# MINNESOTA ENERGY RESOURCES - Consolidated

## DESIGN-DAY DEMAND SUMMARY
## November 1, 2018

| | | |
|---|---|---|
| Design Day Requirement | | 56,470 |
| Total Peak Day Entitlement | | 57,949 |
| 2017/18 Firm Peak Day Actual Sendout | 12/30/2017 | 46,438 |
| Firm Annual Throughput - Minnesota | | 4,825,697 |
| No. of Firm Customers | | 35,653 |
| Department Load Factor Calculation | | 28.47% |

# MINNESOTA ENERGY RESOURCES - Consolidated

## MINNESOTA DESIGN DAY REQUIREMENTS
## November 1, 2018
## HDD

| Pipeline Group | 2017/18 Customer Count | 1/20 Design DDD | Regression Factors Intercept | Regression Factors Slope | Regression Total | Add Adjustment | 1/20 Requirements Regression Load | Estimated Contract Demand Units | Total |
|---|---|---|---|---|---|---|---|---|---|
| **VGT** | | | | | | | | | |
| Peak | | 109 | 65 | 119 | 16,122 | 1,018 | 17,140 | 7 | 17,147 |
| Off Peak | | 57 | 65 | 119 | 8,963 | 1,018 | 9,981 | 7 | 9,988 |
| **GLGT** | | | | | | | | | |
| Peak | | 107 | 500 | 222 | 28,107 | 1,976 | 30,083 | 103 | 30,186 |
| Off Peak | | 57 | 500 | 222 | 15,600 | 1,976 | 17,576 | 103 | 17,679 |
| **Centra** | | | | | | | | | |
| Peak | | 107 | 144 | 67 | 8,663 | 474 | 9,137 | 0 | 9,137 |
| Off Peak | | 57 | 144 | 67 | 4,685 | 474 | 5,159 | 0 | 5,159 |
| **Total Consolidated** | | | | | | | | | |
| Peak | 35,653 | 107 | 709 | 408 | 52,892 | 3,468 | 56,360 | 110 | 56,470 |
| Off Peak | 35,653 | 57 | 709 | 408 | 29,248 | 3,468 | 32,716 | 110 | 32,826 |

# MINNESOTA ENERGY RESOURCES - Consolidated

## DESIGN-DAY DEMAND PER CUSTOMER
## November 1, 2018

| Heating Season | No. of Firm Customers | Design Day Requirements | MMBtu /Customer /Day |
|---|---|---|---|
| 18/19 | 35,653 | 56,470 | 1.58 |
| 17/18 | 35,965 | 56,266 | 1.56 |
| 16/17 | 35,499 | 55,528 | 1.56 |
| 15/16 | 34,799 | 53,075 | 1.53 |
| 14/15 | 34,397 | 48,706 | 1.42 |
| 13/14 | 34,007 | 50,048 | 1.47 |
| 12/13 | 33,630 | 52,289 | 1.55 |
| 11/12 | 33,384 | 50,366 | 1.51 |
| 10/11 | 33,399 | 50,779 | 1.52 |
| 09/10 | 34,053 | 53,931 | 1.58 |

# MINNESOTA ENERGY RESOURCES - Consolidated

**SUMMER/WINTER USAGE - Dth**

**PROJECTED 12 MONTHS ENDING JUNE 2019**

**Consolidated**

| Class | Summer Apr-Oct | Winter Nov-Mar | Total |
|---|---|---|---|
| GS | 1,296,215 | 3,505,000 | 4,801,214 |
| SVI | 140,899 | 324,638 | 465,537 |
| SVJ | 8,548 | 15,935 | 24,483 |
| LVI | 171,057 | 210,141 | 381,197 |
| LVJ | 0 | 0 | 0 |
| SLV | 0 | 0 | 0 |
| IS | 0 | 0 | 0 |
| **Total** | 1,616,718 | 4,055,714 | 5,672,431 |

**Attachment 3**



# MINNESOTA ENERGY RESOURCES - Consolidated

**ENTITLEMENT LEVELS**
**November 1, 2018**

| | | *Summer* | | | *April/October* | | | *Winter* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Capacity Type** | | 2017/18 MMBtu | Change MMBtu | Proposed MMBtu | 2017/18 MMBtu | Change MMBtu | Proposed MMBtu | 2017/18 MMBtu | Change MMBtu | Proposed MMBtu |
| FT Western Zone | FT19131 | 10,130 | 0 | 10,130 | 10,130 | 0 | 10,130 | 10,130 | (10,130) | 0 |
| FT Western Zone | FT18528 | 12,600 | 0 | 12,600 | 12,600 | 0 | 12,600 | 12,600 | 0 | 12,600 |
| FT Western Zone (5) | FT18528 (5) | 0 | 0 | 0 | 0 | 0 | 0 | 3,728 | 0 | 3,728 |
| FT Western Zone (5) | FT19129 (5) | 0 | 0 | 0 | 0 | 0 | 0 | 4,900 | 10,130 | 15,030 |
| ANR (5) * | 130504 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15,000 |
| FT-A ZONE 1 - 1 | AF0012 | 14,493 | 0 | 14,493 | 14,493 | 0 | 14,493 | 15,591 | 0 | 15,591 |
| FT-A ZONE 1 - 1 | AF0321 | 0 | 0 | 0 | 0 | 0 | 0 | 1,500 | 0 | 1,500 |
| CENTRA FT-1 | | 9,500 | 0 | 9,500 | 9,500 | 0 | 9,500 | 9,500 | 0 | 9,500 |
| **Total Entitlement** | | 46,723 | 0 | 46,723 | 46,723 | 0 | 46,723 | 57,949 | 0 | 57,949 |
| Forecasted Design Day-Adjusted | | | | | 32,814 | 12 | 32,826 | 56,266 | 204 | 56,470 |
| Capacity Surplus/Shortage | | | | | 13,909 | (12) | 13,897 | 1,683 | (204) | 1,479 |
| Reserve Margin | | | | | 42.39% | -0.05% | 42.34% | 2.99% | -0.37% | 2.62% |

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

**RATE IMPACT OF THE PROPOSED DEMAND CHANGE**

**NOVEMBER 1, 2018**

| All costs in $/Dth | Base Cost of Gas G011/MR-17-564 Jan 1, 2018 | Demand Charge Oct 1, 2017 | Demand Charge Demand Filing Nov 1, 2017 | Most Recent PGA Oct 1, 2018 | Proposed Effective Nov 1, 2018 | Result of Proposed Change: Change from Last Rate Case | Change from Nov 1, 2017 Demand Filing | Change from Last PGA % | Change from Last PGA $ |
|---|---|---|---|---|---|---|---|---|---|
| **1) General Service Residential Avg. Annual Use:** | | | | **86** | **Dth** | | | | |
| Commodity Cost | $3.1575 | $2.6791 | $2.9088 | $3.2575 | $3.3664 | 6.62% | 25.65% | 3.34% | $0.1089 |
| Demand Cost | $0.7415 | $0.7996 | $0.7345 | $0.6908 | $0.8229 | 10.98% | 2.91% | 19.12% | $0.1321 |
| Commodity Margin | $2.6284 | $2.4116 | $2.4116 | $2.5727 | $2.5727 | -2.12% | 6.68% | 0.00% | $0.0000 |
| Total Cost of Gas | $6.5274 | $5.8903 | $6.0549 | $6.5210 | $6.7620 | 3.59% | 14.80% | 3.70% | $0.2410 |
| Avg Annual Cost | $561.36 | $506.57 | $520.72 | $560.81 | $581.53 | 3.59% | 14.80% | 3.70% | $20.73 |
| Effect of proposed commodity change on average annual bills: | | | | | | | | | $9.37 |
| Effect of proposed demand change on average annual bills: | | | | | | | | | $11.36 |
| **2) Large General Service: Avg. Annual Use:** | | | | **624** | **Dth** | | | | |
| Commodity Cost | $3.1575 | $2.6791 | $2.9088 | $3.2575 | $3.3664 | 6.62% | 25.65% | 3.34% | $0.1089 |
| Demand Cost | $0.7415 | $0.7996 | $0.7345 | $0.6908 | $0.8229 | 10.98% | 2.91% | 19.12% | $0.1321 |
| Commodity Margin | $1.8403 | $1.6885 | $1.6885 | $1.8013 | $1.8013 | -2.12% | 6.68% | 0.00% | $0.0000 |
| Total Cost of Gas | $5.7393 | $5.1672 | $5.3318 | $5.7496 | $5.9906 | 4.38% | 15.94% | 4.19% | $0.2410 |
| Avg Annual Cost | $3,578.45 | $3,221.75 | $3,324.38 | $3,584.88 | $3,735.15 | 4.38% | 15.94% | 4.19% | $150.28 |
| Effect of proposed commodity change on average annual bills: | | | | | | | | | $67.91 |
| Effect of proposed demand change on average annual bills: | | | | | | | | | $82.36 |
| **3) SV Interruptible Service: Avg. Annual Use:** | | | | **7,637** | **Dth** | | | | |
| Commodity Cost | $3.1575 | $2.6791 | $2.9088 | $3.3558 | $3.3664 | 6.62% | 25.65% | 0.32% | $0.0106 |
| Commodity Margin | $1.0616 | $0.9740 | $0.9740 | $1.0391 | $1.0391 | -2.12% | 6.68% | 0.00% | $0.0000 |
| Total Cost of Gas | $4.2191 | $3.6531 | $3.8828 | $4.3949 | $4.4055 | 4.42% | 20.60% | 0.24% | $0.0106 |
| Avg Annual Cost | $32,222.53 | $27,899.82 | $29,654.11 | $33,565.17 | $33,646.28 | 4.42% | 20.60% | 0.24% | $81.12 |
| Effect of proposed commodity change on average annual bills: | | | | | | | | | $81.12 |
| **4) LV Interruptible Service: Avg. Annual Use:** | | | | **71,526** | **Dth** | | | | |
| Commodity Cost | $3.1575 | $2.6791 | $2.9088 | $3.3558 | $3.3664 | 6.62% | 25.65% | 0.32% | $0.0106 |
| Commodity Margin | $0.5808 | $0.5329 | $0.5329 | $0.5685 | $0.5685 | -2.12% | 6.68% | 0.00% | $0.0000 |
| Total Cost of Gas | $3.7383 | $3.2120 | $3.4417 | $3.9243 | $3.9349 | 5.26% | 22.51% | 0.27% | $0.0106 |
| Avg Annual Cost | $267,386.77 | $229,742.48 | $246,172.07 | $280,690.66 | $281,450.33 | 5.26% | 22.51% | 0.27% | $759.67 |
| Effect of proposed commodity change on average annual bills: | | | | | | | | | $759.67 |

**Note: Average Annual Average based on Consolidated Annual Automatic Adjustment Report in Docket No. E,G999/AA-17-493**

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

## RATE IMPACT OF THE PROPOSED DEMAND CHANGE

NOVEMBER 1, 2018

**DEMAND**

| **Contract Type** | | **Season** | **Monthly Entitlement (Dth)** | **Months** | **Rate ($/Dth)** | **Contract Costs** | **Rate Case Sales (therms)** | **$/therm** |
|---|---|---|---|---|---|---|---|---|
| **Viking (VGT)** | | | | | | | | |
| FT-A ZONE 1 - 1 | AF0012 | Annual | 14,493 | 12 | 4.3706 | $ 760,117 | 48,386,934 | $0.01571 |
| FT-A ZONE 1 - 1 | AF0012 | Winter | 1,098 | 3 | 4.3706 | $ 14,397 | 48,386,934 | $0.00030 |
| FT-A ZONE 1 - 1 | AF0321 | Winter | 1,500 | 3 | 4.3706 | $ 19,668 | 48,386,934 | $0.00041 |
| **VGT Demand** | | | | | | **$ 794,182** | 48,386,934 | **$0.01641** |
| **Great Lakes (GLGT)** | | | | | | | | |
| FT Western Zone | FT19131 | Summer | 10,130 | 7 | $2.8100 | $ 199,257 | 48,386,934 | $0.00412 |
| FT Western Zone | FT18528 | Annual | 12,600 | 12 | $2.8100 | $ 424,872 | 48,386,934 | $0.00878 |
| FT Western Zone | FT18528 (5) | Winter | 3,728 | 5 | $2.8100 | $ 52,378 | 48,386,934 | $0.00108 |
| FT Eastern to Western Zone | FT19129 (5) | Winter | 15,030 | 5 | $6.1000 | $ 458,415 | 48,386,934 | $0.00947 |
| ANR Upstream | 130504 | Winter | 15,000 | 5 | $0.9110 | $ 68,325 | 48,386,934 | $0.00141 |
| GLGT Demand | | | | | | $ 1,203,247 | 48,386,934 | $0.02487 |
| Centra | | | | | | | | |
| CENTRA TRANSMISSION | | Annual | 9,500 | 12 | $14.1070 | $ 1,608,198 | 48,386,934 | $0.03324 |
| CENTRA MINNESOTA PIPELINES | | Annual | 9,500 | 12 | $3.2990 | $ 376,086 | 48,386,934 | $0.00777 |
| Centra Demand | | | | | | $ 1,984,284 | 48,386,934 | $0.04101 |
| MERC-Consolidated DEMAND - $/therm | | | | | | $ 3,981,713 | | $0.08229 |

FOR JOINT RATE DEMAND

48,386,934 Annual Firm Sales in therms

MERC-Consolidated Firm (GS) Sales as filed in Docket No. G011/MR-17-564

| | | | | |
|---|---|---|---|---|
| Viking (VGT) | | | | |
| FT-A ZONE 1 - 1 | Annual | 14,493 | 12 | 173,916 |
| FT-A ZONE 1 - 1 | Winter | 1,098 | 3 | 3,294 |
| FT-A ZONE 1 - 1 | Winter | 1,500 | 3 | 4,500 |
| Great Lakes (GLGT) | | | | |
| FT Western Zone | Summer | 10,130 | 7 | 70,910 |
| FT Western Zone | Annual | 12,600 | 12 | 151,200 |
| FT Western Zone | Winter | 3,728 | 5 | 18,640 |
| FT Eastern to Western Zone | Winter | 15,030 | 5 | 75,150 |
| ANR Upstream | Winter | 15,000 | 5 | 75,000 |
| **Centra** | | | | |
| CENTRA TRANSMISSION | Annual | 9,500 | 12 | 114,000 |
| CENTRA MINNESOTA PIPELINES | Annual | 9,500 | 12 | 114,000 |
| **Total Demand Cost** | | **$ 3,981,713** | | |
| **Total Demand Weighted Vol in therms** | | **6,866,100** | | |
| **Total Joint Demand Rate $/therm** | | | | **$0.57991 /therm** |

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

RATE IMPACT OF THE PROPOSED DEMAND CHANGE

**PRESENT AVERAGE COST OF GAS COMMODITY** **NOVEMBER 1, 2018**

| WACOG | | Rate | Annual Dth | Call Option Premium | Physical Forward Start Premium | Balancing Service | Total Annual Cost | System Cost/therm | Storage Comm Rate | Total Comm Rate | REFERENCE | Effective |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VGT** | | | | | | | | | | | | |
| GAS COST | | $3.12825 | | | | | | | | | | |
| FUEL | 1.49% | $0.01765 | | | | | | | | | Sub 16th Revised Sheet No. 5E | Apr. 1, 2006 |
| COMMODITY TRANSPORTATION | | $0.01160 | | | | | | | | | Sub 16th Revised Sheet No. 5E | Apr. 1, 2006 |
| GRI | | $0.00000 | | | | | | | | | Sub 16th Revised Sheet No. 5E | Apr. 1, 2006 |
| ACA | | $0.00130 | | | | | | | | | Sub 16th Revised Sheet No. 5E | Apr. 1, 2006 |
| **VGT Commodity** | | $3.15880 | 2,184,765 | $27,645 | $21,140 | $89,580 | $7,039,601 | $0.12160 | | | **VGT Commodity** | |
| **GLGT** | | | | | | | | | | | | |
| GAS COST | | $3.12825 | | | | | | | | | | |
| FUEL | 1.383% | $0.02536 | | | | | | | | | | |
| COMMODITY TRANSPORTATION | | $0.00288 | | | | | | | | | 5 Revised Sheet 4 | Jun 1, 1997 |
| GRI | | $0.00000 | | | | | | | | | Contract | Jun. 1, 2004 |
| ACA | | $0.00130 | | | | | | | | | 18th Revised Sheet No. 7 | Oct. 1, 2005 |
| **GLGT Commodity** | | $3.15779 | 2,257,043 | $34,849 | $3,775 | $0 | $7,165,892 | $0.12378 | | | **GLGT Commodity** | |
| **CENTRA** | | | | | | | | | | | | |
| CENTRA TRANSMISSION | ($Cdn/103M3) | 1.062 | | | | | | | | | Sheet 1 (N.E.B.) | |
| Conversion | | $0.02260 | | | | | | | | | | |
| Abandonment Toll | | $0.27454 | | | | | | | | | N.E.B. MO-078-2014 | Jan. 1, 2015 |
| GAS COSTS | | $3.12825 | | | | | | | | | | |
| CUSTOMS FEE | | $0.00030 | | | | | | | | | | |
| **CENTRA Commodity** | | $3.42569 | 1,347,568 | $14,370 | $69,960 | $54,000 | $4,754,683 | $0.08213 | | | **Centra Commodity** | |
| **Consolidated WACOG w/Premium & Balancing** | | | 5,789,376 | $76,864 | $94,875 | $143,580 | $18,960,175 | $0.32750 | $0.00914 | | | |
| | | **Total Annual Sales in therms** | **57,893,760** | | | | | | | | | |
| | | | | | | | | | | **$0.33664** | **Total Consolidated WACOG-$/therm** | |

| **Balancing Service** | | | | | | |
|---|---|---|---|---|---|---|
| **Pipeline** | **Description** | **Season** | **Monthly Entitlement (Dth)** | **Months** | **Rate ($/Dth)** | **Contract Costs** |
| VGT | Balancing Agreement | Annual | 7,465 | 12 | $1.0000 | $89,580 |
| GLGT | --- | | 0 | 0 | $0.0000 | $0 |
| Centra | Union Balancing | Annual | 10,000 | 12 | $0.4500 | $54,000 |

| **Storage Service** | **Season** | **Monthly Entitlement (Dth)** | **Months** | | **Rate ($/Dth)** | **Contract Costs** | **Annual Sales (therms)** | **Rate ($/therm)** |
|---|---|---|---|---|---|---|---|---|
| ANR Pipeline Storage | Annual | 756,100 | 1 | $ | 0.7000 | $529,270 | 57,893,760 | $0.00914 |
| | | | | | | $529,270 | 57,893,760 | $0.00914 |

**Total Commodity Cost:** **$0.33664**

* Per Docket No. G-007/M-07-1402-05 dated August 6th, 2014, storage demand charges will be allocated through the commodity charge effective 11/01/2014.

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

## Financial Options

### Heating Season 2018-2019

**Units - Gas Daily Peaker Packages (Physical)**

| | November | | December | | January | | February | | March | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Daily Total** | **Term Total** |
| | N/A | | N/A | | N/A | | N/A | | N/A | | | |

**Premium - Gas Daily Peaker (Monthly Cost)**

| | November | | December | | January | | February | | March | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Option Premium** | **Premium Cost** | **Option Premium** | **Premium Cost** | **Option Premium** | **Premium Cost** | **Option Premium** | **Premium Cost** | **Option Premium** | **Premium Cost** | **Option Premium** | **Premium Cost** |
| | N/A | | N/A | | N/A | | N/A | | N/A | | | |

**Units - Futures (Dth)**

| | November | | December | | January | | February | | March | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Contract Date** | **Daily Volume** | **Term Total** |
| 1 | 05/03/18 | 260 | 05/15/18 | 558 | 05/17/18 | 551 | 05/08/18 | 514 | 05/10/18 | 113 | 60,603 |
| 2 | 05/03/18 | 52 | 06/12/18 | 502 | 06/13/18 | 501 | 06/07/18 | 457 | 05/10/18 | 339 | 55,690 |
| 3 | 06/05/18 | 313 | 07/17/18 | 502 | 07/19/18 | 501 | 06/07/18 | 57 | 06/11/18 | 395 | 54,052 |
| 4 | 07/05/18 | 313 | 08/14/18 | 447 | 08/16/18 | 50 | 07/10/18 | 457 | 07/12/18 | 395 | 49,138 |
| 5 | 08/02/18 | 156 | 09/13/18 | 335 | 08/16/18 | 400 | 08/07/18 | 457 | 08/09/18 | 339 | 50,776 |
| 6 | 08/02/18 | 104 | 09/13/18 | 112 | 09/18/18 | 451 | 09/06/18 | 457 | 09/11/18 | 339 | 44,224 |
| 7 | 09/04/18 | 260 | 10/18/18 | 447 | 10/16/18 | 451 | 10/10/18 | 457 | 10/16/18 | 339 | 58,966 |
| 8 | 10/05/18 | 208 | | | | | | | | | 6,552 |
| 9 | | | | | | | | | | | |
| 10 | | | | | | | | | | | |
| Total | | 1,667 | | 2,903 | | 2,903 | | 2,857 | | 2,258 | 380,000 |

**Units - Call Options (Dth)**

| | November | | December | | January | | February | | March | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Contract Date | Daily Volume | Contract Date | Daily Volume | Contract Date | Daily Volume | Contract Date | Daily Volume | Contract Date | Daily Volume | Term Total |
| 1 | 05/03/18 | 621 | 05/10/18 | 1,005 | 05/08/18 | 576 | 05/15/18 | 1,071 | 05/17/18 | 790 | 122,132 |
| 2 | 06/05/18 | 621 | 06/11/18 | 1,005 | 05/17/18 | 524 | 06/12/18 | 1,012 | 06/13/18 | 790 | 118,842 |
| 3 | 07/05/18 | 621 | 07/12/18 | 949 | 06/07/18 | 1,048 | 07/17/18 | 1,012 | 07/19/18 | 734 | 131,600 |
| 4 | 08/02/18 | 621 | 08/09/18 | 949 | 07/10/18 | 995 | 08/14/18 | 1,012 | 08/16/18 | 734 | 129,976 |
| 5 | 09/04/18 | 621 | 09/11/18 | 949 | 08/07/18 | 995 | 09/13/18 | 1,012 | 09/18/18 | 734 | 129,976 |
| 6 | 10/05/18 | 564 | 10/16/18 | 949 | 09/06/18 | 995 | 10/18/18 | 952 | 10/10/18 | 734 | 126,618 |
| 7 | | | | | 10/10/18 | 995 | | | | | 30,855 |
| 8 | | | | | | | | | | | - |
| Total | | 3,667 | | 5,806 | | 6,129 | | 6,071 | | 4,516 | 790,000 |

**Premium - Call Option (Monthly Cost)**

| | November | | December | | January | | February | | March | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Option Premium | Premium Cost | Option Premium | Premium Cost | Option Premium | Premium Cost | Option Premium | Premium Cost | Option Premium | Premium Cost | Option Premium | Premium Cost |
| 1 | $ 0.0950 | $ 1,768 | $ 0.0900 | $ 2,804 | $ 0.0950 | $ 1,697 | $ 0.0930 | $ 2,790 | $ 0.0980 | $ 2,401 | $ 0.0938 | $ 11,460 |
| 2 | $ 0.1000 | $ 1,862 | $ 0.1000 | $ 3,115 | $ 0.0980 | $ 1,591 | $ 0.0970 | $ 2,748 | $ 0.1000 | $ 2,450 | $ 0.0990 | $ 11,767 |
| 3 | $ 0.1000 | $ 1,862 | $ 0.0970 | $ 2,854 | $ 0.0990 | $ 3,215 | $ 0.0940 | $ 2,663 | $ 0.0990 | $ 2,252 | $ 0.0976 | $ 12,847 |
| 4 | $ 0.0980 | $ 1,824 | $ 0.0970 | $ 2,854 | $ 0.0970 | $ 2,993 | $ 0.0970 | $ 2,748 | $ 0.0980 | $ 2,230 | $ 0.0973 | $ 12,649 |
| 5 | $ 0.1000 | $ 1,862 | $ 0.0990 | $ 2,913 | $ 0.1000 | $ 3,085 | $ 0.0980 | $ 2,777 | $ 0.1000 | $ 2,275 | $ 0.0993 | $ 12,912 |
| 6 | $ 0.0980 | $ 1,658 | $ 0.0930 | $ 2,736 | $ 0.0950 | $ 2,931 | $ 0.1000 | $ 2,667 | $ 0.1000 | $ 2,275 | $ 0.0969 | $ 12,268 |
| 7 | $ - | $ - | $ - | $ - | $ 0.0960 | $ 2,962 | $ - | $ - | $ - | $ - | | $ 2,962 |
| 8 | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | $ - | | $ - |
| **Total** | $ 0.0985 | $ 10,836 | $ 0.0960 | $ 17,277 | $ 0.0972 | $ 18,475 | $ 0.0964 | $ 16,393 | $ 0.0992 | $ 13,883 | $ 0.0973 | $ 76,864 |

**Units - Collar Floor (put)**

No Puts were purchased.

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

## 18/19 Winter Portfolio Plan - MERC Hedging Plan

10000 Contract Size

| | | Nov-18 | | Dec-18 | | Jan-19 | | Feb-19 | | Mar-19 | | Total | | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Purchase | Number | Contract | Number | Contract | Number | Contract | Number | Contract | Number | Contract | Number | Contract | of |
| System | Month | Contracts | Volume | Contracts | Volume | Contracts | Volume | Contracts | Volume | Contracts | Volume | Contracts | Volume | Requirements |
| **MN Requirements** | | | 586,442 | | 906,950 | | 994,551 | | 853,214 | | 714,557 | | 4,055,714 | 4,055,714 |
| **Daily Average** | | | 19,548 | | 29,256 | | 32,082 | | 30,472 | | 23,050 | | 26,682 | |
| **10%** | Futures | | 58,644 | | 90,695 | | 99,455 | | 85,321 | | 71,456 | | 405,571 | |
| **20%** | Call | | 117,288 | | 181,390 | | 198,910 | | 170,643 | | 142,911 | | 811,143 | |
| **0%** | Storage | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | |
| **70%** | Index | | 410,509 | | 634,865 | | 696,185 | | 597,250 | | 500,190 | | 2,839,000 | |
| Contracts | May-18 | 1 | 10,000 | 2 | 20,000 | 2 | 20,000 | 2 | 20,000 | 2 | 20,000 | 9 | 90,000 | |
| | Jun-18 | 1 | 10,000 | 2 | 20,000 | 2 | 20,000 | 2 | 20,000 | 1 | 10,000 | 8 | 80,000 | |
| | Jul-18 | 1 | 10,000 | 2 | 20,000 | 2 | 20,000 | 1 | 10,000 | 1 | 10,000 | 7 | 70,000 | |
| | Aug-18 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 5 | 50,000 | |
| | Sep-18 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 5 | 50,000 | |
| | Oct-18 | 0 | 0 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 1 | 10,000 | 4 | 40,000 | |
| | **Total** | **5** | **50,000** | **9** | **90,000** | **9** | **90,000** | **8** | **80,000** | **7** | **70,000** | **38** | **380,000** | **9.37%** |
| Call Options | May-18 | 2 | 20,000 | 3 | 30,000 | 4 | 40,000 | 3 | 30,000 | 3 | 30,000 | 15 | 150,000 | |
| | Jun-18 | 2 | 20,000 | 3 | 30,000 | 3 | 30,000 | 3 | 30,000 | 3 | 30,000 | 14 | 140,000 | |
| | Jul-18 | 2 | 20,000 | 3 | 30,000 | 3 | 30,000 | 3 | 30,000 | 2 | 20,000 | 13 | 130,000 | |
| | Aug-18 | 2 | 20,000 | 3 | 30,000 | 3 | 30,000 | 3 | 30,000 | 2 | 20,000 | 13 | 130,000 | |
| | Sep-18 | 2 | 20,000 | 3 | 30,000 | 3 | 30,000 | 3 | 30,000 | 2 | 20,000 | 13 | 130,000 | |
| | Oct-18 | 1 | 10,000 | 3 | 30,000 | 3 | 30,000 | 2 | 20,000 | 2 | 20,000 | 11 | 110,000 | |
| | **Total** | **11** | **110,000** | **18** | **180,000** | **19** | **190,000** | **17** | **170,000** | **14** | **140,000** | **79** | **790,000** | **19.48%** |
| Collars | May-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Jun-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Jul-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Aug-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Sep-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | Oct-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | **Total** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0.00%** |
| Index (back financial) | | | | | | | | | | | | | | |
| | **Total** | | **160,000** | | **270,000** | | **280,000** | | **250,000** | | **210,000** | | **1,170,000** | **28.85%** |
| Physical Hedges | | | **0** | | **0** | | **0** | | **0** | | **0** | | **0** | |
| Storage | | | 96,000 | | 189,100 | | 189,100 | | 196,000 | | 85,900 | | 756,100 | **18.64%** |
| Prepaid Obl | | | 0 | | 0 | | 0 | | 0 | | 0 | | 0 | **0.00%** |
| | | | 43.65% | | 50.62% | | 47.17% | | 52.27% | | 41.41% | | 47.49% | **47.49%** |
| Term Index | Aug-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | **0.00%** |
| | Sep-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | **0.00%** |
| | Oct-18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | 0 | **0.00%** |
| **Total NNG MN** | | | | | | | | | | | | | | |
| Contracts | | | | | | | | | | | | | 380,000 | **9.37%** |
| Call Options | | | | | | | | | | | | | 790,000 | **19.48%** |
| Costing Collar | | | | | | | | | | | | | 0 | **0.00%** |
| Storage | | | | | | | | | | | | | 756,100 | **18.64%** |
| Prepaid Obl | | | | | | | | | | | | | 0 | **0.00%** |
| Term Index | | | | | | | | | | | | | 0 | **0.00%** |
| Month/Daily | | | | | | | | | | | | | 2,129,614 | **52.51%** |
| Total | | | | | | | | | | | | | 4,055,714 | **100.00%** |

NOTE:

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

## WINTER PLAN - CONSOLIDATED
## NOVEMBER 2018 THROUGH MARCH 2019

| PHYSICAL FIXED PRICE HEDGES | Deal # | Trigger Locked | Trigger Exercised | Receipt Point | Nov | Dec | Jan | Feb | Mar | Monthly Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | - |
| No Physical Fixed Price Hedges | | | | | | | | | | - |
| | | | | | | | | | | - |
| | Total Actual Fixed/Option Physical | | | | - | - | - | - | - | - |

Daily Volumes

| INDEX | Contract Number | Date | Receipt Point | Nov | Dec | Jan | Feb | Mar | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 49022 | 4/28/2017 | VGT Emerson 1 | 4,000 | 4,000 | 4,000 | 4,000 | 4,000 | 604,000 |
| | 49052 | 4/28/2017 | VGT Emerson 1 | | 4,000 | 4,000 | 4,000 | | 360,000 |
| | 49053 | 4/28/2017 | GLGT Emerson 2 | 7,500 | 7,500 | 7,500 | 7,500 | 7,500 | 1,132,500 |
| | 49054 | 4/28/2017 | GLGT Emerson 2 | | 3,500 | 3,500 | 3,500 | | 315,000 |
| | 49021 | 4/28/2017 | CTHI-Spruce | | 1,500 | 1,500 | 1,500 | | 135,000 |
| | 50650 | 4/28/2017 | CTHI-Spruce | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 | 528,500 |
| | Total Actual Seasonal Index | | | 15,000 | 24,000 | 24,000 | 24,000 | 15,000 | 3,075,000 |
| **GAS DAILY PACKAGES** | | | | | | | | | |
| Physical Call Option | 49059 | 4/28/2017 | VGT Emerson 1 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | |
| Physical Call Option | 49058 | 4/28/2017 | VGT Emerson 1 | | 5,000 | 5,000 | 5,000 | | |
| Physical Call Option | 49056 | 5/1/2017 | GLGT Emerson 2 | 7,000 | 7,000 | 7,000 | 7,000 | 7,000 | |
| Physical Call Option | 49057 | 5/1/2017 | GLGT Emerson 2 | | 6,000 | 6,000 | 6,000 | | |

**STORAGE**

| Injection Month | Contract # ANR Volume Injected | Total Volume Injected |
|---|---|---|
| May - balance forward | 209,962 | 209,962 |
| June | 103,260 | 103,260 |
| July | 106,702 | 106,702 |
| August | 106,702 | 106,702 |
| Sept | 122,772 | 122,772 |
| Oct | 106,702 | 106,702 |
| Total | **756,100** | **756,100** |

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

| | 2014-2015 Consolidated GS | 2015-2016 Consolidated GS | 2016-2017 Consolidated GS | 2017-2018 Consolidated GS | 2018-2019 Consolidated GS | Proposed Change |
|---|---|---|---|---|---|---|
| **Viking Gas Transmission (VGT)** | | | | | | |
| FT-A ZONE 1 - 1 | 14,493 | 14,493 | 14,493 | 14,493 | 14,493 | 0 |
| FT-A ZONE 1 - 1 Winter Only | 1,098 | 1,098 | 1,098 | 1,098 | 1,098 | 0 |
| FA-A ZONE 1 - 1 Winter Only | 1,000 | 0 | 0 | 1,500 | 1,500 | 0 |
| **Great Lakes Gas Transmission (GLGT)** | | | | | | |
| FT Western Zone- Summer Only | 10,130 | 10,130 | 10,130 | 10,130 | 10,130 | 0 |
| FT Western Zone- Annual | 12,600 | 12,600 | 12,600 | 12,600 | 12,600 | 0 |
| FT Western Zone- Winter Only | 3,728 | 3,728 | 3,728 | 3,728 | 3,728 | 0 |
| FT Western Zone- Winter Only* | 13,430 | 13,480 | 13,480 | 15,030 | 15,030 | 0 |
| ANR Upstream | 0 | 0 | 0 | 0 | 15,000 | 15,000 |
| **Centra Transmission Holding/Centra Minnesota Pipelines (CTHI/CPMI)** | | | | | | |
| Centra FT-1 | 9,100 | 9,500 | 9,500 | 9,500 | 9,500 | 0 |
| Total VGT Transportation | 15,591 | 15,591 | 15,591 | 17,091 | 17,091 | 0 |
| Total GLGT Transportation | 26,458 | 29,808 | 29,808 | 31,358 | 31,358 | 0 |
| Total CTHI/CPMI Transportation | 9,100 | 9,500 | 9,500 | 9,500 | 9,500 | 0 |
| Total Transportation | 51,149 | 54,899 | 54,899 | 57,949 | 57,949 | 0 |
| Total Seasonal Transportation | 9,126 | 8,176 | 8,176 | 11,226 | 11,226 | 0 |
| Total Seasonal Transportation % | 17.84% | 14.89% | 14.89% | 19.37% | 19.37% | 0.00% |
| Other Entitlements not included in Peak Day Deliverability | | | | | | |
| AECO Storage | 947,820 | 947,820 | 947,820 | 0 | 0 | 0 |
| AECO/Emerson Swap | 940,428 | 955,255 | 758,254 | 0 | 0 | 0 |
| ANR Storage | 0 | 0 | 0 | 0 | 756,100 | 756,100 |

*GLGT Summer only capacity was not held previously, so the highlighted values have had 10,130 dth/day added for consistent comparison with the new contract structure. GLGT capacity has not changed. See Attachment 3 for additional detail.

Attachment 8

# MINNESOTA ENERGY RESOURCES - CONSOLIDATED

**Change in Costs due to November 1, 2018 Change in Entitlement Levels and Related Demand Costs**

| | 2017/18 Entitlements | 2018/19 Entitlements | Entitlement Change | 2018/19 Rate | Months | 2017/18 Total Annual Cost | 2018/19 Total Annual Cost | Total Annual Cost Change |
|---|---|---|---|---|---|---|---|---|
| **Costs Assigned in Demand Charge** | | | | | | | | |
| Viking Pipeline | | | | | | | | |
| FT-A ZONE 1 - 1AF0012 | 14,493 | 14,493 | 0 | $ 4.3706 | 12 | $760,117 | $760,117 | $0 |
| FT-A ZONE 1 - 1AF0012 | 1,098 | 1,098 | 0 | $ 4.3706 | 3 | $14,397 | $14,397 | $0 |
| FT-A ZONE 1 - 1AF0321 | 0 | 1,500 | 1,500 | $ 4.3706 | 3 | $19,668 | $19,668 | $0 |
| GLGTPipeline | | | | | | | | |
| FT Western ZoneFT19131 | 10,130 | 10,130 | 0 | $ 2.8100 | 7 | $467,884 | $199,257 | -$268,627 |
| FT Western ZoneFT18528 | 12,600 | 12,600 | 0 | $ 2.8100 | 12 | $581,969 | $424,872 | -$157,097 |
| FT Western ZoneFT18528 (5) | 3,728 | 3,728 | 0 | $ 2.8100 | 5 | $71,745 | $52,378 | -$19,367 |
| FT Eastern to Western ZoneFT19129 (5) | 3,350 | 15,030 | 11,680 | $ 6.1000 | 5 | $94,301 | $458,415 | $364,114 |
| ANR Upstream130504 | 0 | 15,000 | 15,000 | $ 0.9110 | 5 | $0 | $68,325 | $68,325 |
| CENTRA Pipeline | | | | | | | | |
| CENTRA TRANSMISSION | 9,500 | 9,500 | 0 | $ 14.1070 | 12 | $1,269,253 | $1,608,198 | $338,945 |
| CENTRA MINNESOTA PIPELINES | 9,500 | 9,500 | 0 | $ 3.2990 | 12 | $376,086 | $376,086 | $0 |
| Total Costs Assigned to Demand Charge | | | | | | $3,655,420 | $3,981,713 | $326,293 |
| Costs Assigned in Commodity Charge | | | | | | | | |
| Storage Service | | | | | | | | |
| Niska Storage (AECO) | 947,820 | 0 | -947,820 | $ - | 0 | $244,998 | $0 | -$244,998 |
| Niska Storage Assignment | 947,820 | 0 | -947,820 | $ - | 0 | -$147,798 | $0 | $147,798 |
| ANR Pipeline Storage | 0 | 756,100 | 756,100 | $ 0.7000 | 12 | $309,772 | $529,270 | $219,498 |
| Balancing | | | | | | | | |
| VGT Balancing Agreement | 7,465 | 7,465 | 0 | $ 1.0000 | 12 | $89,580 | $89,580 | $0 |
| Union Balancing | 4,453 | 10,000 | 5,547 | $ 0.4500 | 12 | $54,000 | $54,000 | $0 |
| Physical Forward Start Premium | | | | | | $71,485 | $94,875 | $23,390 |
| Call Options Premium | | | | | | $152,271 | $76,864 | -$75,407 |
| Total Costs Assigned to Commodity Charge | | | | | | $774,308 | $844,589 | $70,281 |

# MINNESOTA ENERGY RESOURCES - Consolidated

**Daily Total Throughput Data - July 1, 2017 through June 30, 2018**

| Design Day: | |
|---|---|
| Base | 709 |
| Variable | 408 |

| Date | 28.53% Bemidji Adjusted HDD | 13.34% Cloquet Adjusted HDD | 35.13% Fargo Adjusted HDD | 23.00% Intl. Falls Adjusted HDD | 100.00% Weighted Adjusted HDD | Actual Total Through-Put * | Estimated Firm Through-Put ** |
|---|---|---|---|---|---|---|---|
| 7/1/17 | 7 | 4 | 3 | 11 | 6 | 20,904 | 3,160 |
| 7/2/17 | 6 | 5 | 0 | 8 | 4 | 14,745 | 2,472 |
| 7/3/17 | 0 | 2 | 0 | 0 | 0 | 9,665 | 796 |
| 7/4/17 | 0 | 0 | 0 | 0 | 0 | 9,921 | 709 |
| 7/5/17 | 0 | 0 | 0 | 0 | 0 | 15,195 | 709 |
| 7/6/17 | 0 | 0 | 0 | 0 | 0 | 18,682 | 709 |
| 7/7/17 | 4 | 4 | 0 | 5 | 3 | 20,046 | 1,782 |
| 7/8/17 | 0 | 0 | 0 | 1 | 0 | 16,160 | 756 |
| 7/9/17 | 0 | 2 | 0 | 0 | 0 | 17,541 | 823 |
| 7/10/17 | 0 | 0 | 0 | 1 | 0 | 23,004 | 803 |
| 7/11/17 | 0 | 0 | 0 | 3 | 1 | 22,091 | 1,028 |
| 7/12/17 | 8 | 11 | 4 | 12 | 8 | 23,459 | 3,856 |
| 7/13/17 | 13 | 11 | 7 | 11 | 10 | 19,890 | 4,844 |
| 7/14/17 | 0 | 0 | 0 | 0 | 0 | 14,223 | 709 |
| 7/15/17 | 4 | 0 | 0 | 4 | 2 | 12,315 | 1,592 |
| 7/16/17 | 0 | 8 | 0 | 1 | 1 | 13,036 | 1,164 |
| 7/17/17 | 0 | 0 | 0 | 0 | 0 | 20,250 | 709 |
| 7/18/17 | 1 | 2 | 0 | 4 | 1 | 18,934 | 1,248 |
| 7/19/17 | 0 | 0 | 0 | 2 | 0 | 18,539 | 850 |
| 7/20/17 | 0 | 0 | 0 | 0 | 0 | 17,232 | 709 |
| 7/21/17 | 0 | 0 | 0 | 0 | 0 | 12,509 | 709 |
| 7/22/17 | 0 | 1 | 0 | 0 | 0 | 12,673 | 736 |
| 7/23/17 | 2 | 5 | 0 | 1 | 2 | 13,540 | 1,330 |
| 7/24/17 | 0 | 0 | 0 | 0 | 0 | 16,651 | 709 |
| 7/25/17 | 0 | 0 | 0 | 0 | 0 | 16,003 | 709 |
| 7/26/17 | 0 | 0 | 0 | 1 | 0 | 17,324 | 756 |
| 7/27/17 | 0 | 0 | 0 | 0 | 0 | 19,274 | 709 |
| 7/28/17 | 0 | 0 | 0 | 0 | 0 | 13,003 | 709 |
| 7/29/17 | 0 | 0 | 0 | 0 | 0 | 11,973 | 709 |
| 7/30/17 | 0 | 0 | 0 | 0 | 0 | 12,629 | 709 |
| 7/31/17 | 0 | 0 | 0 | 0 | 0 | 17,383 | 709 |
| 8/1/17 | 0 | 0 | 0 | 2 | 0 | 19,038 | 859 |
| 8/2/17 | 2 | 5 | 0 | 5 | 2 | 19,780 | 1,679 |
| 8/3/17 | 8 | 14 | 5 | 7 | 7 | 19,619 | 3,760 |
| 8/4/17 | 5 | 4 | 0 | 7 | 4 | 14,343 | 2,177 |
| 8/5/17 | 5 | 5 | 0 | 7 | 4 | 12,365 | 2,170 |
| 8/6/17 | 6 | 6 | 0 | 6 | 4 | 14,245 | 2,308 |
| 8/7/17 | 0 | 0 | 0 | 0 | 0 | 19,907 | 709 |
| 8/8/17 | 0 | 0 | 0 | 0 | 0 | 19,176 | 709 |
| 8/9/17 | 0 | 0 | 0 | 0 | 0 | 18,067 | 709 |
| 8/10/17 | 5 | 7 | 1 | 6 | 4 | 17,297 | 2,365 |
| 8/11/17 | 4 | 5 | 0 | 6 | 3 | 12,951 | 2,014 |
| 8/12/17 | 0 | 1 | 0 | 2 | 0 | 13,004 | 877 |
| 8/13/17 | 9 | 2 | 3 | 2 | 4 | 12,641 | 2,379 |
| 8/14/17 | 5 | 5 | 0 | 3 | 3 | 17,067 | 1,804 |
| 8/15/17 | 0 | 0 | 0 | 0 | 0 | 16,869 | 709 |
| 8/16/17 | 3 | 3 | 1 | 0 | 1 | 17,881 | 1,262 |
| 8/17/17 | 4 | 7 | 0 | 7 | 3 | 18,314 | 2,132 |
| 8/18/17 | 0 | 1 | 0 | 1 | 0 | 13,910 | 830 |
| 8/19/17 | 0 | 0 | 0 | 0 | 0 | 13,645 | 709 |
| 8/20/17 | 5 | 0 | 0 | 6 | 3 | 14,916 | 1,859 |
| 8/21/17 | 8 | 5 | 3 | 5 | 5 | 19,545 | 2,845 |
| 8/22/17 | 8 | 7 | 4 | 9 | 7 | 20,899 | 3,381 |
| 8/23/17 | 12 | 10 | 0 | 16 | 8 | 22,558 | 4,137 |
| 8/24/17 | 4 | 10 | 0 | 12 | 5 | 22,044 | 2,902 |
| 8/25/17 | 1 | 5 | 0 | 4 | 2 | 16,025 | 1,429 |
| 8/26/17 | 5 | 6 | 3 | 5 | 5 | 14,866 | 2,563 |
| 8/27/17 | 12 | 5 | 3 | 11 | 8 | 16,354 | 3,777 |
| 8/28/17 | 0 | 2 | 0 | 1 | 0 | 20,826 | 838 |
| 8/29/17 | 0 | 0 | 0 | 0 | 0 | 20,287 | 709 |
| 8/30/17 | 4 | 4 | 0 | 5 | 3 | 20,543 | 1,871 |
| 8/31/17 | 6 | 11 | 0 | 8 | 5 | 21,380 | 2,704 |
| 9/1/17 | 2 | 7 | 2 | 4 | 3 | 15,026 | 1,852 |
| 9/2/17 | 4 | 0 | 0 | 5 | 2 | 11,590 | 1,581 |
| 9/3/17 | 0 | 0 | 0 | 0 | 0 | 10,329 | 709 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 9/4/17 | 10 | 10 | 5 | 8 | 8 | 12,408 | 3,957 |
| 9/5/17 | 17 | 16 | 14 | 18 | 16 | 20,929 | 7,281 |
| 9/6/17 | 12 | 14 | 6 | 13 | 11 | 22,385 | 5,069 |
| 9/7/17 | 13 | 19 | 1 | 18 | 11 | 22,503 | 5,130 |
| 9/8/17 | 12 | 12 | 3 | 14 | 9 | 22,734 | 4,403 |
| 9/9/17 | 2 | 6 | 0 | 5 | 3 | 18,195 | 1,815 |
| 9/10/17 | 0 | 0 | 0 | 0 | 0 | 17,287 | 709 |
| 9/11/17 | 4 | 3 | 0 | 6 | 3 | 24,929 | 1,825 |
| 9/12/17 | 0 | 0 | 0 | 0 | 0 | 24,570 | 709 |
| 9/13/17 | 0 | 0 | 0 | 0 | 0 | 23,100 | 709 |
| 9/14/17 | 3 | 0 | 0 | 7 | 2 | 25,327 | 1,633 |
| 9/15/17 | 10 | 7 | 11 | 13 | 11 | 24,134 | 5,091 |
| 9/16/17 | 15 | 4 | 17 | 15 | 14 | 22,913 | 6,591 |
| 9/17/17 | 19 | 16 | 10 | 22 | 16 | 25,769 | 7,340 |
| 9/18/17 | 6 | 12 | 1 | 10 | 6 | 26,103 | 3,036 |
| 9/19/17 | 3 | 2 | 0 | 2 | 2 | 22,594 | 1,351 |
| 9/20/17 | 11 | 10 | 2 | 13 | 8 | 22,477 | 3,940 |
| 9/21/17 | 1 | 4 | 0 | 2 | 1 | 24,550 | 1,208 |
| 9/22/17 | 0 | 0 | 0 | 0 | 0 | 18,380 | 709 |
| 9/23/17 | 9 | 0 | 9 | 8 | 7 | 19,292 | 3,757 |
| 9/24/17 | 6 | 0 | 14 | 4 | 7 | 20,896 | 3,756 |
| 9/25/17 | 15 | 11 | 15 | 13 | 14 | 24,126 | 6,499 |
| 9/26/17 | 19 | 15 | 16 | 19 | 17 | 24,857 | 7,846 |
| 9/27/17 | 12 | 13 | 6 | 16 | 11 | 23,886 | 5,217 |
| 9/28/17 | 19 | 11 | 14 | 13 | 15 | 24,082 | 6,676 |
| 9/29/17 | 18 | 20 | 12 | 21 | 17 | 18,914 | 7,563 |
| 9/30/17 | 10 | 11 | 5 | 11 | 8 | 16,174 | 4,138 |
| 10/1/17 | 11 | 9 | 8 | 10 | 9 | 17,742 | 4,501 |
| 10/2/17 | 12 | 8 | 11 | 11 | 11 | 22,277 | 5,043 |
| 10/3/17 | 17 | 13 | 14 | 19 | 16 | 24,722 | 7,179 |
| 10/4/17 | 21 | 18 | 14 | 23 | 18 | 25,166 | 8,251 |
| 10/5/17 | 22 | 21 | 16 | 22 | 20 | 26,361 | 8,684 |
| 10/6/17 | 21 | 17 | 13 | 23 | 18 | 21,240 | 8,158 |
| 10/7/17 | 9 | 11 | 3 | 12 | 8 | 21,710 | 3,911 |
| 10/8/17 | 21 | 11 | 17 | 20 | 18 | 27,398 | 8,095 |
| 10/9/17 | 33 | 29 | 27 | 33 | 30 | 41,356 | 13,068 |
| 10/10/17 | 23 | 25 | 18 | 24 | 22 | 37,045 | 9,582 |
| 10/11/17 | 20 | 19 | 17 | 20 | 18 | 32,758 | 8,237 |
| 10/12/17 | 18 | 15 | 17 | 17 | 17 | 29,405 | 7,483 |
| 10/13/17 | 27 | 24 | 19 | 27 | 24 | 26,348 | 10,434 |
| 10/14/17 | 30 | 21 | 27 | 27 | 27 | 21,381 | 11,760 |
| 10/15/17 | 30 | 25 | 24 | 27 | 26 | 23,550 | 11,411 |
| 10/16/17 | 18 | 16 | 12 | 20 | 16 | 25,355 | 7,359 |
| 10/17/17 | 10 | 9 | 7 | 10 | 9 | 21,582 | 4,239 |
| 10/18/17 | 21 | 12 | 17 | 15 | 17 | 25,295 | 7,698 |
| 10/19/17 | 11 | 10 | 6 | 12 | 10 | 22,243 | 4,622 |
| 10/20/17 | 2 | 1 | 0 | 0 | 1 | 13,288 | 1,037 |
| 10/21/17 | 15 | 11 | 15 | 12 | 14 | 17,305 | 6,304 |
| 10/22/17 | 16 | 14 | 14 | 15 | 15 | 19,222 | 6,733 |
| 10/23/17 | 31 | 21 | 25 | 26 | 26 | 31,229 | 11,450 |
| 10/24/17 | 30 | 28 | 27 | 28 | 28 | 33,668 | 12,173 |
| 10/25/17 | 23 | 22 | 16 | 26 | 21 | 30,001 | 9,253 |
| 10/26/17 | 32 | 28 | 38 | 36 | 35 | 38,557 | 14,850 |
| 10/27/17 | 41 | 39 | 46 | 38 | 42 | 35,843 | 17,716 |
| 10/28/17 | 39 | 40 | 37 | 38 | 38 | 32,385 | 16,262 |
| 10/29/17 | 32 | 35 | 27 | 34 | 31 | 32,662 | 13,457 |
| 10/30/17 | 46 | 38 | 48 | 43 | 45 | 44,016 | 19,040 |
| 10/31/17 | 45 | 43 | 45 | 47 | 45 | 42,444 | 19,056 |
| 11/1/17 | 39 | 39 | 35 | 39 | 37 | 65,521 | 15,953 |
| 11/2/17 | 43 | 37 | 40 | 39 | 40 | 68,041 | 17,061 |
| 11/3/17 | 41 | 39 | 38 | 43 | 40 | 56,490 | 17,201 |
| 11/4/17 | 40 | 34 | 38 | 40 | 39 | 51,050 | 16,503 |
| 11/5/17 | 52 | 48 | 50 | 51 | 51 | 61,337 | 21,371 |
| 11/6/17 | 52 | 48 | 52 | 56 | 52 | 75,547 | 22,058 |
| 11/7/17 | 53 | 46 | 48 | 54 | 51 | 79,535 | 21,326 |
| 11/8/17 | 57 | 50 | 56 | 56 | 55 | 80,101 | 23,305 |
| 11/9/17 | 70 | 66 | 59 | 70 | 66 | 85,936 | 27,467 |
| 11/10/17 | 58 | 55 | 54 | 58 | 56 | 72,897 | 23,701 |
| 11/11/17 | 46 | 39 | 40 | 41 | 42 | 58,932 | 17,733 |
| 11/12/17 | 44 | 43 | 38 | 45 | 42 | 62,868 | 17,883 |
| 11/13/17 | 37 | 37 | 28 | 40 | 34 | 59,284 | 14,755 |
| 11/14/17 | 35 | 31 | 33 | 33 | 33 | 64,276 | 14,222 |
| 11/15/17 | 47 | 44 | 46 | 46 | 46 | 82,010 | 19,423 |
| 11/16/17 | 44 | 41 | 42 | 44 | 43 | 95,711 | 18,129 |
| 11/17/17 | 43 | 39 | 42 | 43 | 42 | 75,855 | 17,866 |
| 11/18/17 | 56 | 53 | 52 | 58 | 54 | 89,108 | 22,835 |
| 11/19/17 | 44 | 46 | 35 | 52 | 43 | 83,566 | 18,117 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11/20/17 | 43 | 42 | 36 | 43 | 40 | 91,788 | 17,214 |
| 11/21/17 | 60 | 53 | 55 | 59 | 57 | 101,768 | 24,006 |
| 11/22/17 | 51 | 50 | 44 | 53 | 49 | 85,412 | 20,574 |
| 11/23/17 | 37 | 38 | 29 | 35 | 34 | 56,396 | 14,535 |
| 11/24/17 | 41 | 36 | 31 | 43 | 37 | 57,389 | 15,918 |
| 11/25/17 | 44 | 44 | 39 | 48 | 43 | 65,923 | 18,373 |
| 11/26/17 | 35 | 30 | 32 | 42 | 35 | 57,185 | 15,009 |
| 11/27/17 | 28 | 25 | 24 | 32 | 27 | 63,659 | 11,825 |
| 11/28/17 | 45 | 40 | 37 | 47 | 42 | 77,872 | 17,735 |
| 11/29/17 | 37 | 40 | 29 | 41 | 35 | 71,015 | 15,136 |
| 11/30/17 | 38 | 33 | 31 | 38 | 35 | 61,636 | 14,955 |
| 12/1/17 | 38 | 34 | 36 | 37 | 36 | 52,241 | 15,569 |
| 12/2/17 | 35 | 32 | 30 | 34 | 33 | 48,221 | 14,034 |
| 12/3/17 | 36 | 30 | 33 | 33 | 34 | 46,222 | 14,392 |
| 12/4/17 | 53 | 45 | 52 | 48 | 51 | 68,040 | 21,358 |
| 12/5/17 | 67 | 60 | 57 | 66 | 62 | 86,672 | 26,061 |
| 12/6/17 | 68 | 62 | 62 | 66 | 65 | 97,276 | 27,127 |
| 12/7/17 | 56 | 55 | 52 | 56 | 54 | 84,703 | 22,867 |
| 12/8/17 | 52 | 54 | 48 | 56 | 52 | 87,026 | 21,746 |
| 12/9/17 | 52 | 53 | 47 | 55 | 51 | 85,092 | 21,522 |
| 12/10/17 | 46 | 49 | 42 | 56 | 47 | 82,810 | 19,957 |
| 12/11/17 | 61 | 57 | 57 | 63 | 59 | 104,847 | 24,903 |
| 12/12/17 | 55 | 58 | 41 | 61 | 52 | 96,709 | 21,812 |
| 12/13/17 | 54 | 53 | 47 | 53 | 51 | 95,623 | 21,665 |
| 12/14/17 | 59 | 55 | 46 | 59 | 54 | 86,659 | 22,546 |
| 12/15/17 | 57 | 54 | 44 | 63 | 53 | 76,025 | 22,453 |
| 12/16/17 | 47 | 48 | 40 | 57 | 47 | 67,236 | 20,005 |
| 12/17/17 | 40 | 45 | 41 | 41 | 41 | 62,402 | 17,604 |
| 12/18/17 | 42 | 39 | 38 | 40 | 40 | 72,277 | 16,893 |
| 12/19/17 | 63 | 56 | 48 | 66 | 57 | 92,832 | 24,097 |
| 12/20/17 | 66 | 59 | 64 | 68 | 65 | 105,952 | 27,185 |
| 12/21/17 | 69 | 53 | 71 | 69 | 67 | 97,451 | 28,173 |
| 12/22/17 | 63 | 55 | 61 | 62 | 61 | 80,667 | 25,538 |
| 12/23/17 | 61 | 54 | 62 | 73 | 63 | 74,933 | 26,437 |
| 12/24/17 | 81 | 70 | 80 | 84 | 80 | 88,321 | 33,364 |
| 12/25/17 | 90 | 88 | 84 | 92 | 88 | 106,889 | 36,741 |
| 12/26/17 | 90 | 85 | 83 | 92 | 87 | 120,485 | 36,398 |
| 12/27/17 | 83 | 78 | 76 | 88 | 81 | 113,309 | 33,784 |
| 12/28/17 | 75 | 77 | 72 | 78 | 75 | 105,879 | 31,206 |
| 12/29/17 | 91 | 84 | 86 | 86 | 87 | 110,194 | 36,276 |
| 12/30/17 | 94 | 91 | 91 | 92 | 92 | 115,852 | 38,219 |
| 12/31/17 | 91 | 89 | 87 | 89 | 89 | 113,454 | 36,988 |
| 1/1/18 | 80 | 79 | 84 | 81 | 81 | 67,671 | 33,865 |
| 1/2/18 | 76 | 70 | 71 | 76 | 73 | 70,169 | 30,525 |
| 1/3/18 | 84 | 79 | 74 | 86 | 80 | 76,640 | 33,346 |
| 1/4/18 | 83 | 79 | 76 | 84 | 80 | 78,551 | 33,398 |
| 1/5/18 | 81 | 80 | 81 | 84 | 82 | 72,792 | 33,998 |
| 1/6/18 | 72 | 72 | 66 | 67 | 69 | 60,538 | 28,734 |
| 1/7/18 | 49 | 48 | 42 | 48 | 46 | 47,761 | 19,572 |
| 1/8/18 | 52 | 48 | 40 | 62 | 49 | 50,884 | 20,881 |
| 1/9/18 | 42 | 41 | 35 | 49 | 41 | 45,547 | 17,442 |
| 1/10/18 | 54 | 44 | 61 | 52 | 55 | 51,705 | 23,046 |
| 1/11/18 | 88 | 79 | 86 | 86 | 86 | 73,769 | 35,664 |
| 1/12/18 | 86 | 82 | 79 | 85 | 83 | 71,249 | 34,457 |
| 1/13/18 | 82 | 76 | 77 | 81 | 79 | 67,666 | 33,013 |
| 1/14/18 | 71 | 72 | 76 | 69 | 73 | 63,362 | 30,305 |
| 1/15/18 | 82 | 71 | 90 | 75 | 82 | 72,892 | 34,099 |
| 1/16/18 | 71 | 66 | 78 | 71 | 73 | 67,270 | 30,374 |
| 1/17/18 | 46 | 55 | 51 | 45 | 49 | 52,680 | 20,651 |
| 1/18/18 | 39 | 36 | 42 | 41 | 40 | 46,401 | 17,097 |
| 1/19/18 | 38 | 34 | 36 | 33 | 36 | 42,224 | 15,287 |
| 1/20/18 | 45 | 33 | 40 | 42 | 41 | 41,606 | 17,489 |
| 1/21/18 | 49 | 40 | 45 | 45 | 45 | 43,818 | 19,231 |
| 1/22/18 | 49 | 57 | 46 | 60 | 51 | 52,880 | 21,592 |
| 1/23/18 | 49 | 56 | 45 | 59 | 51 | 54,336 | 21,407 |
| 1/24/18 | 46 | 48 | 47 | 47 | 47 | 51,187 | 19,812 |
| 1/25/18 | 46 | 45 | 44 | 45 | 45 | 49,973 | 19,151 |
| 1/26/18 | 46 | 34 | 48 | 42 | 44 | 42,870 | 18,697 |
| 1/27/18 | 61 | 53 | 63 | 62 | 61 | 53,050 | 25,591 |
| 1/28/18 | 70 | 64 | 72 | 76 | 71 | 60,344 | 29,831 |
| 1/29/18 | 72 | 69 | 63 | 81 | 71 | 66,863 | 29,479 |
| 1/30/18 | 57 | 56 | 53 | 65 | 57 | 60,349 | 24,135 |
| 1/31/18 | 75 | 69 | 67 | 76 | 71 | 69,978 | 29,856 |
| 2/1/18 | 82 | 77 | 73 | 83 | 78 | 74,346 | 32,723 |
| 2/2/18 | 68 | 69 | 62 | 75 | 68 | 61,386 | 28,298 |
| 2/3/18 | 80 | 73 | 80 | 85 | 80 | 64,341 | 33,407 |
| 2/4/18 | 84 | 76 | 79 | 83 | 81 | 64,913 | 33,631 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2/5/18 | 79 | 71 | 75 | 83 | 78 | 69,645 | 32,345 |
| 2/6/18 | 73 | 70 | 71 | 75 | 73 | 67,703 | 30,291 |
| 2/7/18 | 74 | 66 | 72 | 73 | 72 | 69,716 | 30,120 |
| 2/8/18 | 76 | 71 | 75 | 80 | 76 | 71,428 | 31,596 |
| 2/9/18 | 76 | 70 | 75 | 76 | 75 | 63,926 | 31,182 |
| 2/10/18 | 66 | 66 | 71 | 67 | 68 | 59,682 | 28,542 |
| 2/11/18 | 78 | 69 | 73 | 78 | 75 | 61,859 | 31,239 |
| 2/12/18 | 73 | 67 | 72 | 74 | 72 | 69,208 | 30,092 |
| 2/13/18 | 52 | 51 | 53 | 52 | 52 | 54,161 | 22,115 |
| 2/14/18 | 35 | 38 | 48 | 36 | 40 | 43,044 | 16,954 |
| 2/15/18 | 67 | 61 | 74 | 69 | 69 | 58,895 | 28,797 |
| 2/16/18 | 61 | 64 | 57 | 61 | 60 | 52,113 | 25,145 |
| 2/17/18 | 57 | 51 | 53 | 65 | 56 | 48,921 | 23,729 |
| 2/18/18 | 60 | 54 | 64 | 63 | 61 | 52,782 | 25,761 |
| 2/19/18 | 63 | 58 | 69 | 63 | 64 | 60,948 | 26,968 |
| 2/20/18 | 68 | 62 | 70 | 71 | 69 | 62,205 | 28,698 |
| 2/21/18 | 65 | 61 | 66 | 68 | 65 | 63,408 | 27,341 |
| 2/22/18 | 53 | 52 | 54 | 50 | 53 | 50,359 | 22,179 |
| 2/23/18 | 61 | 52 | 64 | 58 | 60 | 48,121 | 25,132 |
| 2/24/18 | 59 | 50 | 60 | 52 | 57 | 45,505 | 23,774 |
| 2/25/18 | 51 | 50 | 51 | 51 | 51 | 46,671 | 21,388 |
| 2/26/18 | 40 | 37 | 50 | 39 | 43 | 45,808 | 18,205 |
| 2/27/18 | 44 | 36 | 52 | 52 | 48 | 49,611 | 20,094 |
| 2/28/18 | 45 | 45 | 50 | 44 | 46 | 46,419 | 19,641 |
| 3/1/18 | 51 | 41 | 46 | 48 | 47 | 48,273 | 19,966 |
| 3/2/18 | 40 | 34 | 42 | 39 | 40 | 41,634 | 16,861 |
| 3/3/18 | 35 | 36 | 30 | 32 | 33 | 33,901 | 14,066 |
| 3/4/18 | 39 | 35 | 36 | 35 | 36 | 36,093 | 15,554 |
| 3/5/18 | 47 | 43 | 43 | 49 | 45 | 43,968 | 19,135 |
| 3/6/18 | 54 | 54 | 58 | 55 | 56 | 48,401 | 23,429 |
| 3/7/18 | 56 | 54 | 57 | 56 | 56 | 52,370 | 23,526 |
| 3/8/18 | 55 | 49 | 54 | 52 | 53 | 47,543 | 22,458 |
| 3/9/18 | 50 | 48 | 48 | 52 | 49 | 47,340 | 20,822 |
| 3/10/18 | 42 | 38 | 37 | 41 | 39 | 42,484 | 16,755 |
| 3/11/18 | 49 | 40 | 48 | 44 | 46 | 50,876 | 19,629 |
| 3/12/18 | 51 | 42 | 50 | 52 | 49 | 57,490 | 20,905 |
| 3/13/18 | 45 | 42 | 49 | 44 | 46 | 53,256 | 19,284 |
| 3/14/18 | 41 | 37 | 48 | 43 | 44 | 48,890 | 18,482 |
| 3/15/18 | 45 | 45 | 43 | 52 | 46 | 50,833 | 19,504 |
| 3/16/18 | 43 | 41 | 43 | 41 | 42 | 39,774 | 17,980 |
| 3/17/18 | 36 | 33 | 42 | 38 | 38 | 35,242 | 16,260 |
| 3/18/18 | 34 | 36 | 31 | 34 | 33 | 36,883 | 14,251 |
| 3/19/18 | 40 | 47 | 33 | 41 | 39 | 44,624 | 16,568 |
| 3/20/18 | 43 | 48 | 37 | 41 | 41 | 44,490 | 17,447 |
| 3/21/18 | 38 | 44 | 32 | 42 | 38 | 42,455 | 16,119 |
| 3/22/18 | 40 | 40 | 31 | 36 | 36 | 41,278 | 15,255 |
| 3/23/18 | 41 | 43 | 37 | 41 | 40 | 40,280 | 16,931 |
| 3/24/18 | 39 | 44 | 38 | 40 | 39 | 39,341 | 16,815 |
| 3/25/18 | 36 | 37 | 37 | 35 | 36 | 38,522 | 15,417 |
| 3/26/18 | 37 | 36 | 37 | 37 | 37 | 41,380 | 15,723 |
| 3/27/18 | 29 | 30 | 31 | 30 | 30 | 36,518 | 13,011 |
| 3/28/18 | 42 | 35 | 40 | 44 | 41 | 44,199 | 17,297 |
| 3/29/18 | 50 | 42 | 48 | 56 | 50 | 42,103 | 20,948 |
| 3/30/18 | 52 | 45 | 57 | 57 | 54 | 40,815 | 22,686 |
| 3/31/18 | 61 | 60 | 62 | 59 | 61 | 46,674 | 25,613 |
| 4/1/18 | 54 | 51 | 53 | 49 | 52 | 45,086 | 22,060 |
| 4/2/18 | 50 | 43 | 57 | 56 | 53 | 46,920 | 22,222 |
| 4/3/18 | 57 | 52 | 60 | 60 | 58 | 54,307 | 24,379 |
| 4/4/18 | 48 | 47 | 50 | 52 | 49 | 49,723 | 20,878 |
| 4/5/18 | 56 | 49 | 57 | 53 | 55 | 48,732 | 23,004 |
| 4/6/18 | 61 | 57 | 60 | 61 | 60 | 48,206 | 25,282 |
| 4/7/18 | 58 | 55 | 52 | 57 | 55 | 44,061 | 23,239 |
| 4/8/18 | 42 | 42 | 45 | 46 | 44 | 42,329 | 18,713 |
| 4/9/18 | 42 | 40 | 41 | 46 | 42 | 44,692 | 17,918 |
| 4/10/18 | 40 | 38 | 35 | 41 | 38 | 44,792 | 16,217 |
| 4/11/18 | 30 | 26 | 31 | 32 | 30 | 36,398 | 13,084 |
| 4/12/18 | 37 | 34 | 34 | 37 | 36 | 38,066 | 15,195 |
| 4/13/18 | 42 | 40 | 40 | 43 | 41 | 36,869 | 17,476 |
| 4/14/18 | 44 | 50 | 40 | 44 | 43 | 41,093 | 18,383 |
| 4/15/18 | 43 | 47 | 43 | 43 | 43 | 42,361 | 18,450 |
| 4/16/18 | 39 | 44 | 37 | 39 | 39 | 41,946 | 16,622 |
| 4/17/18 | 31 | 33 | 30 | 30 | 30 | 33,968 | 13,109 |
| 4/18/18 | 32 | 35 | 27 | 33 | 31 | 33,083 | 13,296 |
| 4/19/18 | 26 | 23 | 22 | 27 | 25 | 26,754 | 10,716 |
| 4/20/18 | 25 | 25 | 23 | 23 | 24 | 24,353 | 10,465 |
| 4/21/18 | 21 | 24 | 18 | 19 | 20 | 28,938 | 8,818 |
| 4/22/18 | 14 | 20 | 13 | 12 | 14 | 27,359 | 6,444 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4/23/18 | 14 | 16 | 12 | 19 | 15 | 29,318 | 6,643 |
| 4/24/18 | 30 | 26 | 26 | 34 | 29 | 34,528 | 12,536 |
| 4/25/18 | 18 | 19 | 15 | 16 | 16 | 29,789 | 7,435 |
| 4/26/18 | 24 | 23 | 16 | 22 | 21 | 29,059 | 9,101 |
| 4/27/18 | 28 | 32 | 28 | 33 | 30 | 27,628 | 12,851 |
| 4/28/18 | 22 | 28 | 16 | 22 | 21 | 23,865 | 9,122 |
| 4/29/18 | 7 | 14 | 4 | 8 | 7 | 17,994 | 3,564 |
| 4/30/18 | 9 | 7 | 8 | 3 | 7 | 19,502 | 3,600 |
| 5/1/18 | 26 | 16 | 28 | 26 | 25 | 29,538 | 10,973 |
| 5/2/18 | 14 | 17 | 10 | 19 | 14 | 27,158 | 6,457 |
| 5/3/18 | 14 | 11 | 9 | 16 | 12 | 22,328 | 5,643 |
| 5/4/18 | 14 | 11 | 0 | 17 | 9 | 17,372 | 4,504 |
| 5/5/18 | 12 | 11 | 3 | 18 | 10 | 16,898 | 4,852 |
| 5/6/18 | 8 | 16 | 1 | 16 | 9 | 18,947 | 4,187 |
| 5/7/18 | 0 | 0 | 0 | 0 | 0 | 21,442 | 709 |
| 5/8/18 | 16 | 17 | 8 | 18 | 14 | 26,739 | 6,304 |
| 5/9/18 | 24 | 25 | 17 | 20 | 21 | 32,274 | 9,126 |
| 5/10/18 | 29 | 23 | 24 | 29 | 27 | 30,241 | 11,523 |
| 5/11/18 | 21 | 26 | 9 | 21 | 17 | 23,428 | 7,779 |
| 5/12/18 | 12 | 19 | 6 | 12 | 11 | 19,649 | 5,070 |
| 5/13/18 | 5 | 1 | 1 | 7 | 3 | 18,635 | 2,009 |
| 5/14/18 | 12 | 2 | 0 | 13 | 7 | 24,717 | 3,443 |
| 5/15/18 | 0 | 13 | 0 | 1 | 2 | 22,001 | 1,480 |
| 5/16/18 | 1 | 1 | 0 | 9 | 3 | 23,159 | 1,752 |
| 5/17/18 | 20 | 23 | 8 | 18 | 16 | 22,730 | 7,097 |
| 5/18/18 | 6 | 12 | 8 | 11 | 8 | 18,103 | 4,150 |
| 5/19/18 | 20 | 24 | 13 | 21 | 18 | 17,958 | 8,244 |
| 5/20/18 | 13 | 13 | 7 | 10 | 10 | 17,719 | 4,896 |
| 5/21/18 | 7 | 4 | 2 | 8 | 5 | 22,526 | 2,829 |
| 5/22/18 | 4 | 4 | 0 | 3 | 2 | 20,300 | 1,568 |
| 5/23/18 | 0 | 0 | 0 | 0 | 0 | 21,053 | 709 |
| 5/24/18 | 0 | 0 | 0 | 0 | 0 | 20,055 | 709 |
| 5/25/18 | 0 | 0 | 0 | 0 | 0 | 14,421 | 709 |
| 5/26/18 | 0 | 0 | 0 | 0 | 0 | 13,229 | 709 |
| 5/27/18 | 0 | 0 | 0 | 0 | 0 | 10,640 | 709 |
| 5/28/18 | 0 | 0 | 0 | 0 | 0 | 11,785 | 709 |
| 5/29/18 | 0 | 2 | 0 | 0 | 0 | 19,298 | 796 |
| 5/30/18 | 0 | 5 | 0 | 0 | 1 | 19,946 | 959 |
| 5/31/18 | 3 | 6 | 0 | 6 | 3 | 20,194 | 1,897 |
| 6/1/18 | 12 | 20 | 0 | 13 | 9 | | 4,349 |
| 6/2/18 | 15 | 21 | 8 | 14 | 13 | | 5,978 |
| 6/3/18 | 10 | 12 | 3 | 13 | 8 | | 4,171 |
| 6/4/18 | 4 | 9 | 0 | 13 | 5 | | 2,856 |
| 6/5/18 | 1 | 11 | 0 | 6 | 3 | | 1,996 |
| 6/6/18 | 10 | 5 | 3 | 11 | 7 | | 3,560 |
| 6/7/18 | 4 | 9 | 0 | 2 | 3 | | 1,801 |
| 6/8/18 | 0 | 6 | 0 | 0 | 1 | | 1,057 |
| 6/9/18 | 0 | 12 | 0 | 4 | 3 | | 1,735 |
| 6/10/18 | 0 | 8 | 0 | 0 | 1 | | 1,123 |
| 6/11/18 | 8 | 8 | 8 | 1 | 6 | | 3,287 |
| 6/12/18 | 6 | 3 | 4 | 7 | 5 | | 2,865 |
| 6/13/18 | 0 | 0 | 0 | 3 | 1 | | 1,000 |
| 6/14/18 | 0 | 2 | 0 | 0 | 0 | | 796 |
| 6/15/18 | 0 | 2 | 0 | 0 | 0 | | 796 |
| 6/16/18 | 0 | 0 | 0 | 0 | 0 | | 709 |
| 6/17/18 | 2 | 0 | 0 | 3 | 1 | | 1,197 |
| 6/18/18 | 1 | 0 | 0 | 3 | 1 | | 1,058 |
| 6/19/18 | 1 | 0 | 0 | 1 | 1 | | 919 |
| 6/20/18 | 0 | 0 | 0 | 0 | 0 | | 709 |
| 6/21/18 | 0 | 6 | 0 | 0 | 1 | | 1,052 |
| 6/22/18 | 0 | 3 | 0 | 0 | 0 | | 845 |
| 6/23/18 | 0 | 3 | 0 | 0 | 0 | | 856 |
| 6/24/18 | 1 | 13 | 0 | 5 | 3 | | 1,941 |
| 6/25/18 | 0 | 10 | 0 | 1 | 1 | | 1,284 |
| 6/26/18 | 0 | 10 | 0 | 0 | 1 | | 1,232 |
| 6/27/18 | 0 | 0 | 0 | 2 | 0 | | 859 |
| 6/28/18 | 0 | 0 | 0 | 0 | 0 | | 709 |
| 6/29/18 | 0 | 0 | 0 | 0 | 0 | | 709 |
| 6/30/18 | 0 | 0 | 0 | 0 | 0 | | 709 |
| Totals | 10,917 | 10,422 | 9,996 | 11,205 | 10,594 | 13,975,857 | 4,580,946 |

* Volumes include interruptible and transportation volumes

** Design Model numbers are used to calculate firm volumes only

Attachment 10

# MINNESOTA ENERGY RESOURCES - Consolidated

**Customer Counts by PGAC Class - July 1, 2017 through June 30, 2018**

| Tariff Rate Class | Rate Designation | Jul-17 Average Customers | Aug-17 Average Customers | Sep-17 Average Customers | Oct-17 Average Customers | Nov-17 Average Customers | Dec-17 Average Customers | Jan-18 Average Customers | Feb-18 Average Customers | Mar-18 Average Customers | Apr-18 Average Customers | May-18 Average Customers | Jun-18 Average Customers | Annual Average Customers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GS- Residential | MERC000002 | 30,102 | 30,016 | 30,231 | 30,211 | 30,298 | 30,416 | 30,441 | 30,449 | 30,407 | 30,409 | 30,485 | 30,278 | 30,312 |
| GS-C&I <1,500 therms/yr (Small) | MERC000006 | 2,099 | 2,065 | 2,070 | 2,088 | 2,111 | 2,138 | 2,122 | 2,234 | 2,352 | 2,346 | 2,359 | 2,338 | 2,194 |
| GS-C&I >1,500 therms/yr (Large) | MERC000010 | 3,242 | 3,155 | 3,226 | 3,276 | 3,234 | 3,219 | 3,243 | 3,152 | 3,007 | 3,015 | 3,002 | 2,996 | 3,147 |
| Small Volume Interruptible (SVI) | MERC000017 | 72 | 70 | 77 | 73 | 74 | 68 | 73 | 72 | 70 | 70 | 70 | 68 | 71 |
| Small Volume Interruptible w/Joint (SVJ) | MERC000021 | 5 | 4 | 4 | 4 | 10 | 4 | 3 | 4 | 4 | 4 | 4 | 4 | 5 |
| Large Volume Interruptible (LVI) | MERC000024 | 7 | 6 | 6 | 20 | 19 | -10 | 5 | 5 | 5 | 5 | 5 | 5 | 7 |
| Total | | 35,527 | 35,316 | 35,614 | 35,672 | 35,746 | 35,835 | 35,887 | 35,916 | 35,845 | 35,849 | 35,925 | 35,689 | 35,735 |

# MINNESOTA ENERGY RESOURCES - Consolidated

**Projected Fixed Cost - November 2018 through March 2019**

**Futures Contracts WACOG**

**Futures** 10,000 Dth/contract 30 31 31

**Nov-18**

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | LDS Settle* | LDS Settle Cost | Over/(Under Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/03/18 | 64480 | 5 | 50,000 | $ 2.8150 | $ 140,750 | $ 3.3200 | $ 166,000 | $ (25,250) | | $ - | $ 140,750 |
| 2 | 05/03/18 | 64481 | 1 | 10,000 | $ 2.8160 | $ 28,160 | $ 3.3200 | $ 33,200 | $ (5,040) | | $ - | $ 28,160 |
| 3 | 06/05/18 | 65874 | 6 | 60,000 | $ 2.9350 | $ 176,100 | $ 3.3200 | $ 199,200 | $ (23,100) | | $ - | $ 176,100 |
| 4 | 07/05/18 | 66731 | 6 | 60,000 | $ 2.8820 | $ 172,920 | $ 3.3200 | $ 199,200 | $ (26,280) | | $ - | $ 172,920 |
| 5 | 08/02/18 | 67750 | 3 | 30,000 | $ 2.8150 | $ 84,450 | $ 3.3200 | $ 99,600 | $ (15,150) | | $ - | $ 84,450 |
| 6 | 08/02/18 | 67751 | 2 | 20,000 | $ 2.8170 | $ 56,340 | $ 3.3200 | $ 66,400 | $ (10,060) | | $ - | $ 56,340 |
| 7 | 09/04/18 | 68448 | 5 | 50,000 | $ 2.8610 | $ 143,050 | $ 3.3200 | $ 166,000 | $ (22,950) | | $ - | $ 143,050 |
| 8 | 10/05/18 | 69571 | 4 | 40,000 | $ 3.1960 | $ 127,840 | $ 3.3200 | $ 132,800 | $ (4,960) | | $ - | $ 127,840 |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |
| Total | | | 32 | 320,000 | | $ 929,610 | | $1,062,400 | $(132,790) | | $ - | $ 929,610 |
| | | | | | | $ 2.9050 | | $ 3.3200 | $ (0.4150) | | $ - | $ 2.9050 |
| NNG | 27 | 84.38% | 27 | 270,000 | $ 2.9050 | $ 784,358 | $ 3.3200 | $ 896,400 | $(112,042) | $ - | $ - | $ 784,358 |
| Other-Cons | 5 | 15.63% | 5 | 50,000 | $ 2.9050 | $ 145,252 | $ 3.3200 | $ 166,000 | $ (20,748) | $ - | $ - | $ 145,252 |
| Total | 32 | 100.0% | 32 | 320,000 | $ 2.9050 | $ 929,610 | $ 3.3200 | $1,062,400 | $(132,790) | $ - | $ - | $ 929,610 |

**Dec-18**

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | LDS Settle* | LDS Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/15/18 | 65032 | 10 | 100,000 | $ 3.0030 | $ 300,300 | $ 3.3690 | $ 336,900 | $ (36,600) | | $ - | $ 300,300 |
| 2 | 06/12/18 | 66051 | 9 | 90,000 | $ 3.0770 | $ 276,930 | $ 3.3690 | $ 303,210 | $ (26,280) | | $ - | $ 276,930 |
| 3 | 07/17/18 | 67114 | 9 | 90,000 | $ 2.8880 | $ 259,920 | $ 3.3690 | $ 303,210 | $ (43,290) | | $ - | $ 259,920 |
| 4 | 08/14/18 | 67972 | 8 | 80,000 | $ 3.0910 | $ 247,280 | $ 3.3690 | $ 269,520 | $ (22,240) | | $ - | $ 247,280 |
| 5 | 09/13/18 | 68713 | 6 | 60,000 | $ 2.9230 | $ 175,380 | $ 3.3690 | $ 202,140 | $ (26,760) | | $ - | $ 175,380 |
| 6 | 09/13/18 | 68714 | 2 | 20,000 | $ 2.9220 | $ 58,440 | $ 3.3690 | $ 67,380 | $ (8,940) | | $ - | $ 58,440 |
| 7 | 10/18/18 | 70370 | 8 | 80,000 | $ 3.2970 | $ 263,760 | $ 3.3690 | $ 269,520 | $ (5,760) | | $ - | $ 263,760 |
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| 15 | | | | | | | | | | | | |
| Total | | | 52 | 520,000 | | $ 1,582,010 | | $1,751,880 | $ (169,870) | | $ - | $1,582,010 |
| | | | | | | $ 3.0423 | | $ 3.3690 | $ (0.3267) | | $ - | $ 3.0423 |
| NNG | 43 | 82.69% | 43 | 430,000 | $ 3.0423 | $ 1,308,201 | $ 3.3690 | $1,448,670 | $ (140,469) | $ - | $ - | $1,308,201 |
| Other-Cons | 9 | 17.31% | 9 | 90,000 | $ 3.0423 | $ 273,809 | $ 3.3690 | $ 303,210 | $ (29,401) | $ - | $ - | $ 273,809 |
| Total | 52 | 100.0% | 52 | 520,000 | $ 3.0423 | $ 1,582,010 | $ 3.3690 | $1,751,880 | $ (169,870) | $ - | $ - | $1,582,010 |

**Jan-19**

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | LDS Settle* | LDS Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/17/18 | 65170 | 11 | 110,000 | $ 3.0470 | $ 335,170 | $3.4390 | $ 378,290 | $ (43,120) | | $ - | $ 335,170 |
| 2 | 06/13/18 | 66146 | 10 | 100,000 | $ 3.1820 | $ 318,200 | $3.4390 | $ 343,900 | $ (25,700) | | $ - | $ 318,200 |
| 3 | 07/19/18 | 67242 | 10 | 100,000 | $ 2.9460 | $ 294,600 | $3.4390 | $ 343,900 | $ (49,300) | | $ - | $ 294,600 |
| 4 | 08/16/18 | 68020 | 1 | 10,000 | $ 3.1640 | $ 31,640 | $3.4390 | $ 34,390 | $ (2,750) | | $ - | $ 31,640 |
| 5 | 08/16/18 | 68021 | 8 | 80,000 | $ 3.1660 | $ 253,280 | $3.4390 | $ 275,120 | $ (21,840) | | $ - | $ 253,280 |
| 6 | 09/18/18 | 68881 | 9 | 90,000 | $ 2.9690 | $ 267,210 | $3.4390 | $ 309,510 | $ (42,300) | | $ - | $ 267,210 |
| 7 | 10/16/18 | 70128 | 9 | 90,000 | $ 3.3610 | $ 302,490 | $3.4390 | $ 309,510 | $ (7,020) | | $ - | $ 302,490 |
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| 15 | | | | | | | | | | | | |
| Total | Total | | 58 | 580,000 | | $ 1,802,590 | | $1,994,620 | $ (192,030) | | $ - | $ 1,802,590 |
| | | | | | | $ 3.1079 | | $ 3.4390 | $ (0.3311) | | $ - | $ 3.1079 |
| NNG | 49 | 84.48% | 49 | 490,000 | $ 3.1079 | $ 1,522,878 | $3.4390 | $1,685,110 | $ (162,232) | $ - | $ - | $ 1,522,878 |
| Other-Cons | 9 | 15.52% | 9 | 90,000 | $ 3.1079 | $ 279,712 | $3.4390 | $ 309,510 | $ (29,798) | $ - | $ - | $ 279,712 |
| Total | 58 | 100.0% | 58 | 580,000 | $ 3.1079 | $ 1,802,590 | $3.4390 | $1,994,620 | $ (192,030) | $ - | $ - | $ 1,802,590 |

**Feb-19**

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | LDS Settle* | LDS Settle Cost | Over/(Under Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/08/18 | 64616 | 9 | 90,000 | $ 2.9520 | $ 265,680 | $ 3.3470 | $ 301,230 | $ (35,550) | | $ - | $ 265,680 |
| 2 | 06/07/18 | 65943 | 8 | 80,000 | $ 3.1410 | $ 251,280 | $ 3.3470 | $ 267,760 | $ (16,480) | | $ - | $ 251,280 |
| 3 | 06/07/18 | 65944 | 1 | 10,000 | $ 3.1400 | $ 31,400 | $ 3.3470 | $ 33,470 | $ (2,070) | | $ - | $ 31,400 |
| 4 | 07/10/18 | 66846 | 8 | 80,000 | $ 3.0050 | $ 240,400 | $ 3.3470 | $ 267,760 | $ (27,360) | | $ - | $ 240,400 |
| 5 | 08/07/18 | 67855 | 8 | 80,000 | $ 3.0710 | $ 245,680 | $ 3.3470 | $ 267,760 | $ (22,080) | | $ - | $ 245,680 |
| 6 | 09/06/18 | 68509 | 8 | 80,000 | $ 2.9550 | $ 236,400 | $ 3.3470 | $ 267,760 | $ (31,360) | | $ - | $ 236,400 |
| 7 | 10/10/18 | 69731 | 8 | 80,000 | $ 3.3420 | $ 267,360 | $ 3.3470 | $ 267,760 | $ (400) | | $ - | $ 267,360 |
| 8 | | | | - | | $ - | $ 3.3470 | $ - | $ - | | $ - | $ - |
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| Total | | | 50 | 500,000 | | $ 1,538,200 | | $1,673,500 | $(135,300) | | $ - | $ 1,538,200 |
| | | | | | | $ 3.0764 | | $ 3.3470 | $ (0.2706) | | $ - | $ 3.0764 |
| NNG | 42 | 84.00% | 42 | 420,000 | $ 3.0764 | $ 1,292,088 | $ 3.3470 | $1,405,740 | $(113,652) | $ - | $ - | $ 1,292,088 |
| Other-Cons | 8 | 16.00% | 8 | 80,000 | $ 3.0764 | $ 246,112 | $ 3.3470 | $ 267,760 | $ (21,648) | $ - | $ - | $ 246,112 |
| Total | 50 | 100.0% | 50 | 500,000 | $ 3.0764 | $ 1,538,200 | $ 3.3470 | $1,673,500 | $(135,300) | $ - | $ - | $ 1,538,200 |

**Mar-19**

| Deal Number | Purchase Date | Trade Number | Number Contracts | Financial Volume | Strike Price | Strike Cost | LDS Settle* | LDS Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/10/18 | 64777 | 2 | 20,000 | $ 2.8560 | $ 57,120 | $ 3.1520 | $ 63,040 | $ (5,920) | | $ - | $ 57,120 |
| 2 | 05/10/18 | 64778 | 6 | 60,000 | $ 2.8570 | $ 171,420 | $ 3.1520 | $ 189,120 | $ (17,700) | | $ - | $ 171,420 |
| 3 | 06/11/18 | 66009 | 7 | 70,000 | $ 3.0400 | $ 212,800 | $ 3.1520 | $ 220,640 | $ (7,840) | | $ - | $ 212,800 |
| 4 | 07/12/18 | 66971 | 7 | 70,000 | $ 2.9200 | $ 204,400 | $ 3.1520 | $ 220,640 | $ (16,240) | | $ - | $ 204,400 |
| 5 | 08/09/18 | 67902 | 6 | 60,000 | $ 3.0160 | $ 180,960 | $ 3.1520 | $ 189,120 | $ (8,160) | | $ - | $ 180,960 |
| 6 | 09/11/18 | 68648 | 6 | 60,000 | $ 2.8470 | $ 170,820 | $ 3.1520 | $ 189,120 | $ (18,300) | | $ - | $ 170,820 |
| 7 | 10/16/18 | 70129 | 6 | 60,000 | $ 3.0960 | $ 185,760 | $ 3.1520 | $ 189,120 | $ (3,360) | | $ - | $ 185,760 |
| 8 | | | | - | | $ - | $ 3.1520 | $ - | $ - | | $ - | $ - |
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| 15 | | | | | | | | | | | | |
| Total | | | 40 | 400,000 | | $ 1,183,280 | | $1,260,800 | $ (77,520) | | $ - | $1,183,280 |
| | | | | | | $ 2.9582 | | $ 3.1520 | $ (0.1938) | | $ - | $ 2.9582 |
| NNG | 33 | 82.50% | 33 | 330,000 | $ 2.9582 | $ 976,206 | $ 3.1520 | $1,040,160 | $ (63,954) | $ - | $ - | $ 976,206 |
| Other-Cons | 7 | 17.50% | 7 | 70,000 | $ 2.9582 | $ 207,074 | $ 3.1520 | $ 220,640 | $ (13,566) | $ - | $ - | $ 207,074 |
| Total | 40 | 100.0% | 40 | 400,000 | $ 2.9582 | $ 1,183,280 | $ 3.1520 | $1,260,800 | $ (77,520) | $ - | $ - | $1,183,280 |

**Total**

| Deal Number | Purchase Date | % | Number Contracts | Physical Volume | Strike Price | Strike Cost | LDS Settle | LDS Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 37 | 370,000 | $ 2.9703 | $ 1,099,020 | $3.3661 | $1,245,460 | $ (146,440) | $ - | $ - | $ 1,099,020 |
| 2 | | | 34 | 340,000 | $ 3.0764 | $ 1,045,990 | $3.3447 | $1,137,190 | $ (91,200) | $ - | $ - | $ 1,045,990 |
| 3 | | | 33 | 330,000 | $ 2.9540 | $ 974,820 | $3.3346 | $1,100,420 | $ (125,600) | $ - | $ - | $ 974,820 |
| 4 | | | 30 | 300,000 | $ 2.9888 | $ 896,640 | $3.3050 | $ 991,510 | $ (94,870) | $ - | $ - | $ 896,640 |
| 5 | | | 31 | 310,000 | $ 3.0315 | $ 939,750 | $3.3346 | $1,033,740 | $ (93,990) | $ - | $ - | $ 939,750 |
| 6 | | | 27 | 270,000 | $ 2.9230 | $ 789,210 | $3.3340 | $ 900,170 | $ (110,960) | $ - | $ - | $ 789,210 |
| 7 | | | 36 | 360,000 | $ 3.2289 | $ 1,162,420 | $3.3386 | $1,201,910 | $ (39,490) | $ - | $ - | $ 1,162,420 |
| 8 | | | 4 | 40,000 | $ 3.1960 | $ 127,840 | $3.3200 | $ 132,800 | $ (4,960) | $ - | $ - | $ 127,840 |
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| Total | | | 232 | 2,320,000 | | $ 7,035,690 | | $7,743,200 | $ (707,510) | | $ - | $ 7,035,690 |
| | | | | | | $ 3.0326 | | $ 3.3376 | $ (0.3050) | | $ - | $ 3.0326 |
| NNG | 194 | 83.62% | 194 | ########## | $ 3.0326 | $ 5,883,293 | $3.3376 | $6,474,917 | $ (591,625) | $ - | $ - | $ 5,883,293 |
| Other-Cons | 38 | 16.38% | 38 | 380,000 | $ 3.0326 | $ 1,152,398 | $3.3376 | $1,268,283 | $ (115,885) | $ - | $ - | $ 1,152,398 |
| Total | 232 | 100.0% | 232 | 2,320,000 | $ 3.0326 | $ 7,035,690 | $3.3376 | $7,743,200 | $ (707,510) | $ - | $ - | $ 7,035,690 |

*Prices from 10/17/18 NYMEX market

# MINNESOTA ENERGY RESOURCES - Consolidated

**Projected Storage Cost - November 2018 through March 2019**

| Month/ Year | K#118657 NNG Storage (Dth) | LS Power K#132024 NNG Storage (Dth) | LS Power K#133736 NNG Storage (Dth) | Total NNG Storage (Dth) | Projected NNG WACOG | K#118657 NNG Storage Cost | K#132024 NNG Storage Cost | K#132112 NNG Storage Cost | Total NNG Storage Cost | ANR Storage GLGT/VGT (Dth) | ANR Storage GLGT/VGT WACOG | ANR Storage GLGT/VGT Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov-18 | 489,384 | 48,750 | 97,500 | 635,634 | $ 2.5729 | $ 1,259,154 | $ 125,431 | $ 250,861 | $ 1,635,446 | 96,000 | $ 2.8102 | $ 269,779 |
| Dec-18 | 1,229,734 | 122,500 | 245,000 | 1,597,234 | $ 2.5729 | $ 3,164,028 | $ 315,185 | $ 630,370 | $ 4,109,582 | 189,100 | $ 2.8102 | $ 531,408 |
| Jan-19 | 1,229,734 | 122,500 | 245,000 | 1,597,234 | $ 2.5729 | $ 3,164,028 | $ 315,185 | $ 630,370 | $ 4,109,582 | 189,100 | $ 2.8102 | $ 531,408 |
| Feb-19 | 1,229,734 | 122,500 | 245,000 | 1,597,234 | $ 2.5729 | $ 3,164,028 | $ 315,185 | $ 630,370 | $ 4,109,582 | 196,000 | $ 2.8102 | $ 550,799 |
| Mar-19 | 489,384 | 48,750 | 97,500 | 635,634 | $ 2.5729 | $ 1,259,154 | $ 125,431 | $ 250,861 | $ 1,635,446 | 85,900 | $ 2.8102 | $ 241,396 |
| Total | 4,667,969 | 465,000 | 930,000 | 6,062,969 | | $ 12,010,391 | $ 1,196,416 | $ 2,392,832 | $ 15,599,639 | 756,100 | | $ 2,124,790 |

| Month/ Year | NNG Storage Volume (Dth) | NNG Index Price | NNG Index Cost |
|---|---|---|---|
| Nov-18 | 635,634 | $ 3.4800 | $ 2,212,006 |
| Dec-18 | 1,597,234 | $ 3.8840 | $ 6,203,655 |
| Jan-19 | 1,597,234 | $ 4.1715 | $ 6,662,860 |
| Feb-19 | 1,597,234 | $ 4.1370 | $ 6,607,756 |
| Mar-19 | 635,634 | $ 3.0470 | $ 1,936,776 |
| Total | 6,062,969 | | $ 23,623,053 |
| | | | $ 8,023,414 |

| Month/ Year | ANR Storage Volume (Dth) | Emerson Index Price | Emerson Market Cost |
|---|---|---|---|
| Nov-18 | 96,000 | $ 3.3150 | $ 318,240 |
| Dec-18 | 189,100 | $ 3.5715 | $ 675,371 |
| Jan-19 | 189,100 | $ 3.8065 | $ 719,809 |
| Feb-19 | 196,000 | $ 3.7145 | $ 728,042 |
| Mar-19 | 85,900 | $ 3.3695 | $ 289,440 |
| Total | 756,100 | | $ 2,730,902 |
| | | | $ 606,112 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Max NNG-MERC Storage (Storage plan withdrawals through Apr 19) | 6,062,969 | 6,519,321 | 06/30/18 Storage Balance - NNG-MERC | 5,021,762 | 77.03% | 4,670,239 |
| Max ANR Storage (Storage plan withdrawals through Apr 19) | 756,100 | 756,100 | 06/30/18 Storage Balance - ANR | 313,222 | 41.43% | 313,222 |

| Month/ Year | K#118657 NNG Storage (Dth) | LS Power K#132024 NNG Storage (Dth) | LS Power K#132112 NNG Storage (Dth) | Total NNG Storage (Dth) | Projected K#118657 NNG WACOG | Projected K#132024 NNG WACOG | Projected K#132112 NNG WACOG | WACOG NNG Cost | Projected NNG Indexes Price | Projected NNG Index Cost | Projected Storage (Savings)/ Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Nov-18 | 489,384 | 48,750 | 97,500 | 635,634 | $ 2.5729 | $ 2.5729 | $ 2.5729 | $ 1,635,446 | $ 3.4800 | $ 2,212,006 | $ (576,560) |
| Dec-18 | 1,229,734 | 122,500 | 245,000 | 1,597,234 | $ 2.5729 | $ 2.5729 | $ 2.5729 | $ 4,109,582 | $ 3.8840 | $ 6,203,655 | $ (2,094,073) |
| Jan-19 | 1,229,734 | 122,500 | 245,000 | 1,597,234 | $ 2.5729 | $ 2.5729 | $ 2.5729 | $ 4,109,582 | $ 4.1715 | $ 6,662,860 | $ (2,553,278) |
| Feb-19 | 1,229,734 | 122,500 | 245,000 | 1,597,234 | $ 2.5729 | $ 2.5729 | $ 2.5729 | $ 4,109,582 | $ 4.1370 | $ 6,607,756 | $ (2,498,173) |
| Mar-19 | 489,384 | 48,750 | 97,500 | 635,634 | $ 2.5729 | $ 2.5729 | $ 2.5729 | $ 1,635,446 | $ 3.0470 | $ 1,936,776 | $ (301,330) |
| Total | 4,667,969 | 465,000 | 930,000 | 6,062,969 | | | | $ 15,599,639 | | $ 23,623,053 | $ (8,023,414) |

*Indexes and projected WACOG based on 10/17/18 market prices

# MINNESOTA ENERGY RESOURCES - Consolidated

**Projected Call Option Costs - November 2018 through March 2019**

**Call/Put Options WACOG**

**Call/Put Options** 10,000 Dth/contract

### Nov-18

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | Option Price | Option Cost | Pent Settle* | Pent Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/03/18 | 64479 | 11 | 110,000 | $ 3.0000 | $ 330,000 | $ 3.0000 | $ 330,000 | $ 3.3200 | $ 365,200 | $ (35,200) | $ 0.0950 | $ 10,450 | $ 340,450 |
| 2 | 06/05/18 | 65873 | 11 | 110,000 | $ 3.1000 | $ 341,000 | $ 3.1000 | $ 341,000 | $ 3.3200 | $ 365,200 | $ (24,200) | $ 0.1000 | $ 11,000 | $ 352,000 |
| 3 | 07/05/18 | 66730 | 11 | 110,000 | $ 2.9800 | $ 327,800 | $ 2.9800 | $ 327,800 | $ 3.3200 | $ 365,200 | $ (37,400) | $ 0.1000 | $ 11,000 | $ 338,800 |
| 4 | 08/02/18 | 67749 | 11 | 110,000 | $ 2.8600 | $ 314,600 | $ 2.8600 | $ 314,600 | $ 3.3200 | $ 365,200 | $ (50,600) | $ 0.0980 | $ 10,780 | $ 325,380 |
| 5 | 09/04/18 | 68447 | 11 | 110,000 | $ 2.8600 | $ 314,600 | $ 2.8600 | $ 314,600 | $ 3.3200 | $ 365,200 | $ (50,600) | $ 0.1000 | $ 11,000 | $ 325,600 |
| 6 | 10/05/18 | 69569 | 10 | 100,000 | $ 3.2000 | $ 320,000 | $ 3.2000 | $ 320,000 | $ 3.3200 | $ 332,000 | $ (12,000) | $ 0.0980 | $ 9,800 | $ 329,800 |
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| Total | | | 65 | 650,000 | | $ 1,948,000 | | $ 1,948,000 | | $ 2,158,000 | $ (210,000) | | $ 64,030 | $ 2,012,030 |
| | | | | | | $ 2.9969 | | $ 2.9969 | | $ 3.3200 | $ (0.3231) | | $ 0.0329 | $ 3.0954 |
| NNG | 54 | 83.08% | 54 | 540,000 | $ 2.9969 | $ 1,618,338 | $ 2.9969 | $ 1,618,338 | $ 3.3200 | $ 1,792,800 | $ (174,462) | $ 0.0985 | $ 53,194 | $ 1,671,533 |
| Other-Cons | 11 | 16.92% | 11 | 110,000 | $ 2.9969 | $ 329,662 | $ 2.9969 | $ 329,662 | $ 3.3200 | $ 365,200 | $ (35,538) | $ 0.0985 | $ 10,836 | $ 340,497 |
| Total | 65 | 100.0% | 65 | 650,000 | $ 2.9969 | $ 1,948,000 | $ 2.9969 | $ 1,948,000 | $ 3.3200 | $ 2,158,000 | $ (210,000) | $ 0.0985 | $ 64,030 | $ 2,012,030 |

### Dec-18

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | Option Price | Option Cost | Pent Settle* | Pent Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/10/18 | 64773 | 18 | 180,000 | $ 3.2000 | $ 576,000 | $ 3.2000 | $ 576,000 | $ 3.3690 | $ 606,420 | $ (30,420) | $ 0.0900 | $ 16,200 | $ 592,200 |
| 2 | 06/11/18 | 66008 | 18 | 180,000 | $ 3.3700 | $ 606,600 | $ 3.3690 | $ 606,420 | $ 3.3690 | $ 606,420 | $ - | $ 0.1000 | $ 18,000 | $ 624,420 |
| 3 | 07/12/18 | 66970 | 17 | 170,000 | $ 3.2000 | $ 544,000 | $ 3.2000 | $ 544,000 | $ 3.3690 | $ 572,730 | $ (28,730) | $ 0.0970 | $ 16,490 | $ 560,490 |
| 4 | 08/09/18 | 67901 | 17 | 170,000 | $ 3.3000 | $ 561,000 | $ 3.3000 | $ 561,000 | $ 3.3690 | $ 572,730 | $ (11,730) | $ 0.0970 | $ 16,490 | $ 577,490 |
| 5 | 09/11/18 | 68647 | 17 | 170,000 | $ 2.9800 | $ 506,600 | $ 2.9800 | $ 506,600 | $ 3.3690 | $ 572,730 | $ (66,130) | $ 0.0990 | $ 16,830 | $ 523,430 |
| 6 | 10/16/18 | 70127 | 17 | 170,000 | $ 3.5500 | $ 603,500 | $ 3.3690 | $ 572,730 | $ 3.3690 | $ 572,730 | $ - | $ 0.0930 | $ 15,810 | $ 588,540 |
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| Total | | | 104 | 1,040,000 | | $ 3,397,700 | | $ 3,366,750 | | $ 3,503,760 | $ (137,010) | | $ 99,820 | $ 3,466,570 |
| | | | | | | $ 3.2670 | | $ 3.2373 | | $ 3.3690 | $ (0.1317) | | $ 0.0294 | $ 3.3332 |
| NNG | 86 | 82.69% | 86 | 860,000 | $ 3.2670 | $ 2,809,637 | $ 3.2373 | $ 2,784,043 | $ 3.3690 | $ 2,897,340 | $ (113,297) | $ 0.0960 | $ 82,543 | $ 2,866,587 |
| Other-Cons | 18 | 17.31% | 18 | 180,000 | $ 3.2670 | $ 588,063 | $ 3.2373 | $ 582,707 | $ 3.3690 | $ 606,420 | $ (23,713) | $ 0.0960 | $ 17,277 | $ 599,983 |
| Total | 104 | 100.0% | 104 | 1,040,000 | $ 3.2670 | $ 3,397,700 | $ 3.2373 | $ 3,366,750 | $ 3.3690 | $ 3,503,760 | $ (137,010) | $ 0.0960 | $ 99,820 | $ 3,466,570 |

### Jan-19

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | Option Price | Option Cost | Pent Settle* | Pent Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/08/18 | 64615 | 11 | 110,000 | $ 3.5500 | $ 390,500 | $ 3.4390 | $ 378,290 | $ 3.4390 | $ 378,290 | $ - | $ 0.0950 | $ 10,450 | $ 388,740 |
| 2 | 05/17/18 | 65168 | 10 | 100,000 | $ 3.6000 | $ 360,000 | $ 3.4390 | $ 343,900 | $ 3.4390 | $ 343,900 | $ - | $ 0.0980 | $ 9,800 | $ 353,700 |
| 3 | 06/07/18 | 65942 | 20 | 200,000 | $ 3.7000 | $ 740,000 | $ 3.4390 | $ 687,800 | $ 3.4390 | $ 687,800 | $ - | $ 0.0990 | $ 19,800 | $ 707,600 |
| 4 | 07/10/18 | 66845 | 19 | 190,000 | $ 3.5000 | $ 665,000 | $ 3.4390 | $ 653,410 | $ 3.4390 | $ 653,410 | $ - | $ 0.0970 | $ 18,430 | $ 671,840 |
| 5 | 08/07/18 | 67854 | 19 | 190,000 | $ 3.5500 | $ 674,500 | $ 3.4390 | $ 653,410 | $ 3.4390 | $ 653,410 | $ - | $ 0.1000 | $ 19,000 | $ 672,410 |
| 6 | 09/06/18 | 68508 | 19 | 190,000 | $ 3.4000 | $ 646,000 | $ 3.4000 | $ 646,000 | $ 3.4390 | $ 653,410 | $ (7,410) | $ 0.0950 | $ 18,050 | $ 664,050 |
| 7 | 10/10/18 | 69729 | 19 | 190,000 | $ 4.1000 | $ 779,000 | $ 3.4390 | $ 653,410 | $ 3.4390 | $ 653,410 | $ - | $ 0.0960 | $ 18,240 | $ 671,650 |
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| 14 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | |
| Total | Total | | 117 | 1,170,000 | | $ 4,255,000 | | $ 4,016,220 | | $ 4,023,630 | $ (7,410) | | $ 113,770 | $ 4,129,990 |
| | | | | | | $ 3.6368 | | $ 3.4327 | | $ 3.4390 | $ (0.0063) | | $ 0.0267 | $ 3.5299 |
| NNG | 98 | 83.76% | 98 | 980,000 | $ 3.6368 | $ 3,564,017 | $ 3.4327 | $ 3,364,013 | $ 3.4390 | $ 3,370,220 | $ (6,207) | $ 0.0972 | $ 95,295 | $ 3,459,308 |
| Other-Cons | 19 | 16.24% | 19 | 190,000 | $ 3.6368 | $ 690,983 | $ 3.4327 | $ 652,207 | $ 3.4390 | $ 653,410 | $ (1,203) | $ 0.0972 | $ 18,475 | $ 670,682 |
| Total | 117 | 100.0% | 117 | 1,170,000 | $ 3.6368 | $ 4,255,000 | $ 3.4327 | $ 4,016,220 | $ 3.4390 | $ 4,023,630 | $ (7,410) | $ 0.0972 | $ 113,770 | $ 4,129,990 |

### Feb-19

| Deal Number | Purchase Date | Trade Number | Number Contracts | Physical Volume | Strike Price | Strike Cost | Option Price | Option Cost | Pent Settle* | Pent Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/15/18 | 65030 | 18 | 180,000 | $ 4.1500 | $ 747,000 | $ 3.3470 | $ 602,460 | $ 3.3470 | $ 602,460 | $ - | $ 0.0930 | $ 16,740 | $ 619,200 |
| 2 | 06/12/18 | 66049 | 17 | 170,000 | $ 4.1500 | $ 705,500 | $ 3.3470 | $ 568,990 | $ 3.3470 | $ 568,990 | $ - | $ 0.0970 | $ 16,490 | $ 585,480 |
| 3 | 07/17/18 | 67113 | 17 | 170,000 | $ 3.7500 | $ 637,500 | $ 3.3470 | $ 568,990 | $ 3.3470 | $ 568,990 | $ - | $ 0.0940 | $ 15,980 | $ 584,970 |
| 4 | 08/14/18 | 67971 | 17 | 170,000 | $ 4.0000 | $ 680,000 | $ 3.3470 | $ 568,990 | $ 3.3470 | $ 568,990 | $ - | $ 0.0970 | $ 16,490 | $ 585,480 |
| 5 | 09/13/18 | 68712 | 17 | 170,000 | $ 3.6500 | $ 620,500 | $ 3.3470 | $ 568,990 | $ 3.3470 | $ 568,990 | $ - | $ 0.0980 | $ 16,660 | $ 585,650 |
| 6 | 10/18/18 | 70366 | 16 | 160,000 | $ 4.2500 | $ 680,000 | $ 3.3470 | $ 535,520 | $ 3.3470 | $ 535,520 | $ - | $ 0.1000 | $ 16,000 | $ 551,520 |
| 7 | | | | - | | $ - | $ - | $ - | $ 3.3470 | $ - | $ - | | $ - | $ - |
| 8 | | | | - | | $ - | $ - | $ - | $ 3.3470 | $ - | $ - | | $ - | $ - |
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| 15 | | | | | | | | | | | | | | |
| Total | | | 102 | 1,020,000 | | $ 4,070,500 | | $ 3,413,940 | | $ 3,413,940 | $ - | | $ 98,360 | $ 3,512,300 |
| | | | | | | $ 3.9907 | | $ 3.3470 | | $ 3.3470 | $ - | | $ 0.0242 | $ 3.4434 |
| NNG | 85 | 83.33% | 85 | 850,000 | $ 3.9907 | $ 3,392,083 | $ 3.3470 | $ 2,844,950 | $ 3.3470 | $ 2,844,950 | $ - | $ 0.0964 | $ 81,967 | $ 2,926,917 |
| Other-Cons | 17 | 16.67% | 17 | 170,000 | $ 3.9907 | $ 678,417 | $ 3.3470 | $ 568,990 | $ 3.3470 | $ 568,990 | $ - | $ 0.0964 | $ 16,393 | $ 585,383 |
| Total | 102 | 100.0% | 102 | 1,020,000 | $ 3.9907 | $ 4,070,500 | $ 3.3470 | $ 3,413,940 | $ 3.3470 | $ 3,413,940 | $ - | $ 0.0964 | $ 98,360 | $ 3,512,300 |

### Mar-19

| Deal Number | Purchase Date | Trade Number | Number Contracts | Financial Volume | Strike Price | Strike Cost | Option Price | Option Cost | Pent Settle* | Pent Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 05/17/18 | 65169 | 14 | 140,000 | $ 4.0500 | $ 567,000 | $ 3.1520 | $ 441,280 | $ 3.1520 | $ 441,280 | $ - | $ 0.0980 | $ 13,720 | $ 455,000 |
| 2 | 06/13/18 | 66145 | 14 | 140,000 | $ 4.3000 | $ 602,000 | $ 3.1520 | $ 441,280 | $ 3.1520 | $ 441,280 | $ - | $ 0.1000 | $ 14,000 | $ 455,280 |
| 3 | 07/19/18 | 67241 | 13 | 130,000 | $ 3.7000 | $ 481,000 | $ 3.1520 | $ 409,760 | $ 3.1520 | $ 409,760 | $ - | $ 0.0990 | $ 12,870 | $ 422,630 |
| 4 | 08/16/18 | 68019 | 13 | 130,000 | $ 4.0500 | $ 526,500 | $ 3.1520 | $ 409,760 | $ 3.1520 | $ 409,760 | $ - | $ 0.0980 | $ 12,740 | $ 422,500 |
| 5 | 09/18/18 | 68880 | 13 | 130,000 | $ 3.5700 | $ 464,100 | $ 3.1520 | $ 409,760 | $ 3.1520 | $ 409,760 | $ - | $ 0.1000 | $ 13,000 | $ 422,760 |
| 6 | 10/10/18 | 69730 | 13 | 130,000 | $ 4.0000 | $ 520,000 | $ 3.1520 | $ 409,760 | $ 3.1520 | $ 409,760 | $ - | $ 0.1000 | $ 13,000 | $ 422,760 |
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| 15 | | | | | | | | | | | | | | |
| Total | | | 80 | 800,000 | | $ 3,160,600 | | $ 2,521,600 | | $ 2,521,600 | $ - | | $ 79,330 | $ 2,600,930 |
| | | | | | | $ 3.9508 | | $ 3.1520 | | $ 3.1520 | $ - | | $ 0.0251 | $ 3.2512 |
| NNG | 66 | 82.50% | 66 | 660,000 | $ 3.9508 | $ 2,607,495 | $ 3.1520 | $ 2,080,320 | $ 3.1520 | $ 2,080,320 | $ - | $ 0.0992 | $ 65,447 | $ 2,145,767 |
| Other-Cons | 14 | 17.50% | 14 | 140,000 | $ 3.9508 | $ 553,105 | $ 3.1520 | $ 441,280 | $ 3.1520 | $ 441,280 | $ - | $ 0.0992 | $ 13,883 | $ 455,163 |
| Total | 80 | 100.0% | 80 | 800,000 | $ 3.9508 | $ 3,160,600 | $ 3.1520 | $ 2,521,600 | $ 3.1520 | $ 2,521,600 | $ - | $ 0.0992 | $ 79,330 | $ 2,600,930 |

### Total

| Deal Number | Purchase Date | % | Number Contracts | Physical Volume | Strike Price | Strike Cost | Option Price | Option Cost | Pent Settle* | Pent Settle Cost | Over/(Under) Market | Premium Per Unit | Premium Cost | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 72 | 720,000 | $ 3.6257 | $ 2,610,500 | $ 3.2334 | $ 2,328,030 | $ 3.3245 | $ 2,393,650 | $ (65,620) | $ 0.0938 | $ 67,560 | $ 2,395,590 |
| 2 | | | 70 | 700,000 | $ 3.7359 | $ 2,615,100 | $ 3.2880 | $ 2,301,590 | $ 3.3226 | $ 2,325,790 | $ (24,200) | $ 0.0990 | $ 69,290 | $ 2,370,880 |
| 3 | | | 78 | 780,000 | $ 3.5004 | $ 2,730,300 | $ 3.2543 | $ 2,538,350 | $ 3.3391 | $ 2,604,480 | $ (66,130) | $ 0.0976 | $ 76,140 | $ 2,614,490 |
| 4 | | | 77 | 770,000 | $ 3.5677 | $ 2,747,100 | $ 3.2568 | $ 2,507,760 | $ 3.3378 | $ 2,570,090 | $ (62,330) | $ 0.0973 | $ 74,930 | $ 2,582,690 |
| 5 | | | 77 | 770,000 | $ 3.3510 | $ 2,580,300 | $ 3.1862 | $ 2,453,360 | $ 3.3378 | $ 2,570,090 | $ (116,730) | $ 0.0993 | $ 76,490 | $ 2,529,850 |
| 6 | | | 75 | 750,000 | $ 3.6927 | $ 2,769,500 | $ 3.3120 | $ 2,484,010 | $ 3.3379 | $ 2,503,420 | $ (19,410) | $ 0.0969 | $ 72,660 | $ 2,556,670 |
| 7 | | | 19 | 190,000 | $ 4.1000 | $ 779,000 | $ 3.4390 | $ 653,410 | $ 3.4390 | $ 653,410 | $ - | $ 0.0960 | $ 18,240 | $ 671,650 |
| 8 | | | 0 | - | $ - | $ - | $ - | $ - | #DIV/0! | $ - | $ - | $ - | $ - | $ - |
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| 15 | | | | | | | | | | | | | | |
| Total | | | 468 | 4,680,000 | | $ 16,831,800 | | $ 15,266,510 | | $ 15,620,930 | $ (354,420) | | $ 455,310 | $ 15,721,820 |
| | | | | | | $ 3.5965 | | $ 3.2621 | | $ 3.3378 | $ (0.0757) | | 2.71% | $ 3.3594 |
| NNG | 389 | 83.12% | 389 | 3,890,000 | $ 3.5968 | $ 13,991,570 | $ 3.2626 | $ 12,691,665 | $ 3.3382 | $ 12,985,630 | $ (293,965) | $ 0.0973 | $ 378,446 | $ 13,070,111 |
| Other-Cons | 79 | 16.88% | 79 | 790,000 | $ 3.5952 | $ 2,840,230 | $ 3.2593 | $ 2,574,845 | $ 3.3358 | $ 2,635,300 | $ (60,455) | $ 0.0973 | $ 76,864 | $ 2,651,709 |
| Total | 468 | 83.1% | 468 | 4,680,000 | $ 3.5965 | $ 16,831,800 | $ 3.2621 | $ 15,266,510 | $ 3.3378 | $ 15,620,930 | $ (354,420) | $ 0.0973 | $ 455,310 | $ 15,721,820 |

*Prices from 10/17/18 NYMEX market