2904	\$2.5654	\$2,783,487
				V	1,098,175	1,085,000	\$2.2600	\$0.2928	\$2.5528	\$2,769,762
		Trunkline	12538	R	1,252,262	1,240,000	\$2.3025	\$0.1770	\$2.4795	\$3,074,613
			12538A	G	922,250	910,439	\$2.2990	\$0.2352	\$2.5342	\$2,307,207
				K	465,000	459,048	\$2.3000	\$0.2359	\$2.5359	\$1,164,087
				M	1,240,000	1,224,128	\$2.2975	\$0.2333	\$2.5308	\$3,097,996
				Q	620,000	612,064	\$2.2950	\$0.2316	\$2.5266	\$1,546,414
				T	314,030	310,000	\$2.3000	\$0.2343	\$2.5343	\$785,620
				U	678,001	669,321	\$2.3000	\$0.2359	\$2.5359	\$1,697,316
Jan-21 Total					12,318,177	12,214,000	\$2.3129	\$0.1724	\$2.4853	\$30,355,086

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Feb-21	Indexed	Panhandle	18849	G	963,564	952,000	\$2.6400	\$0.2944	\$2.9344	\$2,793,560
				K			\$0.0000	\$0.0000	\$0.0000	(\$414)
				V	991,900	980,000	\$2.6300	\$0.2954	\$2.9254	\$2,866,881
		Trunkline	12538	S	1,131,088	1,120,000	\$2.6800	\$0.1958	\$2.8758	\$3,220,850
			12538A	G	833,000	822,332	\$2.6400	\$0.2600	\$2.9000	\$2,384,742
				K	420,000	414,624	\$2.6400	\$0.2613	\$2.9013	\$1,202,949
				M	1,120,000	1,105,664	\$2.6375	\$0.2608	\$2.8983	\$3,204,571
				Q	560,000	552,832	\$2.6350	\$0.2589	\$2.8939	\$1,599,837
				T	283,640	280,000	\$2.6400	\$0.2590	\$2.8990	\$811,719
				U	612,388	604,548	\$2.6400	\$0.2613	\$2.9013	\$1,753,995
Feb-21 Total					6,915,580	6,832,000	\$2.6443	\$0.2595	\$2.9038	\$19,838,690

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Mar-21	Indexed	Consumers	Pool	C	1,550,000	1,550,000	\$2.8500	\$0.0000	\$2.8500	\$4,417,500
				L	1,395,000	1,395,000	\$2.8500	\$0.0000	\$2.8500	\$3,975,750
				R	1,550,000	1,550,000	\$2.9040	\$0.0000	\$2.9040	\$4,501,200
		Panhandle	18849	G	1,568,817	1,550,000	\$2.7300	\$0.0565	\$2.7865	\$4,319,141
		Trunkline	12538	S	1,252,276	1,240,000	\$2.7700	\$0.1808	\$2.9508	\$3,658,936
			12538A	G	922,250	910,439	\$2.7400	\$0.2393	\$2.9793	\$2,712,505
				K	465,000	459,048	\$2.7400	\$0.2410	\$2.9810	\$1,368,431
				M	1,240,000	1,224,128	\$2.7375	\$0.2381	\$2.9756	\$3,642,519
				Q	620,000	612,064	\$2.7350	\$0.2362	\$2.9712	\$1,818,551
				T	314,030	310,000	\$2.7400	\$0.2387	\$2.9787	\$923,396
				U	678,001	669,321	\$2.7400	\$0.2410	\$2.9810	\$1,995,262
Mar-21 Total					11,555,374	11,470,000	\$2.7914	\$0.1147	\$2.9061	\$33,333,192
Grand Total					199,569,244	198,484,872	\$1.9806	\$0.1078	\$2.0885	\$414,530,197

Trade Date	Start Date	End Date	Days	Deal Term	Month	Pipeline	Contract	Receipt Point	Supplier	Price Paid	Receipts MMBtu	Cost Of Natural Gas	Type	Index Price	Deal Price	Price Type	Purpose
3/12/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Consumers	Pool	CE Citygate	C	\$ 1.5000	450,000	\$ 675,000.00	Indexed	\$ 1.5000	\$ -	IFERC	Incremental
3/23/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Consumers	Pool	CE Citygate	C	\$ 1.5200	3,000,000	\$ 4,560,000.00	Fixed		\$ 1.5200	Fixed	<1st Quartile
11/15/2016	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	F	\$ 1.4740	150,000	\$ 221,100.00	Indexed	\$ 1.6340	\$ (0.1600)	Basis	Incremental
12/20/2016	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	F	\$ 1.4790	150,000	\$ 221,850.00	Indexed	\$ 1.6340	\$ (0.1550)	Basis	Incremental
1/23/2017	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	F	\$ 1.4740	150,000	\$ 221,100.00	Indexed	\$ 1.6340	\$ (0.1600)	Basis	Incremental
3/23/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Consumers	Pool	CE Citygate	F	\$ 1.5000	45,000	\$ 67,500.00	Indexed	\$ 1.5000	\$ -	IFERC	Incremental
3/12/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Consumers	Pool	CE Citygate	J	\$ 1.5000	600,000	\$ 900,000.00	Indexed	\$ 1.5000	\$ -	IFERC	Incremental
2/28/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	R	\$ 1.7225	150,000	\$ 258,375.00	Fixed		\$ 1.7225	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	R	\$ 1.7740	150,000	\$ 266,100.00	Fixed		\$ 1.7740	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	R	\$ 1.7140	300,000	\$ 514,200.00	Fixed		\$ 1.7140	Fixed	<1st Quartile
11/10/2016	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.4640	300,000	\$ 439,200.00	Indexed	\$ 1.6340	\$ (0.1700)	Basis	Incremental
1/30/2017	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.4490	300,000	\$ 434,700.00	Indexed	\$ 1.6340	\$ (0.1850)	Basis	Incremental
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.7790	150,000	\$ 266,850.00	Fixed		\$ 1.7790	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.7690	300,000	\$ 530,700.00	Fixed		\$ 1.7690	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.6150	300,000	\$ 484,500.00	Fixed		\$ 1.6150	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	150,000	\$ 246,750.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.6600	150,000	\$ 249,000.00	Fixed		\$ 1.6600	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	150,000	\$ 246,750.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Apr-20	Consumers	Pool	CE Citygate	S	\$ 1.6350	150,000	\$ 245,250.00	Fixed		\$ 1.6350	Fixed	<1st Quartile
3/23/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Consumers	Pool	CE Citygate	T	\$ 1.5200	450,000	\$ 684,000.00	Fixed		\$ 1.5200	Fixed	<1st Quartile
3/11/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Panhandle	18849	REX Putnam	S	\$ 1.3875	2,700,000	\$ 3,746,250.00	Indexed	\$ 1.4100	\$ (0.0225)	IFERC	Incremental
3/16/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Panhandle	18849	REX Putnam	T	\$ 1.3825	338,280	\$ 467,672.10	Indexed	\$ 1.4100	\$ (0.0275)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	120,000	\$ 281,100.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	60,000	\$ 141,720.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	120,000	\$ 230,400.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	210,000	\$ 396,900.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	A	\$ 1.8925	90,000	\$ 170,325.00	Fixed		\$ 1.8925	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	I	\$ 2.4475	300,000	\$ 734,250.00	Fixed		\$ 2.4475	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	I	\$ 2.4375	60,000	\$ 146,250.00	Fixed		\$ 2.4375	Fixed	<1st Quartile
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	I	\$ 2.3975	240,000	\$ 575,400.00	Fixed		\$ 2.3975	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	R	\$ 2.3120	300,000	\$ 693,600.00	Fixed		\$ 2.3120	Fixed	<1st Quartile
6/20/2019	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 2.2500	360,000	\$ 810,000.00	Fixed		\$ 2.2500	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 1.9275	15,000	\$ 28,912.50	Fixed		\$ 1.9275	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 1.8825	210,000	\$ 395,325.00	Fixed		\$ 1.8825	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 1.7050	300,000	\$ 511,500.00	Fixed		\$ 1.7050	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	240,000	\$ 411,600.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
3/11/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 1.4075	2,400,000	\$ 3,378,000.00	Indexed	\$ 1.4100	\$ (0.0025)	IFERC	Incremental
3/16/2020	4/1/2020	4/30/2020	30	Month	Apr-20	Trunkline	12538	REX Douglas	S	\$ 1.4075	274,260	\$ 386,020.95	Indexed	\$ 1.4100	\$ (0.0025)	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	C	\$ 1.8300	1,550,000	\$ 2,836,500.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	C	\$ 1.8300	3,100,000	\$ 5,673,000.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
4/23/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	C	\$ 1.8300	2,511,000	\$ 4,595,130.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	F	\$ 1.8300	620,000	\$ 1,134,600.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
11/15/2016	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	F	\$ 1.6340	155,000	\$ 253,270.00	Indexed	\$ 1.7940	\$ (0.1600)	Basis	Incremental
12/20/2016	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	F	\$ 1.6390	155,000	\$ 254,045.00	Indexed	\$ 1.7940	\$ (0.1550)	Basis	Incremental
1/23/2017	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	F	\$ 1.6340	155,000	\$ 253,270.00	Indexed	\$ 1.7940	\$ (0.1600)	Basis	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	J	\$ 1.8300	620,000	\$ 1,134,600.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
4/23/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	L	\$ 1.8300	1,240,000	\$ 2,269,200.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	O	\$ 1.8300	232,500	\$ 425,475.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
2/28/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	R	\$ 1.7225	155,000	\$ 266,987.50	Fixed		\$ 1.7225	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	R	\$ 1.7740	155,000	\$ 274,970.00	Fixed		\$ 1.7740	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	R	\$ 1.7140	310,000	\$ 531,340.00	Fixed		\$ 1.7140	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.7790	155,000	\$ 275,745.00	Fixed		\$ 1.7790	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.7690	310,000	\$ 548,390.00	Fixed		\$ 1.7690	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6150	310,000	\$ 500,650.00	Fixed		\$ 1.6150	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	155,000	\$ 254,975.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6600	155,000	\$ 257,300.00	Fixed		\$ 1.6600	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	155,000	\$ 254,975.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6350	155,000	\$ 253,425.00	Fixed		\$ 1.6350	Fixed	<1st Quartile
11/10/2016	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6240	310,000	\$ 503,440.00	Indexed	\$ 1.7940	\$ (0.1700)	Basis	Incremental
1/30/2017	4/1/2020	8/31/2020	153	Multi-month	May-20	Consumers	Pool	CE Citygate	S	\$ 1.6090	310,000	\$ 498,790.00	Indexed	\$ 1.7940	\$ (0.1850)	Basis	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Consumers	Pool	CE Citygate	U	\$ 1.8300	620,000	\$ 1,134,600.00	Indexed	\$ 1.8300	\$ -	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Panhandle	18849	REX Putnam	B	\$ 1.6550	784,889	\$ 1,298,991.30	Indexed	\$ 1.6900	\$ (0.0350)	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Panhandle	18849	REX Putnam	S	\$ 1.6650	1,569,778	\$ 2,613,680.37	Indexed	\$ 1.6900	\$ (0.0250)	IFERC	Incremental
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Panhandle	18849	REX Putnam	T	\$ 1.6550	784,889	\$ 1,298,991.30	Indexed	\$ 1.6900	\$ (0.0350)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	124,000	\$ 290,470.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	62,000	\$ 146,444.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	124,000	\$ 238,080.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	217,000	\$ 410,130.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	May-2												

Trade Date	Start Date	End Date	Days	Deal Term	Month	Pipeline	Contract	Receipt Point	Supplier	Price Paid	Receipts MMBtu	Cost Of Natural Gas	Type	Index Price	Deal Price	Price Type	Purpose
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	S	\$ 1.9275	15,500	\$ 29,876.25	Fixed		\$ 1.9275	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	S	\$ 1.8825	217,000	\$ 408,502.50	Fixed		\$ 1.8825	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	S	\$ 1.7050	310,000	\$ 528,550.00	Fixed		\$ 1.7050	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	May-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	248,000	\$ 425,320.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
4/22/2020	5/1/2020	5/31/2020	31	Month	May-20	Trunkline	12538	REX Douglas	S	\$ 1.6875	2,763,402	\$ 4,663,240.88	Indexed	\$ 1.6900	\$ (0.0025)	IFERC	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.6400	1,500,000	\$ 2,460,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.6400	3,000,000	\$ 4,920,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.6400	3,000,000	\$ 4,920,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.6400	3,000,000	\$ 4,920,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.6400	1,980,000	\$ 3,247,200.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
6/22/2020	6/23/2020	6/23/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.6800	40,000	\$ 67,200.00	Indexed	\$ 1.6800	\$ -	Gas Daily	Incremental
6/23/2020	6/24/2020	6/24/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	C	\$ 1.5800	40,000	\$ 63,200.00	Indexed	\$ 1.5800	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	F	\$ 1.6400	900,000	\$ 1,476,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
11/15/2016	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	F	\$ 1.5620	150,000	\$ 234,300.00	Indexed	\$ 1.7220	\$ (0.1600)	Basis	Incremental
12/20/2016	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	F	\$ 1.5670	150,000	\$ 235,050.00	Indexed	\$ 1.7220	\$ (0.1550)	Basis	Incremental
1/23/2017	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	F	\$ 1.5620	150,000	\$ 234,300.00	Indexed	\$ 1.7220	\$ (0.1600)	Basis	Incremental
6/12/2020	6/15/2020	6/15/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	H	\$ 1.6500	20,000	\$ 33,000.00	Fixed		\$ 1.6500	Fixed	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.6400	600,000	\$ 984,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
6/11/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.5250	20,000	\$ 30,500.00	Indexed	\$ 1.5250	\$ -	Gas Daily	Incremental
6/11/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.4950	20,000	\$ 29,900.00	Indexed	\$ 1.4950	\$ -	Gas Daily	Incremental
6/11/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.5150	20,000	\$ 30,300.00	Indexed	\$ 1.5150	\$ -	Gas Daily	Incremental
6/11/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.5700	60,000	\$ 94,200.00	Indexed	\$ 1.5700	\$ -	Gas Daily	Incremental
6/11/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.4600	20,000	\$ 29,200.00	Indexed	\$ 1.4600	\$ -	Gas Daily	Incremental
6/22/2020	6/23/2020	6/23/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	J	\$ 1.6800	20,000	\$ 33,600.00	Indexed	\$ 1.6800	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	K	\$ 1.5250	5,000	\$ 7,625.00	Indexed	\$ 1.5250	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	K	\$ 1.4600	5,000	\$ 7,300.00	Indexed	\$ 1.4600	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	K	\$ 1.5150	5,000	\$ 7,575.00	Indexed	\$ 1.5150	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	K	\$ 1.5700	15,000	\$ 23,550.00	Indexed	\$ 1.5700	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	K	\$ 1.4950	5,000	\$ 7,475.00	Indexed	\$ 1.4950	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	N	\$ 1.6400	375,000	\$ 615,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	O	\$ 1.6400	225,000	\$ 369,000.00	Indexed	\$ 1.6400	\$ -	IFERC	Incremental
6/12/2020	6/15/2020	6/15/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	P	\$ 1.6500	97,900	\$ 161,535.00	Fixed		\$ 1.6500	Fixed	Incremental
2/28/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	R	\$ 1.7225	150,000	\$ 258,375.00	Fixed		\$ 1.7225	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	R	\$ 1.7740	150,000	\$ 266,100.00	Fixed		\$ 1.7740	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	R	\$ 1.7140	300,000	\$ 514,200.00	Fixed		\$ 1.7140	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.7790	150,000	\$ 266,850.00	Fixed		\$ 1.7790	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.7690	300,000	\$ 530,700.00	Fixed		\$ 1.7690	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.6150	300,000	\$ 484,500.00	Fixed		\$ 1.6150	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	150,000	\$ 246,750.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.6600	150,000	\$ 249,000.00	Fixed		\$ 1.6600	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	150,000	\$ 246,750.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.6350	150,000	\$ 245,250.00	Fixed		\$ 1.6350	Fixed	<1st Quartile
11/10/2016	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.5520	300,000	\$ 465,600.00	Indexed	\$ 1.7220	\$ (0.1700)	Basis	Incremental
1/30/2017	4/1/2020	8/31/2020	153	Multi-month	Jun-20	Consumers	Pool	CE Citygate	S	\$ 1.5370	300,000	\$ 461,100.00	Indexed	\$ 1.7220	\$ (0.1850)	Basis	Incremental
5/20/2020	6/1/2020	6/30/2020	30	Month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.6375	900,000	\$ 1,473,750.00	Indexed	\$ 1.6400	\$ (0.0025)	IFERC	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5250	92,900	\$ 141,672.50	Indexed	\$ 1.5250	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.4950	92,900	\$ 138,885.50	Indexed	\$ 1.4950	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.4600	92,900	\$ 135,634.00	Indexed	\$ 1.4600	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5150	92,900	\$ 140,743.50	Indexed	\$ 1.5150	\$ -	Gas Daily	Incremental
6/12/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5700	278,700	\$ 437,559.00	Indexed	\$ 1.5700	\$ -	Gas Daily	Incremental
6/15/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5150	10,000	\$ 15,150.00	Indexed	\$ 1.5150	\$ -	Gas Daily	Incremental
6/15/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.4600	10,000	\$ 14,600.00	Indexed	\$ 1.4600	\$ -	Gas Daily	Incremental
6/15/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5700	30,000	\$ 47,100.00	Indexed	\$ 1.5700	\$ -	Gas Daily	Incremental
6/15/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.4950	10,000	\$ 14,950.00	Indexed	\$ 1.4950	\$ -	Gas Daily	Incremental
6/15/2020	6/16/2020	6/22/2020	7	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5250	10,000	\$ 15,250.00	Indexed	\$ 1.5250	\$ -	Gas Daily	Incremental
6/22/2020	6/23/2020	6/23/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.6825	67,900	\$ 114,241.75	Indexed	\$ 1.6800	\$ 0.0025	Gas Daily	Incremental
6/23/2020	6/24/2020	6/24/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5825	87,900	\$ 139,101.75	Indexed	\$ 1.5800	\$ 0.0025	Gas Daily	Incremental
6/24/2020	6/25/2020	6/25/2020	1	Intra-month	Jun-20	Consumers	Pool	CE Citygate	U	\$ 1.5790	10,000	\$ 15,790.00	Indexed	\$ 1.5800	\$ (0.0010)	Gas Daily	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jun-20	Panhandle	18849	REX Putnam	B	\$ 1.5375	911,490	\$ 1,401,415.88	Indexed	\$ 1.5600	\$ (0.0025)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jun-20	Panhandle	18849	REX Putnam	E	\$ 1.5375	911,490	\$ 1,401,415.88	Indexed	\$ 1.5600	\$ (0.0025)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jun-20	Panhandle	18849	REX Putnam	T	\$ 1.5275	759,570	\$ 1,160,243.18	Indexed	\$ 1.5600	\$ (0.0035)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jun-20	Panhandle	18849	REX Putnam	V	\$ 1.5275	455,730	\$ 696,127.58	Indexed	\$ 1.5600	\$ (0.0035)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	80,000	\$ 223,280.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	40,000	\$ 112,810.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	80,000	\$ 172,580.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	140,000	\$ 295,715.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 1.8925	60,000	\$ 126,960.00	Fixed		\$ 1.8925	Fixed	<1st Quartile
6/24/2020	6/25/2020	6/30/2020	6	Intra-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 1.4350	20,000	\$ 28,700.00	Indexed	\$ 1.4350	\$ -	Gas Daily	Incremental
6/24/2020	6/25/2020	6/30/2020	6	Intra-month	Jun-20	Trunkline	12538	REX Douglas	A	\$ 1.5750	20,000	\$ 31,500.00	Indexed	\$ 1.5750	\$ -	Gas Daily	Incremental
6/24/2020	6/25/2020	6/															

Trade Date	Start Date	End Date	Days	Deal Term	Month	Pipeline	Contract	Receipt Point	Supplier	Price Paid	Receipts MMBtu	Cost Of Natural Gas	Type	Index Price	Deal Price	Price Type	Purpose
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	R	\$ 2.3120	300,000	\$ 693,600.00	Fixed		\$ 2.3120	Fixed	<1st Quartile
6/20/2019	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 2.2500	360,000	\$ 810,000.00	Fixed		\$ 2.2500	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.9275	15,000	\$ 28,912.50	Fixed		\$ 1.9275	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.8825	210,000	\$ 395,325.00	Fixed		\$ 1.8825	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.7050	300,000	\$ 511,500.00	Fixed		\$ 1.7050	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	240,000	\$ 411,600.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5750	89,142	\$ 140,398.65	Indexed	\$ 1.5750	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.4950	89,142	\$ 133,267.29	Indexed	\$ 1.4950	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.7450	89,142	\$ 155,552.79	Indexed	\$ 1.7450	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.4650	178,284	\$ 261,186.06	Indexed	\$ 1.4650	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5650	89,142	\$ 139,507.23	Indexed	\$ 1.5650	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5900	89,142	\$ 141,735.78	Indexed	\$ 1.5900	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.4850	89,142	\$ 132,375.87	Indexed	\$ 1.4850	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5550	267,426	\$ 415,847.43	Indexed	\$ 1.5550	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5700	89,142	\$ 139,952.94	Indexed	\$ 1.5700	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5800	89,142	\$ 140,844.36	Indexed	\$ 1.5800	\$ -	Gas Daily	Incremental
5/20/2020	6/1/2020	6/14/2020	14	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.6650	89,142	\$ 148,421.43	Indexed	\$ 1.6650	\$ -	Gas Daily	Incremental
6/24/2020	6/25/2020	6/30/2020	6	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5775	69,142	\$ 109,071.51	Indexed	\$ 1.5750	\$ 0.0025	Gas Daily	Incremental
6/24/2020	6/25/2020	6/30/2020	6	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.4375	69,142	\$ 99,391.63	Indexed	\$ 1.4350	\$ 0.0025	Gas Daily	Incremental
6/24/2020	6/25/2020	6/30/2020	6	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.3825	207,426	\$ 286,766.45	Indexed	\$ 1.3800	\$ 0.0025	Gas Daily	Incremental
6/24/2020	6/25/2020	6/30/2020	6	Intra-month	Jun-20	Trunkline	12538	REX Douglas	S	\$ 1.5425	69,142	\$ 106,651.54	Indexed	\$ 1.5400	\$ 0.0025	Gas Daily	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	C	\$ 1.4700	4,650,000	\$ 6,835,500.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	C	\$ 1.4700	4,495,000	\$ 6,607,650.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	F	\$ 1.4700	620,000	\$ 911,400.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
11/15/2016	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	F	\$ 1.3350	155,000	\$ 206,925.00	Indexed	\$ 1.4950	\$ (0.1600)	Basis	Incremental
12/20/2016	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	F	\$ 1.3400	155,000	\$ 207,700.00	Indexed	\$ 1.4950	\$ (0.1550)	Basis	Incremental
1/23/2017	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	F	\$ 1.3350	155,000	\$ 206,925.00	Indexed	\$ 1.4950	\$ (0.1600)	Basis	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	J	\$ 1.4700	930,000	\$ 1,367,100.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	L	\$ 1.4700	930,000	\$ 1,367,100.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	O	\$ 1.4700	232,500	\$ 341,775.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	Q	\$ 1.4700	155,000	\$ 227,850.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
2/28/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	R	\$ 1.7225	155,000	\$ 266,987.50	Fixed		\$ 1.7225	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	R	\$ 1.7740	155,000	\$ 274,970.00	Fixed		\$ 1.7740	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	R	\$ 1.7140	310,000	\$ 531,340.00	Fixed		\$ 1.7140	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.7790	155,000	\$ 275,745.00	Fixed		\$ 1.7790	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.7690	310,000	\$ 548,390.00	Fixed		\$ 1.7690	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.6150	310,000	\$ 500,650.00	Fixed		\$ 1.6150	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	155,000	\$ 254,975.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.6600	155,000	\$ 257,300.00	Fixed		\$ 1.6600	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	155,000	\$ 254,975.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.6350	155,000	\$ 253,425.00	Fixed		\$ 1.6350	Fixed	<1st Quartile
11/10/2016	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.3250	310,000	\$ 410,750.00	Indexed	\$ 1.4950	\$ (0.1700)	Basis	Incremental
1/30/2017	4/1/2020	8/31/2020	153	Multi-month	Jul-20	Consumers	Pool	CE Citygate	S	\$ 1.3100	310,000	\$ 406,100.00	Indexed	\$ 1.4950	\$ (0.1850)	Basis	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	T	\$ 1.4700	155,000	\$ 227,850.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Jul-20	Consumers	Pool	CE Citygate	U	\$ 1.4690	1,472,500	\$ 2,163,102.50	Indexed	\$ 1.4700	\$ (0.0010)	IFERC	Incremental
6/18/2020	7/1/2020	7/31/2020	31	Month	Jul-20	Consumers	Pool	CE Citygate	U	\$ 1.4700	1,550,000	\$ 2,278,500.00	Indexed	\$ 1.4700	\$ -	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jul-20	Panhandle	18849	REX Putnam	B	\$ 1.3675	941,873	\$ 1,288,011.33	Indexed	\$ 1.3900	\$ (0.0225)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jul-20	Panhandle	18849	REX Putnam	E	\$ 1.3675	941,873	\$ 1,288,011.33	Indexed	\$ 1.3900	\$ (0.0225)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jul-20	Panhandle	18849	REX Putnam	T	\$ 1.3575	784,889	\$ 1,065,486.82	Indexed	\$ 1.3900	\$ (0.0325)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Jul-20	Panhandle	18849	REX Putnam	V	\$ 1.3575	470,921	\$ 639,275.26	Indexed	\$ 1.3900	\$ (0.0325)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	124,000	\$ 290,470.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	62,000	\$ 146,444.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	124,000	\$ 238,080.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	217,000	\$ 410,130.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	A	\$ 1.8925	93,000	\$ 176,002.50	Fixed		\$ 1.8925	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	I	\$ 2.4475	310,000	\$ 758,725.00	Fixed		\$ 2.4475	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	I	\$ 2.4375	62,000	\$ 151,125.00	Fixed		\$ 2.4375	Fixed	<1st Quartile
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	I	\$ 2.3975	248,000	\$ 594,580.00	Fixed		\$ 2.3975	Fixed	<1st Quartile
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Jul-20	Trunkline	12538	REX Douglas	K	\$ 1.3900	885,949	\$ 1,231,469.11	Indexed	\$ 1.3900	\$ -	IFERC	Incremental
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	R	\$ 2.3120	310,000	\$ 716,720.00	Fixed		\$ 2.3120	Fixed	<1st Quartile
6/20/2019	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 2.2500	372,000	\$ 837,000.00	Fixed		\$ 2.2500	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 1.9275	15,500	\$ 29,876.25	Fixed		\$ 1.9275	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 1.8825	217,000	\$ 408,502.50	Fixed		\$ 1.8825	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 1.7050	310,000	\$ 528,550.00	Fixed		\$ 1.7050	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	248,000	\$ 425,320.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 1.3875	938,742	\$ 1,302,504.53	Indexed	\$ 1.3900	\$ (0.0025)	IFERC	Incremental
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Jul-20	Trunkline	12538	REX Douglas	S	\$ 1.3900	938,711	\$ 1,304,808.29	Indexed	\$ 1.3900	\$ -	IFERC	Incremental
7/22/2020	8/1/2020	8/31/2020	31	Month	Aug-20	Consumers	Pool	CE Citygate	C	\$ 1.7875	1,550,000	\$ 2,770,625.00	Indexed	\$ 1.7900	\$ (0.0025)	IFERC</	

Trade Date	Start Date	End Date	Days	Deal Term	Month	Pipeline	Contract	Receipt Point	Supplier	Price Paid	Receipts MMBtu	Cost Of Natural Gas	Type	Index Price	Deal Price	Price Type	Purpose
1/23/2017	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	F	\$ 1.6940	155,000	\$ 262,570.00	Indexed	\$ 1.8540	\$ (0.1600)	Basis	Incremental
7/21/2020	8/1/2020	8/31/2020	31	Month	Aug-20	Consumers	Pool	CE Citygate	J	\$ 1.7898	310,000	\$ 554,838.00	Indexed	\$ 1.7900	\$ (0.0002)	IFERC	Incremental
7/22/2020	8/1/2020	8/31/2020	31	Month	Aug-20	Consumers	Pool	CE Citygate	N	\$ 1.7875	1,550,000	\$ 2,770,625.00	Indexed	\$ 1.7900	\$ (0.0025)	IFERC	Incremental
7/21/2020	8/1/2020	8/31/2020	31	Month	Aug-20	Consumers	Pool	CE Citygate	O	\$ 1.7875	775,000	\$ 1,385,312.50	Indexed	\$ 1.7900	\$ (0.0025)	IFERC	Incremental
2/28/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	R	\$ 1.7225	155,000	\$ 266,987.50	Fixed		\$ 1.7225	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	R	\$ 1.7740	155,000	\$ 274,970.00	Fixed		\$ 1.7740	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	R	\$ 1.7140	310,000	\$ 531,340.00	Fixed		\$ 1.7140	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.7790	155,000	\$ 275,745.00	Fixed		\$ 1.7790	Fixed	<1st Quartile
3/6/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.7690	310,000	\$ 548,390.00	Fixed		\$ 1.7690	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6150	310,000	\$ 500,650.00	Fixed		\$ 1.6150	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	155,000	\$ 254,975.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6600	155,000	\$ 257,300.00	Fixed		\$ 1.6600	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6450	155,000	\$ 254,975.00	Fixed		\$ 1.6450	Fixed	<1st Quartile
3/18/2020	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6350	155,000	\$ 253,425.00	Fixed		\$ 1.6350	Fixed	<1st Quartile
11/10/2016	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6840	310,000	\$ 522,040.00	Indexed	\$ 1.8540	\$ (0.1700)	Basis	Incremental
1/30/2017	4/1/2020	8/31/2020	153	Multi-month	Aug-20	Consumers	Pool	CE Citygate	S	\$ 1.6690	310,000	\$ 517,390.00	Indexed	\$ 1.8540	\$ (0.1850)	Basis	Incremental
7/22/2020	8/1/2020	8/31/2020	31	Month	Aug-20	Consumers	Pool	CE Citygate	T	\$ 1.7900	310,000	\$ 554,900.00	Indexed	\$ 1.7900	\$ -	IFERC	Incremental
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Aug-20	Consumers	Pool	CE Citygate	U	\$ 1.7890	1,472,500	\$ 2,634,302.50	Indexed	\$ 1.7900	\$ (0.0010)	IFERC	Incremental
7/21/2020	8/1/2020	8/31/2020	31	Month	Aug-20	Consumers	Pool	CE Citygate	U	\$ 1.7890	1,550,000	\$ 2,772,950.00	Indexed	\$ 1.7900	\$ (0.0010)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Aug-20	Panhandle	18849	REX Putnam	B	\$ 1.6875	941,873	\$ 1,589,410.69	Indexed	\$ 1.7100	\$ (0.0225)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Aug-20	Panhandle	18849	REX Putnam	E	\$ 1.6875	941,873	\$ 1,589,410.69	Indexed	\$ 1.7100	\$ (0.0225)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Aug-20	Panhandle	18849	REX Putnam	T	\$ 1.6775	784,889	\$ 1,316,651.30	Indexed	\$ 1.7100	\$ (0.0325)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Aug-20	Panhandle	18849	REX Putnam	V	\$ 1.6775	470,921	\$ 789,969.98	Indexed	\$ 1.7100	\$ (0.0325)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	124,000	\$ 290,470.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	62,000	\$ 146,444.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	124,000	\$ 238,080.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	217,000	\$ 410,130.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	A	\$ 1.8925	93,000	\$ 176,002.50	Fixed		\$ 1.8925	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	I	\$ 2.4475	310,000	\$ 758,725.00	Fixed		\$ 2.4475	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	I	\$ 2.4375	62,000	\$ 151,125.00	Fixed		\$ 2.4375	Fixed	<1st Quartile
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	I	\$ 2.3975	248,000	\$ 594,580.00	Fixed		\$ 2.3975	Fixed	<1st Quartile
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Aug-20	Trunkline	12538	REX Douglas	K	\$ 1.7100	885,949	\$ 1,514,972.79	Indexed	\$ 1.7100	\$ -	IFERC	Incremental
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	R	\$ 2.3120	310,000	\$ 716,720.00	Fixed		\$ 2.3120	Fixed	<1st Quartile
6/20/2019	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 2.2500	372,000	\$ 837,000.00	Fixed		\$ 2.2500	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 1.9275	15,500	\$ 29,876.25	Fixed		\$ 1.9275	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 1.8825	217,000	\$ 408,502.50	Fixed		\$ 1.8825	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 1.7050	310,000	\$ 528,550.00	Fixed		\$ 1.7050	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	248,000	\$ 425,320.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 1.7075	938,742	\$ 1,602,901.97	Indexed	\$ 1.7100	\$ (0.0025)	IFERC	Incremental
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Aug-20	Trunkline	12538	REX Douglas	S	\$ 1.7100	938,711	\$ 1,605,195.81	Indexed	\$ 1.7100	\$ -	IFERC	Incremental
8/19/2020	9/1/2020	9/30/2020	30	Month	Sep-20	Consumers	Pool	CE Citygate	C	\$ 2.3000	2,760,000	\$ 6,348,000.00	Indexed	\$ 2.3000	\$ -	IFERC	Incremental
8/18/2020	9/1/2020	9/30/2020	30	Month	Sep-20	Consumers	Pool	CE Citygate	F	\$ 2.2975	750,000	\$ 1,723,125.00	Indexed	\$ 2.3000	\$ (0.0025)	IFERC	Incremental
8/19/2020	9/1/2020	9/30/2020	30	Month	Sep-20	Consumers	Pool	CE Citygate	J	\$ 2.3000	300,000	\$ 690,000.00	Indexed	\$ 2.3000	\$ -	IFERC	Incremental
8/18/2020	9/1/2020	9/30/2020	30	Month	Sep-20	Consumers	Pool	CE Citygate	N	\$ 2.2975	1,500,000	\$ 3,446,250.00	Indexed	\$ 2.3000	\$ (0.0025)	IFERC	Incremental
8/18/2020	9/1/2020	9/30/2020	30	Month	Sep-20	Consumers	Pool	CE Citygate	O	\$ 2.2975	750,000	\$ 1,723,125.00	Indexed	\$ 2.3000	\$ (0.0025)	IFERC	Incremental
8/19/2020	9/1/2020	9/30/2020	30	Month	Sep-20	Consumers	Pool	CE Citygate	T	\$ 2.3000	300,000	\$ 690,000.00	Indexed	\$ 2.3000	\$ -	IFERC	Incremental
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.2990	1,425,000	\$ 3,276,075.00	Indexed	\$ 2.3000	\$ (0.0010)	IFERC	Incremental
8/19/2020	9/1/2020	9/9/2020	9	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.1450	115,000	\$ 246,675.00	Indexed	\$ 2.1450	\$ -	Gas Daily	Incremental
8/19/2020	9/1/2020	9/9/2020	9	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.0650	115,000	\$ 237,475.00	Indexed	\$ 2.0650	\$ -	Gas Daily	Incremental
8/19/2020	9/1/2020	9/9/2020	9	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.0900	115,000	\$ 240,350.00	Indexed	\$ 2.0900	\$ -	Gas Daily	Incremental
8/19/2020	9/1/2020	9/9/2020	9	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.1850	115,000	\$ 251,275.00	Indexed	\$ 2.1850	\$ -	Gas Daily	Incremental
8/19/2020	9/1/2020	9/9/2020	9	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.0200	115,000	\$ 232,300.00	Indexed	\$ 2.0200	\$ -	Gas Daily	Incremental
8/19/2020	9/1/2020	9/9/2020	9	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 2.0050	460,000	\$ 922,300.00	Indexed	\$ 2.0050	\$ -	Gas Daily	Incremental
9/22/2020	9/24/2020	9/30/2020	7	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 1.3624	115,000	\$ 156,676.00	Indexed	\$ 1.3650	\$ (0.0026)	Gas Daily	Incremental
9/22/2020	9/24/2020	9/30/2020	7	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 1.8824	115,000	\$ 216,476.00	Indexed	\$ 1.8850	\$ (0.0026)	Gas Daily	Incremental
9/22/2020	9/24/2020	9/30/2020	7	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 1.5474	115,000	\$ 177,951.00	Indexed	\$ 1.5500	\$ (0.0026)	Gas Daily	Incremental
9/22/2020	9/24/2020	9/30/2020	7	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 1.7774	115,000	\$ 204,401.00	Indexed	\$ 1.7800	\$ (0.0026)	Gas Daily	Incremental
9/22/2020	9/24/2020	9/30/2020	7	Intra-month	Sep-20	Consumers	Pool	CE Citygate	U	\$ 1.6574	345,000	\$ 571,803.00	Indexed	\$ 1.6600	\$ (0.0026)	Gas Daily	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Sep-20	Panhandle	18849	REX Putnam	B	\$ 2.2875	911,490	\$ 2,085,033.38	Indexed	\$ 2.3100	\$ (0.0225)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Sep-20	Panhandle	18849	REX Putnam	E	\$ 2.2875	911,490	\$ 2,085,033.38	Indexed	\$ 2.3100	\$ (0.0225)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Sep-20	Panhandle	18849	REX Putnam	T	\$ 2.2775	759,570	\$ 1,729,920.68	Indexed	\$ 2.3100	\$ (0.0325)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Sep-20	Panhandle	18849	REX Putnam	V	\$ 2.2775	455,730	\$ 1,037,925.08	Indexed	\$ 2.3100	\$ (0.0325)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	120,000	\$ 281,100.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	60,000	\$ 141,720.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	120,000	\$ 230,400.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	210,000	\$ 396,900.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	A	\$ 1.8925	90,000	\$ 170,325.00	Fixed		\$ 1.8925	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	I	\$ 2.4475	300,000	\$ 734,250.					

Trade Date	Start Date	End Date	Days	Deal Term	Month	Pipeline	Contract	Receipt Point	Supplier	Price Paid	Receipts MMBtu	Cost Of Natural Gas	Type	Index Price	Deal Price	Price Type	Purpose
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	S	\$ 1.8825	210,000	\$ 395,325.00	Fixed		\$ 1.8825	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	S	\$ 1.7050	300,000	\$ 511,500.00	Fixed		\$ 1.7050	Fixed	<1st Quartile
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Sep-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	240,000	\$ 411,600.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Sep-20	Trunkline	12538	REX Douglas	S	\$ 2.3075	908,460	\$ 2,096,271.45	Indexed	\$ 2.3100	\$ (0.0025)	IFERC	Incremental
6/17/2020	7/1/2020	9/30/2020	92	Multi-month	Sep-20	Trunkline	12538	REX Douglas	S	\$ 2.3100	908,430	\$ 2,098,473.30	Indexed	\$ 2.3100	\$ -	IFERC	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.4975	25,000	\$ 37,437.50	Indexed	\$ 1.5000	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.4625	25,000	\$ 36,562.50	Indexed	\$ 1.4650	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.2425	25,000	\$ 31,062.50	Indexed	\$ 1.2450	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.5425	25,000	\$ 38,562.50	Indexed	\$ 1.5450	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.0325	75,000	\$ 77,437.50	Indexed	\$ 1.0350	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.1775	25,000	\$ 29,437.50	Indexed	\$ 1.1800	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 1.3825	25,000	\$ 34,562.50	Indexed	\$ 1.3850	\$ (0.0025)	Gas Daily	Incremental
10/15/2020	10/16/2020	10/19/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 2.1375	200,000	\$ 427,500.00	Indexed	\$ 2.1400	\$ (0.0025)	Gas Daily	Incremental
10/27/2020	10/28/2020	10/31/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 2.8775	150,000	\$ 431,625.00	Indexed	\$ 2.8800	\$ (0.0025)	Gas Daily	Incremental
10/27/2020	10/28/2020	10/31/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 2.8325	75,000	\$ 212,437.50	Indexed	\$ 2.8350	\$ (0.0025)	Gas Daily	Incremental
10/27/2020	10/28/2020	10/31/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	C	\$ 2.8975	75,000	\$ 217,312.50	Indexed	\$ 2.9000	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/31/2020	31	Month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 1.8374	775,000	\$ 1,423,985.00	Indexed	\$ 1.8400	\$ (0.0026)	IFERC	Incremental
10/15/2020	10/16/2020	10/19/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 2.1375	105,600	\$ 225,720.00	Indexed	\$ 2.1400	\$ (0.0025)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 2.9085	26,400	\$ 76,784.40	Indexed	\$ 2.9100	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 2.7785	79,200	\$ 220,057.20	Indexed	\$ 2.7800	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 2.8335	26,400	\$ 74,804.40	Indexed	\$ 2.8350	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 2.8985	26,400	\$ 76,520.40	Indexed	\$ 2.9000	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	F	\$ 2.8785	52,800	\$ 151,984.80	Indexed	\$ 2.8800	\$ (0.0015)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/31/2020	31	Month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.8374	248,000	\$ 455,675.20	Indexed	\$ 1.8400	\$ (0.0026)	IFERC	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.4625	25,000	\$ 36,562.50	Indexed	\$ 1.4650	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.0325	75,000	\$ 77,437.50	Indexed	\$ 1.0350	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.2425	25,000	\$ 31,062.50	Indexed	\$ 1.2450	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.5425	25,000	\$ 38,562.50	Indexed	\$ 1.5450	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.1775	25,000	\$ 29,437.50	Indexed	\$ 1.1800	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.3825	25,000	\$ 34,562.50	Indexed	\$ 1.3850	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	N	\$ 1.4975	25,000	\$ 37,437.50	Indexed	\$ 1.5000	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/31/2020	31	Month	Oct-20	Consumers	Pool	CE Citygate	O	\$ 1.8374	775,000	\$ 1,423,985.00	Indexed	\$ 1.8400	\$ (0.0026)	IFERC	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.0325	276,000	\$ 284,970.00	Indexed	\$ 1.0350	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.2425	92,000	\$ 114,310.00	Indexed	\$ 1.2450	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.5425	92,000	\$ 141,910.00	Indexed	\$ 1.5450	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.1775	92,000	\$ 108,330.00	Indexed	\$ 1.1800	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.3825	92,000	\$ 127,190.00	Indexed	\$ 1.3850	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.4975	92,000	\$ 137,770.00	Indexed	\$ 1.5000	\$ (0.0025)	Gas Daily	Incremental
9/23/2020	10/1/2020	10/9/2020	9	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 1.4625	92,000	\$ 134,550.00	Indexed	\$ 1.4650	\$ (0.0025)	Gas Daily	Incremental
10/15/2020	10/16/2020	10/19/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.1375	264,000	\$ 564,300.00	Indexed	\$ 2.1400	\$ (0.0025)	Gas Daily	Incremental
10/16/2020	10/17/2020	10/19/2020	3	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.1374	318,000	\$ 679,693.20	Indexed	\$ 2.1400	\$ (0.0026)	Gas Daily	Incremental
10/19/2020	10/20/2020	10/23/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8120	142,000	\$ 399,304.00	Indexed	\$ 2.8150	\$ (0.0030)	Gas Daily	Incremental
10/19/2020	10/20/2020	10/23/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.6020	142,000	\$ 369,484.00	Indexed	\$ 2.6050	\$ (0.0030)	Gas Daily	Incremental
10/19/2020	10/20/2020	10/23/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.3520	142,000	\$ 333,984.00	Indexed	\$ 2.3550	\$ (0.0030)	Gas Daily	Incremental
10/19/2020	10/20/2020	10/23/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.6570	142,000	\$ 377,294.00	Indexed	\$ 2.6600	\$ (0.0030)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8985	221,600	\$ 642,307.60	Indexed	\$ 2.9000	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8335	221,600	\$ 627,903.60	Indexed	\$ 2.8350	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.7785	664,800	\$ 1,847,146.80	Indexed	\$ 2.7800	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8785	443,200	\$ 1,275,751.20	Indexed	\$ 2.8800	\$ (0.0015)	Gas Daily	Incremental
10/23/2020	10/24/2020	10/31/2020	8	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.9085	221,600	\$ 644,523.60	Indexed	\$ 2.9100	\$ (0.0015)	Gas Daily	Incremental
10/27/2020	10/28/2020	10/31/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8985	135,000	\$ 391,297.50	Indexed	\$ 2.9000	\$ (0.0015)	Gas Daily	Incremental
10/27/2020	10/28/2020	10/31/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8335	135,000	\$ 382,522.50	Indexed	\$ 2.8350	\$ (0.0015)	Gas Daily	Incremental
10/27/2020	10/28/2020	10/31/2020	4	Intra-month	Oct-20	Consumers	Pool	CE Citygate	U	\$ 2.8785	270,000	\$ 777,195.00	Indexed	\$ 2.8800	\$ (0.0015)	Gas Daily	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Oct-20	Panhandle	18849	REX Putnam	B	\$ 1.7975	941,873	\$ 1,693,016.72	Indexed	\$ 1.8200	\$ (0.0025)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Oct-20	Panhandle	18849	REX Putnam	E	\$ 1.7975	941,873	\$ 1,693,016.72	Indexed	\$ 1.8200	\$ (0.0025)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Oct-20	Panhandle	18849	REX Putnam	T	\$ 1.7875	784,889	\$ 1,402,989.09	Indexed	\$ 1.8200	\$ (0.0035)	IFERC	Incremental
5/15/2020	6/1/2020	10/31/2020	153	Multi-month	Oct-20	Panhandle	18849	REX Putnam	V	\$ 1.7875	470,921	\$ 841,771.29	Indexed	\$ 1.8200	\$ (0.0035)	IFERC	Incremental
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	A	\$ 2.3425	124,000	\$ 290,470.00	Fixed		\$ 2.3425	Fixed	<1st Quartile
6/17/2019	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	A	\$ 2.3620	62,000	\$ 146,444.00	Fixed		\$ 2.3620	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	A	\$ 1.9200	124,000	\$ 238,080.00	Fixed		\$ 1.9200	Fixed	<1st Quartile
1/22/2020	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	A	\$ 1.8900	217,000	\$ 410,130.00	Fixed		\$ 1.8900	Fixed	<1st Quartile
1/28/2020	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	A	\$ 1.8925	93,000	\$ 176,002.50	Fixed		\$ 1.8925	Fixed	<1st Quartile
9/23/2020	10/1/2020	10/31/2020	31	Month	Oct-20	Trunkline	12538	REX Douglas	A	\$ 1.8910	620,000	\$ 1,172,420.00	Indexed	\$ 2.1010	\$ (0.2100)	Basis	Incremental
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	I	\$ 2.4475	310,000	\$ 758,725.00	Fixed		\$ 2.4475	Fixed	<1st Quartile
5/30/2019	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	I	\$ 2.4375	62,000	\$ 151,125.00	Fixed		\$ 2.4375	Fixed	<1st Quartile
6/6/2019	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	I	\$ 2.3975	248,000	\$ 594,580.00	Fixed		\$ 2.3975	Fixed	<1st Quartile
9/23/2020	10/1/2020	10/31/2020	31	Month	Oct-20	Trunkline	12538	REX Douglas	K	\$ 1.9010	465,000	\$ 883,965.00	Indexed	\$ 2.1010	\$ (0.2000)	Basis	Incremental
9/23/2020	10/1/2020</																

Trade Date	Start Date	End Date	Days	Deal Term	Month	Pipeline	Contract	Receipt Point	Supplier	Price Paid	Receipts MMBtu	Cost Of Natural Gas	Type	Index Price	Deal Price	Price Type	Purpose
2/27/2020	4/1/2020	10/31/2020	214	Multi-month	Oct-20	Trunkline	12538	REX Douglas	S	\$ 1.7150	248,000	\$ 425,320.00	Fixed		\$ 1.7150	Fixed	<1st Quartile
9/23/2020	10/1/2020	10/31/2020	31	Month	Oct-20	Trunkline	12538	REX Douglas	T	\$ 1.8200	314,371	\$ 572,155.22	Indexed	\$ 1.8200	\$ -	IFERC	Incremental
10/22/2020	11/1/2020	11/30/2020	30	Month	Nov-20	Panhandle	18849	REX Putnam	G	\$ 2.6600	971,670	\$ 2,584,642.20	Indexed	\$ 2.6900	\$ (0.0300)	IFERC	Incremental
10/22/2020	11/1/2020	11/30/2020	30	Month	Nov-20	Panhandle	18849	REX Putnam	M	\$ 2.6600	910,920	\$ 2,423,047.20	Indexed	\$ 2.6900	\$ (0.0300)	IFERC	Incremental
10/22/2020	11/1/2020	11/30/2020	30	Month	Nov-20	Panhandle	18849	REX Putnam	V	\$ 2.6500	607,290	\$ 1,609,318.50	Indexed	\$ 2.6900	\$ (0.0400)	IFERC	Incremental
10/21/2020	11/1/2020	11/30/2020	30	Month	Nov-20	Trunkline	12538A	Zone 1A	G	\$ 2.7600	892,500	\$ 2,463,300.00	Indexed	\$ 2.7600	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Nov-20	Trunkline	12538A	Zone 1A	K	\$ 2.7600	450,000	\$ 1,242,000.00	Indexed	\$ 2.7600	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Nov-20	Trunkline	12538A	Zone 1A	M	\$ 2.7575	1,200,000	\$ 3,309,000.00	Indexed	\$ 2.7600	\$ (0.0025)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Nov-20	Trunkline	12538A	Zone 1A	Q	\$ 2.7550	600,000	\$ 1,653,000.00	Indexed	\$ 2.7600	\$ (0.0050)	IFERC	Incremental
10/22/2020	11/1/2020	11/30/2020	30	Month	Nov-20	Trunkline	12538	REX Douglas	S	\$ 2.7050	1,211,880	\$ 3,278,135.40	Indexed	\$ 2.6900	\$ 0.0150	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Nov-20	Trunkline	12538A	Zone 1A	T	\$ 2.7600	303,900	\$ 838,764.00	Indexed	\$ 2.7600	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Nov-20	Trunkline	12538A	Zone 1A	U	\$ 2.7600	656,130	\$ 1,810,918.80	Indexed	\$ 2.7600	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Dec-20	Trunkline	12538A	Zone 1A	M	\$ 2.6475	1,240,000	\$ 3,282,900.00	Indexed	\$ 2.6500	\$ (0.0025)	IFERC	Incremental
11/18/2020	12/1/2020	12/31/2020	31	Month	Dec-20	Panhandle	18849	REX Putnam	V	\$ 2.5500	784,424	\$ 2,000,281.20	Indexed	\$ 2.5800	\$ (0.0300)	IFERC	Incremental
11/18/2020	12/1/2020	12/31/2020	31	Month	Dec-20	Trunkline	12538A	Zone 1A	G	\$ 2.6490	922,250	\$ 2,443,040.25	Indexed	\$ 2.6500	\$ (0.0010)	IFERC	Incremental
11/18/2020	12/1/2020	12/31/2020	31	Month	Dec-20	Panhandle	18849	REX Putnam	G	\$ 2.5500	1,255,066	\$ 3,200,418.30	Indexed	\$ 2.5800	\$ (0.0300)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Dec-20	Trunkline	12538A	Zone 1A	T	\$ 2.6500	314,030	\$ 832,179.50	Indexed	\$ 2.6500	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Dec-20	Trunkline	12538A	Zone 1A	K	\$ 2.6500	465,000	\$ 1,232,250.00	Indexed	\$ 2.6500	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Dec-20	Trunkline	12538A	Zone 1A	Q	\$ 2.6450	620,000	\$ 1,639,900.00	Indexed	\$ 2.6500	\$ (0.0050)	IFERC	Incremental
11/18/2020	12/1/2020	12/31/2020	31	Month	Dec-20	Panhandle	18849	REX Putnam	K	\$ 2.5500	1,098,175	\$ 2,800,346.25	Indexed	\$ 2.5800	\$ (0.0300)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Dec-20	Trunkline	12538A	Zone 1A	U	\$ 2.6500	678,001	\$ 1,796,702.65	Indexed	\$ 2.6500	\$ -	IFERC	Incremental
11/18/2020	12/1/2020	12/31/2020	31	Month	Dec-20	Consumers	Pool	CE Citygate	U	\$ 2.6674	1,302,000	\$ 3,472,954.80	Indexed	\$ 2.6700	\$ (0.0026)	IFERC	Incremental
11/18/2020	12/1/2020	12/31/2020	31	Month	Dec-20	Trunkline	12538	REX Douglas	U	\$ 2.5950	1,252,276	\$ 3,249,656.22	Indexed	\$ 2.5800	\$ 0.0150	IFERC	Incremental
12/17/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Consumers	Pool	CE Citygate	C	\$ 2.3700	3,069,000	\$ 7,273,530.00	Indexed	\$ 2.3700	\$ -	IFERC	Incremental
12/17/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Consumers	Pool	CE Citygate	F	\$ 2.3690	310,000	\$ 734,390.00	Indexed	\$ 2.3700	\$ (0.0010)	IFERC	Incremental
12/17/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Consumers	Pool	CE Citygate	J	\$ 2.3700	310,000	\$ 734,700.00	Indexed	\$ 2.3700	\$ -	IFERC	Incremental
12/17/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Panhandle	18849	REX Putnam	G	\$ 2.2750	941,284	\$ 2,141,421.10	Indexed	\$ 2.2900	\$ (0.0150)	IFERC	Incremental
12/17/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Panhandle	18849	REX Putnam	K	\$ 2.2750	1,098,175	\$ 2,498,348.13	Indexed	\$ 2.2900	\$ (0.0150)	IFERC	Incremental
12/16/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Panhandle	18849	REX Putnam	V	\$ 2.2600	1,098,175	\$ 2,481,875.50	Indexed	\$ 2.2900	\$ (0.0300)	IFERC	Incremental
12/16/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Trunkline	12538	REX Douglas	R	\$ 2.3025	1,252,262	\$ 2,883,333.26	Indexed	\$ 2.2900	\$ 0.0125	IFERC	Incremental
12/16/2020	1/1/2021	1/31/2021	31	Month	Jan-21	Trunkline	12538A	Zone 1A	G	\$ 2.2990	922,250	\$ 2,120,252.75	Indexed	\$ 2.3000	\$ (0.0010)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Jan-21	Trunkline	12538A	Zone 1A	K	\$ 2.3000	465,000	\$ 1,069,500.00	Indexed	\$ 2.3000	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Jan-21	Trunkline	12538A	Zone 1A	M	\$ 2.2975	1,240,000	\$ 2,848,900.00	Indexed	\$ 2.3000	\$ (0.0025)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Jan-21	Trunkline	12538A	Zone 1A	Q	\$ 2.2950	620,000	\$ 1,422,900.00	Indexed	\$ 2.3000	\$ (0.0050)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Jan-21	Trunkline	12538A	Zone 1A	T	\$ 2.3000	314,030	\$ 722,269.00	Indexed	\$ 2.3000	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Jan-21	Trunkline	12538A	Zone 1A	U	\$ 2.3000	678,001	\$ 1,559,402.30	Indexed	\$ 2.3000	\$ -	IFERC	Incremental
1/21/2021	2/1/2021	2/28/2021	28	Month	Feb-21	Panhandle	18849	REX Putnam	G	\$ 2.6400	963,564	\$ 2,543,808.96	Indexed	\$ 2.6600	\$ (0.0200)	IFERC	Incremental
1/21/2021	2/1/2021	2/28/2021	28	Month	Feb-21	Panhandle	18849	REX Putnam	V	\$ 2.6300	991,900	\$ 2,608,697.00	Indexed	\$ 2.6600	\$ (0.0300)	IFERC	Incremental
1/21/2021	2/1/2021	2/28/2021	28	Month	Feb-21	Trunkline	12538A	Zone 1A	G	\$ 2.6400	833,000	\$ 2,199,120.00	Indexed	\$ 2.6400	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Feb-21	Trunkline	12538A	Zone 1A	K	\$ 2.6400	420,000	\$ 1,108,800.00	Indexed	\$ 2.6400	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Feb-21	Trunkline	12538A	Zone 1A	M	\$ 2.6375	1,120,000	\$ 2,954,000.00	Indexed	\$ 2.6400	\$ (0.0025)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Feb-21	Trunkline	12538A	Zone 1A	Q	\$ 2.6350	560,000	\$ 1,475,600.00	Indexed	\$ 2.6400	\$ (0.0050)	IFERC	Incremental
1/21/2021	2/1/2021	2/28/2021	28	Month	Feb-21	Trunkline	12538	REX Douglas	S	\$ 2.6800	1,131,088	\$ 3,031,315.84	Indexed	\$ 2.6600	\$ 0.0200	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Feb-21	Trunkline	12538A	Zone 1A	T	\$ 2.6400	283,640	\$ 748,809.60	Indexed	\$ 2.6400	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Feb-21	Trunkline	12538A	Zone 1A	U	\$ 2.6400	612,388	\$ 1,616,704.32	Indexed	\$ 2.6400	\$ -	IFERC	Incremental
2/18/2021	3/1/2021	3/31/2021	31	Month	Mar-21	Consumers	Pool	CE Citygate	C	\$ 2.8500	1,550,000	\$ 4,417,500.00	Indexed	\$ 2.8500	\$ -	IFERC	Incremental
2/18/2021	3/1/2021	3/31/2021	31	Month	Mar-21	Consumers	Pool	CE Citygate	L	\$ 2.8500	1,395,000	\$ 3,975,750.00	Indexed	\$ 2.8500	\$ -	IFERC	Incremental
2/19/2021	3/1/2021	3/31/2021	31	Month	Mar-21	Consumers	Pool	CE Citygate	R	\$ 2.9040	1,550,000	\$ 4,501,200.00	Indexed	\$ 2.8540	\$ 0.0500	Basis	Incremental
2/19/2021	3/1/2021	3/31/2021	31	Month	Mar-21	Panhandle	18849	REX Putnam	G	\$ 2.7300	1,568,817	\$ 4,282,870.41	Indexed	\$ 2.7500	\$ (0.0200)	IFERC	Incremental
2/18/2021	3/1/2021	3/31/2021	31	Month	Mar-21	Trunkline	12538	REX Douglas	S	\$ 2.7700	1,252,276	\$ 3,468,804.52	Indexed	\$ 2.7500	\$ 0.0200	IFERC	Incremental
2/18/2021	3/1/2021	3/31/2021	31	Month	Mar-21	Trunkline	12538A	Zone 1A	G	\$ 2.7400	922,250	\$ 2,526,965.00	Indexed	\$ 2.7400	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Mar-21	Trunkline	12538A	Zone 1A	K	\$ 2.7400	465,000	\$ 1,274,100.00	Indexed	\$ 2.7400	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Mar-21	Trunkline	12538A	Zone 1A	M	\$ 2.7375	1,240,000	\$ 3,394,500.00	Indexed	\$ 2.7400	\$ (0.0025)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Mar-21	Trunkline	12538A	Zone 1A	Q	\$ 2.7350	620,000	\$ 1,695,700.00	Indexed	\$ 2.7400	\$ (0.0050)	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Mar-21	Trunkline	12538A	Zone 1A	T	\$ 2.7400	314,030	\$ 860,442.20	Indexed	\$ 2.7400	\$ -	IFERC	Incremental
10/21/2020	11/1/2020	3/31/2021	151	Multi-month	Mar-21	Trunkline	12538A	Zone 1A	U	\$ 2.7400	678,001	\$ 1,857,722.74	Indexed	\$ 2.7400	\$ -	IFERC	Incremental

Consumers Energy Quartile Fixed Price Purchases

GCR 2020/2021

Date	Supplier	Pipeline	Point	Term	Wellhead Volumes MMBTU/000	Delivered Volumes MMCF	Nymex	Basis	Wellhead Price	Fixed Dollar(000)	Quartile
Month 6/1/2019											
5/30/2019	I	Trunkline	REX Douglas	APR-OCT	428	402	\$2.5625	(\$0.1250)	\$2.4375	\$1,043.25	<1st
5/30/2019	I	Trunkline	REX Douglas	APR-OCT	2,140	2,008	\$2.5625	(\$0.1150)	\$2.4475	\$5,237.65	<1st
6/6/2019	A	Trunkline	REX Douglas	APR-OCT	856	803	\$2.5225	(\$0.1800)	\$2.3425	\$2,005.18	<1st
6/6/2019	I	Trunkline	REX Douglas	APR-OCT	1,712	1,606	\$2.5225	(\$0.1250)	\$2.3975	\$4,104.52	<1st
6/17/2019	A	Trunkline	REX Douglas	APR-OCT	428	402	\$2.5420	(\$0.1800)	\$2.3620	\$1,010.94	<1st
6/17/2019	R	Trunkline	REX Douglas	APR-OCT	2,140	2,008	\$2.5420	(\$0.2300)	\$2.3120	\$4,947.68	<1st
6/20/2019	S	Trunkline	REX Douglas	APR-OCT	2,568	2,409	\$2.4250	(\$0.1750)	\$2.2500	\$5,778.00	<1st
Summary for the Month of 6/1/2019					10,272	9,637			\$2.3488	\$24,127.22	
Month 1/1/2020											
1/22/2020	A	Trunkline	REX Douglas	APR-OCT	856	803	\$2.1000	(\$0.1800)	\$1.9200	\$1,643.52	<1st
1/22/2020	A	Trunkline	REX Douglas	APR-OCT	1,498	1,405	\$2.1000	(\$0.2100)	\$1.8900	\$2,831.22	<1st
1/28/2020	A	Trunkline	REX Douglas	APR-OCT	642	602	\$2.1025	(\$0.2100)	\$1.8925	\$1,214.99	<1st
1/28/2020	S	Trunkline	REX Douglas	APR-OCT	1,498	1,405	\$2.1025	(\$0.2200)	\$1.8825	\$2,819.99	<1st
1/28/2020	S	Trunkline	REX Douglas	APR-OCT	107	100	\$2.1025	(\$0.1750)	\$1.9275	\$206.24	<1st
Summary for the Month of 1/1/2020					4,601	4,316			\$1.8944	\$8,715.95	
Month 3/1/2020											
2/27/2020	S	Trunkline	REX Douglas	APR-OCT	1,712	1,606	\$1.9350	(\$0.2200)	\$1.7150	\$2,936.08	<1st
2/27/2020	S	Trunkline	REX Douglas	APR-OCT	2,140	2,008	\$1.9350	(\$0.2300)	\$1.7050	\$3,648.70	<1st
2/28/2020	R	Consumers	Citygate	APR-AUG	765	724	\$1.8275	(\$0.1050)	\$1.7225	\$1,317.71	<1st
3/6/2020	R	Consumers	Citygate	APR-AUG	765	724	\$1.8840	(\$0.1100)	\$1.7740	\$1,357.11	<1st
3/6/2020	R	Consumers	Citygate	APR-AUG	1,530	1,449	\$1.8840	(\$0.1700)	\$1.7140	\$2,622.42	<1st
3/6/2020	S	Consumers	Citygate	APR-AUG	765	724	\$1.8840	(\$0.1050)	\$1.7790	\$1,360.94	<1st
3/6/2020	S	Consumers	Citygate	APR-AUG	1,530	1,449	\$1.8840	(\$0.1150)	\$1.7690	\$2,706.57	<1st
3/18/2020	S	Consumers	Citygate	APR-AUG	1,530	1,449	\$1.7750	(\$0.1600)	\$1.6150	\$2,470.95	<1st
3/18/2020	S	Consumers	Citygate	APR-AUG	765	724	\$1.7750	(\$0.1300)	\$1.6450	\$1,258.43	<1st
3/18/2020	S	Consumers	Citygate	APR-AUG	765	724	\$1.7750	(\$0.1150)	\$1.6600	\$1,269.90	<1st
3/18/2020	S	Consumers	Citygate	APR-AUG	765	724	\$1.7750	(\$0.1300)	\$1.6450	\$1,258.43	<1st
3/18/2020	S	Consumers	Citygate	APR-AUG	765	724	\$1.7750	(\$0.1400)	\$1.6350	\$1,250.78	<1st
3/23/2020	C	Consumers	Citygate	APR-APR	3,000	2,841	\$1.6000	(\$0.0800)	\$1.5200	\$4,560.00	<1st
3/23/2020	T	Consumers	Citygate	APR-APR	450	426	\$1.6000	(\$0.0800)	\$1.5200	\$684.00	<1st
Summary for the Month of 3/1/2020					17,247	16,298			\$1.6642	\$28,702.00	
Summary for GCR 2020/2021					32,120	30,252			\$1.9161	\$61,545.17	

GAS SUPPLY DEPARTMENT
2020-2021 AMA REVENUE

<u>Month</u>	<u>AMA Booked</u> <u>Revenue</u>
Apr-20	\$ 32,220
May-20	\$ 22,906
Jun-20	\$ 72,482
Jul-20	\$ 46,745
Aug-20	\$ 110,721
Sep-20	\$ 106,914
Oct-20	\$ 91,888
Nov-20	\$ 127,029
Dec-20	\$ 74,421
Jan-21	\$ 89,930
Feb-21	\$ 89,500
Mar-21	\$ 5,484,843
Grand Total	<u><u>\$ 6,349,600</u></u>

Month	Type	Pipeline	Contract	Supplier	PURCHASED (SOLD) /MONTH (MMBtu)	PURCHASE or SALE PRICE (\$/MMBtu)	\$ PURCHASED (SOLD)	TOTAL MMBtu PURCHASED (SOLD)	Total \$ PAID (RECEIVED)
Nov-19	Fixed	Consumers	Pool	A	2,000,000	\$2.3850	\$4,770,000		
				C	1,000,000	\$2.3200	\$2,320,000		
				R	1,000,000	\$2.3600	\$2,360,000		
Nov-19 Total					4,000,000	\$2.3625	\$9,450,000		
Apr-20	Fixed	Consumers	Pool	C	1,000,000	\$1.7450	\$1,745,000		
				R	1,000,000	\$1.7200	\$1,720,000		
Apr-20 Total					2,000,000	\$1.7325	\$3,465,000		
May-20	Fixed	Consumers	Pool	R	2,500,000	\$1.7100	\$4,275,000		
				U	500,000	\$1.7200	\$860,000		
May-20 Total					3,000,000	\$1.7117	\$5,135,000	9,000,000	\$18,050,000
Nov-20	Fixed	Consumers	Pool	A	(2,000,000)	\$2.5363	(\$5,072,500)		
				C	(1,000,000)	\$2.4700	(\$2,470,000)		
				R	(1,000,000)	\$2.5100	(\$2,510,000)		
Nov-20 Total					(4,000,000)	\$2.5131	(\$10,052,500)		
Dec-20	Fixed	Consumers	Pool	C	(1,000,000)	\$2.2450	(\$2,245,000)		
				R	(3,500,000)	\$2.6014	(\$9,105,000)		
				U	(500,000)	\$2.6950	(\$1,347,500)		
Dec-20 Total					(5,000,000)	\$2.5395	(\$12,697,500)	(9,000,000)	(\$22,750,000)
Grand Total					0		(\$4,700,000)	0	(\$4,700,000)
						Margin (Reduction to Gas Cost)			
						Margin/MMBtu		(\$0.522)	

MICHIGAN PUBLIC SERVICE COMMISSION
Consumers Energy Company

Case No.: U-20542
Exhibit No.: A-23 (MHR-7)
Page: 1 of 2
Witness: MHRoss
Date: June 2021

CONSUMERS ENERGY COMPANY CAPACITY UTILIZATION

Dth/day

Capacity Utilization		Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Total
Trunkline	Available	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	2,100,000
	Utilized	174,998	174,998	132,352	174,999	174,999	174,999	174,997	175,000	175,000	175,000	175,000	175,000	2,057,342
	% Utilized	100%	100%	76%	100%	100%	100%	100%	100%	100%	100%	100%	100%	98%
Panhandle	Available	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	1,200,000
	Utilized	100,000	100,000	100,000	100,000	100,000	100,000	100,000	82,000	100,000	100,000	69,000	50,000	1,101,000
	% Utilized	100%	100%	100%	100%	100%	100%	100%	82%	100%	100%	69%	50%	92%

Capacity Release Credits	Apr 2020	May 2020	June 2020	July 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Total
Trunkline	0	0	0	0	0	0	0	0	0	0	0	0	0
Panhandle	0	0	0	0	0	0	0	18,000	0	0	31,000	29,688	78,688
Total	0	0	0	0	0	0	0	18,000	0	0	31,000	29,688	78,688

[illegible]

CAPACITY RELEASE: ACTUAL RECOVERED DOLLARS
GCR YEAR: APRIL 2020 THROUGH MARCH 2021

MONTH	TRK DOLLARS	(dth/day) TRK VOLUMES	PEPL DOLLARS	(dth/day) PEPL VOLUMES	TOTAL DOLLARS	(dth/day) TOTAL VOLUMES
4/20	\$0	0	\$0	0	\$ -	0
5/20	\$0	0	\$0	0	\$ -	0
6/20	\$0	0	\$0	0	\$ -	0
7/20	\$0	0	\$0	0	\$ -	0
8/20	\$0	0	\$0	0	\$ -	0
9/20	\$0	0	\$0	0	\$ -	0
10/20	\$0	0	\$0	0	\$ -	0
11/20	\$0	0	\$30,618	18,000	\$30,618	18,000
12/20	\$0	0	\$0	0	\$ -	0
1/21	\$0	0	\$0	0	\$ -	0
2/21	\$0	0	\$20,160	31,000	\$20,160	31,000
3/21	\$0	0	\$57,883	29,688	\$57,883	29,688
	<u>\$0</u>	<u>0</u>	<u>\$108,661</u>	<u>78,688</u>	<u>\$ 108,661</u>	<u>78,688</u>

SUMMARY OF FIRM AND INTERRUPTIBLE TRANSPORTATION CONTRACTS
Effective April 1, 2020

PIPELINE	CONTRACT DATE	CONTRACT NUMBER	VOLUME (dth/d)	TERM	EFFECTIVE DATES OF RATE	DAILY RES. RESERVATION	COMMODITY	RATE
<u>Firm Transportation</u>								
Panhandle Eastern Pipe Line (REX/Putnam Rec)	12/18/07	18849	100,000	11/1/16 - 10/31/23	4/1/20 - 9/30/20	0.2574	0.0153	\$0.2727/dth + fuel
Panhandle Eastern Pipe Line (REX/Putnam Rec)	"	"	100,000	"	10/1/20 - 3/31/21	0.2574	0.0151	\$0.2725/dth + fuel
Trunkline Gas Company (REX/Douglas Receipt)	12/18/07	12538	175,000	4/1/18 - 10/31/21	4/1/20 - 9/30/20	0.1490	0.0075	\$0.1565/dth + fuel
Trunkline Gas Company (REX/Douglas Receipt)	"	"	"	"	10/1/20 - 10/31/20	0.1490	0.0073	\$0.1563/dth + fuel
Trunkline Gas Company (Z1A/Fayetteville Express Receipt)	"	"	135,000	"	11/1/20 - 3/31/21	0.1990	0.0128	\$0.2118/dth + fuel
Trunkline Gas Company (REX/Douglas Receipt)	"	"	40,000	"	11/1/20 - 3/31/21	0.1509	0.0073	\$0.1582/dth + fuel

Interruptible Transportation

Trunkline Gas Company (Z1B Receipt)	07/22/15	31263	100,000	7/22/15 - 7/31/20			0.0075	\$0.0075/dth + fuel
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STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter of the application of)
CONSUMERS ENERGY COMPANY)
for reconciliation of its gas cost recovery)
plan (Case No. U-20541) for the)
12-month period April 2020 through)
March 2021.)
_____)

Case No. U-20542

PROOF OF SERVICE

STATE OF MICHIGAN)
) SS
COUNTY OF JACKSON)

Jennifer Joy Yocum, being first duly sworn, deposes and says that she is employed in the Legal Department of Consumers Energy Company; that on June 30, 2021, she served an electronic copy of the **Application and Testimony and Exhibits of Consumers Energy Company** witnesses **Rachael L. Dziewiatkowski, James P. Pnacek, Jr., Hannah L. Patton, and Michael H. Ross** upon the persons listed in Attachment 1 hereto, at the e-mail addresses listed therein.



Jennifer Joy Yocum

Subscribed and sworn to before me this 30th day of June, 2021.



Crystal L. Chacon, Notary Public
State of Michigan, County of Ingham
My Commission Expires: 05/25/24
Acting in the County of Jackson

ATTACHMENT 1 TO CASE NO. U-20542
(Including Parties to Case No. U-20541)

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