

Test Year Commodity Cost-of-Gas

Docket No. G-008/GR-21-435

Commodity Cost of Gas Calculation - Minnesota

| | | (1) | (2.00) | (3) = (1) + (2) | (4) = (3) * 2.63% | (5) = (3) + (4) |
|----|--------|---------------------|---------|-----------------|-------------------|-----------------|
| | | Gas Supply Forecast | Ventura | Base | Fuel/LUFG | Total |
| | Month | Henry Hub \$/MCF | Basis | Price | 2.63% | Rate |
| 1 | Jan-21 | | | \$3.03 | \$0.080 | 3.1103 |
| 2 | Feb-21 | | | \$3.06 | \$0.080 | 3.1397 |
| 3 | Mar-21 | | | \$2.89 | \$0.076 | 2.9693 |
| 4 | Apr-21 | | | \$2.44 | \$0.064 | 2.5087 |
| 5 | May-21 | | | \$2.78 | \$0.073 | 2.8529 |
| 6 | Jun-21 | | | \$2.893 | \$0.076 | 2.9687 |
| 7 | Jul-21 | | | \$3.504 | \$0.092 | 3.5964 |
| 8 | Aug-21 | | | \$3.912 | \$0.103 | 4.0148 |
| 9 | Sep-21 | | | \$4.287 | \$0.113 | 4.3996 |
| 10 | Oct-21 | | | \$5.702 | \$0.150 | 5.8519 |
| 11 | Nov-21 | | | \$5.423 | \$0.143 | 5.5657 |
| 12 | Dec-21 | | | \$4.921 | \$0.129 | 5.0501 |
| 13 | Jan-22 | | | \$4.150 | \$0.109 | 4.2588 |
| 14 | Feb-22 | | | \$4.474 | \$0.118 | 4.5918 |
| 15 | Mar-22 | \$4.02 | (0.04) | \$3.977 | \$0.105 | 4.0811 |
| 16 | Apr-22 | \$3.98 | (0.18) | \$3.805 | \$0.100 | 3.9051 |
| 17 | May-22 | \$4.01 | (0.31) | \$3.704 | \$0.097 | 3.8014 |
| 18 | Jun-22 | \$4.06 | (0.33) | \$3.731 | \$0.098 | 3.8286 |
| 19 | Jul-22 | \$4.11 | (0.37) | \$3.748 | \$0.099 | 3.8466 |
| 20 | Aug-22 | \$4.13 | (0.37) | \$3.755 | \$0.099 | 3.8538 |
| 21 | Sep-22 | \$4.11 | (0.38) | \$3.727 | \$0.098 | 3.8245 |
| 22 | Oct-22 | \$4.13 | (0.34) | \$3.796 | \$0.100 | 3.8953 |
| 23 | Nov-22 | \$4.23 | 0.07 | \$4.296 | \$0.113 | 4.4090 |
| 24 | Dec-22 | \$4.40 | 0.61 | \$5.009 | \$0.132 | 5.1402 |

(1) Gas Price forecast is provided by Gas Supply Group for 2022 Forecast (February 2022 Update)

(2) Ventura Basis - Latest 10 week average (through 02/10/22)

(4) Fuel: .73%, LUFG: 1.9%

Compliance- Base Cost-of-Gas Update

Docket No. G-008/GR-21-435

Total Commodity Cost-of-Gas Estimate: Forecast of monthly sales volumes (G. Fitzpatrick small Classes and M.Dean Large Volume Firm) multiplied by projected monthly gas delivered at Ventura.(In Dth)

| | (A) | (B) | (C) | (D) | (E) | (F) | (G) | (H) | (I) | (J) | (K) | (L) = ((J) x (K)) |
|--------------------|-----------------|---------------|--------------|--------------|---------------|--------------|--------------|--------------|----------------|----------------|-------------------|------------------------|
| | (A) through (I) | | | | | | | | | | | |
| SALES SERVICE ONLY | | | | | | | | | | | | |
| Line No. | Month | Res | ComA | ComInd B | ComIndC (S) | LV-Firm (S) | SVDF A-S | SVDF B-S | LVDF-Sales [2] | Sales Total | COG COM\$/Dth [1] | Total Commodity Amount |
| 1 | Jan-22 | \$ 13,626,908 | \$ 507,638 | \$ 1,283,008 | \$ 6,014,287 | \$ 146,779 | \$ 710,330 | \$ 402,437 | \$ 758,998 | \$ 23,450,384 | \$4.2588 | \$ 99,871,364 |
| 2 | Feb-22 | 13,220,023 | 464,615 | 1,165,911 | 5,888,709 | 127,528 | 665,312 | 377,726 | 737,504 | 22,647,328 | \$4.5918 | 103,991,293 |
| 3 | Mar-22 | 11,231,703 | 387,586 | 1,012,296 | 5,346,769 | 105,419 | 462,349 | 295,488 | 649,932 | 19,491,541 | \$4.0811 | 79,546,577 |
| 4 | Apr-22 | 7,491,510 | 247,880 | 682,688 | 3,932,567 | 85,815 | 351,123 | 237,298 | 536,595 | 13,565,475 | \$3.9051 | 52,974,150 |
| 5 | May-22 | 4,492,822 | 139,596 | 402,066 | 2,774,591 | 68,915 | 130,543 | 135,979 | 441,556 | 8,586,070 | \$3.8014 | 32,639,216 |
| 6 | Jun-22 | 2,163,398 | 19,940 | 94,415 | 1,365,562 | 60,815 | 89,015 | 104,530 | 388,327 | 4,286,001 | \$3.8286 | 16,409,436 |
| 7 | Jul-22 | 1,497,913 | 28,478 | 118,978 | 1,077,960 | 59,606 | 87,909 | 105,019 | 428,666 | 3,404,529 | \$3.8466 | 13,095,766 |
| 8 | Aug-22 | 1,331,589 | 28,473 | 119,016 | 1,080,844 | 62,553 | 102,716 | 107,798 | 405,800 | 3,238,789 | \$3.8538 | 12,481,505 |
| 9 | Sep-22 | 1,501,661 | 28,464 | 115,057 | 1,084,212 | 62,125 | 87,313 | 105,034 | 422,223 | 3,406,088 | \$3.8245 | 13,026,609 |
| 10 | Oct-22 | 2,259,846 | 19,919 | 90,945 | 1,095,296 | 88,599 | 299,978 | 175,507 | 725,033 | 4,755,123 | \$3.8953 | 18,522,732 |
| 11 | Nov-22 | 5,537,096 | 119,461 | 367,253 | 2,748,312 | 99,978 | 458,519 | 294,898 | 695,943 | 10,321,459 | \$4.4090 | 45,507,157 |
| 12 | Dec-22 | 9,833,370 | 309,516 | 832,414 | 4,363,144 | 130,153 | 610,082 | 348,293 | 729,226 | 17,156,198 | \$5.1402 | 88,186,693 |
| 13 | | | | | | | | | | | | |
| 14 | TY 2022 | \$ 74,187,839 | \$ 2,301,566 | \$ 6,284,047 | \$ 36,772,253 | \$ 1,098,284 | \$ 4,055,188 | \$ 2,690,006 | \$ 6,919,802 | \$ 134,308,984 | \$4.2905 | \$ 576,252,497 |

[1] - Estimate from February 2022

Change From Original \$0.9398 \$ 126,229,182

[2] - Sales after curtailments are removed

NON-PUBLIC DATA
Contains Trade Secret Information

| Trade Secret | Pipeline | Contract Type | Season | Rate Type | (DTH) | RATE | Number of Mo. | Annual Cost |
|--------------|------------------|---------------|--------|------------------|---------|-----------|---------------|----------------------|
| X | Northern Natural | TFX | Winter | Non-Discounted | 259,444 | \$19.4710 | 5 | \$25,258,171 A |
| X | Northern Natural | TFX | Summer | Non-Discounted | 155,666 | \$7.3030 | 7 | \$7,957,802 A |
| X | Northern Natural | TFX | Winter | Acquired_Release | 1,300 | \$19.4710 | 5 | \$126,562 |
| X | Northern Natural | TFX | Summer | Acquired_Release | 800 | \$7.3030 | 7 | \$40,897 |
| X | Northern Natural | TFX - A1 | Winter | Discounted | 920,846 | \$13.6899 | 5 | \$63,031,448 A |
| X | Northern Natural | TFX - A1 | Summer | Discounted | 552,508 | \$3.9716 | 7 | \$15,360,385 A |
| X | Northern Natural | Backhaul | Winter | | 50,000 | \$4.5300 | 5 | \$1,132,500 |
| X | Northern Natural | AMA | Winter | Base | 15,072 | \$13.1450 | 5 | \$990,607 |
| X | Northern Natural | AMA | Winter | Variable | 19,048 | \$17.8180 | 5 | \$1,696,986 |
| X | Northern Natural | AMA | Summer | Base | 34,120 | \$7.3030 | 7 | \$1,744,249 |
| X | Northern Natural | LT CIAC | Winter | | 34,880 | \$32.9627 | 5 | \$5,748,698 B |
| X | Northern Natural | LT CIAC | Summer | | 20,928 | \$32.9627 | 7 | \$4,828,907 B |
| X | Northern Natural | | | | | | | |
| X | Northern Natural | | | | | | Subtotal | <u>\$127,917,211</u> |
| X | Northern Natural | | | | | | | |
| X | Northern Natural | | | Market Support | | | | (\$300,000) |

| | |
|------------------------------|----------------------|
| Total NNG Demand Bill | \$127,617,211 |
|------------------------------|----------------------|

| | Pipeline | Contract Type | Season | Rate Type | (DTH) | RATE | Number of Mo. | Annual Cost |
|---|-----------------|---------------|--------|--------------|--------|----------|---------------------------------|--------------------|
| X | VIKING PIPELINE | FT-A | Annual | Tariff Rates | 51,809 | \$3,8060 | 12 | \$2,594,581 |
| X | VIKING PIPELINE | FT-A | Annual | Tariff Rates | 20,000 | \$3,8060 | 12 | \$913,440 |
| | | | | | | | Total Viking Demand Bill | \$3,508,021 |

| | Pipeline | Contract Type | Season | Rate Type | (DTH) | RATE | Number of Mo. | Annual Cost |
|---|--------------|---------------|--------|------------|---------|---------------------------------------|---------------|------------------|
| X | Traillblazer | FTS Backhaul | Winter | Discounted | 100,000 | \$1.21667 | 5 | \$608,335 |
| X | | | | | | Total Traillblazer Demand Bill | | \$608,335 |

SUPPLY DEMAND

| | | | | | |
|---|----------------------------------|--------------|--------|---------------------|---|
| X | | | | <u>Allocation</u> | |
| X | Seasonal Swing Reservation | \$4,462,691 | 75% | \$3,347,018 | C |
| X | Storage (NGPL) | \$22,713,546 | 50% | \$11,356,773 | |
| X | FDD Storage (NNG) | \$3,922,022 | | \$1,470,833 | |
| X | BP Canada Storage Contract | \$14,800,000 | 50.05% | \$7,407,400 | |
| X | Total Supply Demand Costs | | | \$23,582,024 | |

CAPACITY RELEASE/ ADJUSTMENTS

| | | |
|---|---|-------------|
| X | NNG Capacity Release (February 2021 - October 31, 2027) | |
| X | Annual AMA Payment | (\$700,000) |
| X | | |
| X | Viking Capacity (May 2019-Sept 2019) | \$0 |

| | | | | | |
|---|---|-------|------|----------------|--------------------|
| X | | UNITS | RATE | Months or Days | |
| X | Off-System Margin - per rate case 08-1075 | | | | \$ - |
| X | | | | | <u>(\$700,000)</u> |

| | |
|--|----------------------|
| Plus: Propane Costs | <u>\$326,040</u> |
| Annual Estimated Demand Expense | \$154,941,631 |

Divided by: Annual Demand Volume (2021 Rate Case Sales Volume- GR-21-435-TY End 12/2022) **120,643,989** D

| | | |
|------------------------------------|-----------|---|
| Design Day MDQ (in DTs): 2021-2022 | 1,399,000 | E |
| Small Volume Firm | 1,391,131 | E |
| Large Volume Firm | 7,869 | E |

| | |
|--------------------------------------|-----------|
| Demand Cost Assigned to Large Volume | \$871,505 |
|--------------------------------------|-----------|

| | | |
|------------------------|----------|---|
| LV Firm- Sales MDQ | 7,282 | F |
| Charge per Monthly MDQ | \$9.9733 | |

| | |
|--|------------------|
| Assigned to Small Volume (total less LV) | \$154,070,126 |
| Small Firm Annual Sales (DT) | 119,545,705 |
| Charge per DT | \$1.2888 |
| Charge per Therm | \$0.12888 |

| | | |
|-------------------|--|-----------------|
| Footnotes: | New Annual Cost (Therms: 890) | \$114.70 |
| A | NNG CONTRACT - Grown Election and Rates_ Update to Volumes (Update in Docket No. G-008/M-21-523) | |
| B | New Entitlement from Docket G-008/M-20-55 | |
| C | Updated Seasonal Swing Reservation(Update in Docket No. G-008/M-21-523) | |
| D | TY 2022 Total Firm Estimate in DT | |
| E | Design Day - TOTAL in dem entitlement - LV (G-008/M-21-523) | |
| F | 2021 Rate Case MDQ | |

Demand of Gas Recovery Rate

This page shows the Demand Cost-of Gas: Total Cost and calculation of per-unit rates.
Small Volume based on annual sales, Large volume base on Peak Demand.

| | | | | |
|----|---|-----------------------|-----------------------|---------|
| 1 | Total Company | | | |
| 2 | | | | |
| 3 | Small Volume Firm Recovery Rate Calculation | | | |
| 4 | | | 2.10.2022 | |
| 5 | Annual Demand Costs 1/ | \$ 145,239,074 | \$ 154,941,631 | Updates |
| 6 | Less LGS Assigned Demand Costs | \$ 816,657 | \$ 871,505 | |
| 7 | Small Firm Demand Cost | <u>\$ 144,422,417</u> | <u>\$ 154,070,126</u> | |
| 8 | | | | |
| 9 | Change from Original | | \$ 9,647,709 | |
| 10 | | | | |
| 11 | Total Small Firm Sales Service - Volumes (DTH) | 119,545,705 | 119,545,705 | FC 2022 |
| 12 | Small Volume Demand Recovery Rate (/DT) | <u>\$1.2081</u> | <u>\$1.2888</u> | |
| 13 | | | | |
| 14 | 1- average of Annual Filed Cost in G-008/GR-21-435 and update Annual cost in Docket No. G-008/M21-523 | | | |
| 15 | Exhibit___(NAG-WP), Sch. 46 | \$ 145,239,074 | | |
| 16 | ExhibitA, Page 1, G-008/M21-523 on October 25, 2021 | \$ 154,941,631 | | |
| 17 | | \$ 150,090,353 | Average | |
| 18 | | | | |
| 19 | Test Year Demand Costs: | | | |
| 20 | | | | |
| 21 | Annual Small Volume Firm Sales | 119,545,705 | 119,545,705 | |
| 22 | Small Volume Recovery Rate | \$1.2081 | \$1.2888 | |
| 23 | Test Year Small Volume Demand Costs | \$144,422,000 | \$154,070,000 | Rounded |
| 24 | | | | |
| 25 | Annual Large Firm Demand Cost | | | |
| 26 | Large General Service: Demand 1/ | \$816,657 | \$871,505 | |
| 27 | Large General Service - Peak Demand | 7,282 | 7,282 | |
| 28 | Twelve months | 12 | 12 | |
| 29 | Large General Service Demand Recovery Rate | \$9.3456 | \$9.9733 | |

1/ detailed in WP 46.2

1/ detailed in WP 46.5