

Docket Number: EL22-029
Subject Matter: First Data Request
Request to: Montana-Dakota Utilities Co. (MDU)
Request from: South Dakota Public Utilities Commission Staff
Date of Request: 11/1/2022
Responses Due: 11/15/2022

1-1. Provide a list of all inputs and assumptions used in the model to determine the avoided energy costs. Also, provide the source/basis for each input/assumption and indicate any that are required by other jurisdictions. Outline any new sources or major inputs that have been change by MDU in the past year.

Response:

| | |
|--------------------------------|--|
| Customer load forecast | 2023-2042 MDU Load Forecast |
| Typical hourly load profile | 2011 MDU customer load profile |
| MDU Owned generating resources | Actual information |
| Committed generating resources | None |
| Power Purchase Agreements | Minnkota Power Purchase Agreement (June 2021-May 2026) |
| Generating unit heat rates | Generator performance data |
| Generating unit O&M costs | MDU forecast |
| Generator outage schedules | MDU outage forecast |
| Generator retirement dates | None planned |
| Coal fuel pricing | MDU Power Production forecast |
| Natural Gas fuel pricing | MDU Gas Supply forecast – with 3% escalator |
| Fuel oil pricing | Current pricing |
| Hourly wind production | 2017 data for each wind project |
| MISO Market Energy Purchases | 250 MW hourly Max indefinitely |
| MISO Energy Market price | Wood Mackenzie forecast* |

*This is a change from previous marginal cost studies due to the recent volatility in MISO Market Energy Prices with Covid Pandemic, War in Ukraine, and recent Inflation.

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- 1-2. Refer to the one customer currently taking service under Rate 95.
- a) What type of generation does this customer have? (wind, solar, etc.)
 - b) Provide the mount of generation provided by the customer by month.

Response:

- a. Solar
- b. See the table below for the months and the amount of excess generation purchased by the Company:

| | Kwh Purchased |
|--------------|------------------|
| October 2021 | 1,218 |
| November | 921 |
| December | 1,029 |
| January 2022 | 358 |
| February | 537 |
| March | 990 |
| April | 1,157 |
| May | 1,146 |
| June | 1,548 |
| July | 1,202 |
| August | 1,438 |
| September | 939 |
| | <u>12,483</u> |

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1-3. Provide any insight MDU may have as to why the second customer MDU had in 2021 is no longer a Rate 95 or 96 customer.

Response:

The customer moved out of state. The turbine had not been working prior to the customer moving.

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1-4. Explain how MDU's Gas Supply forecast changed, if any, from last year's filing and how has it affected the avoided energy costs. Provide forecasts if available.

Response:

| | | 5 year cost projection | |
|---------------------------|------|------------------------|-----------|
| | | 2022 Plan | 2023 Plan |
| Lewis & Clark | | | |
| | 2022 | \$3.29 | |
| | 2023 | \$3.14 | \$5.08 |
| | 2024 | \$3.09 | \$4.43 |
| | 2025 | \$3.23 | \$3.98 |
| | 2026 | \$3.17 | \$3.86 |
| | 2027 | | \$3.86 |
| Heskett III & IV | | | |
| | 2022 | \$3.26 | |
| | 2023 | \$3.11 | \$5.06 |
| | 2024 | \$3.06 | \$4.41 |
| | 2025 | \$3.20 | \$3.96 |
| | 2026 | \$3.14 | \$3.84 |
| | 2027 | | \$3.84 |
| Glendive & Miles City CTs | | | |
| | 2022 | \$3.91 | |
| | 2023 | \$3.82 | \$5.37 |
| | 2024 | \$3.89 | \$5.23 |
| | 2025 | \$3.91 | \$5.01 |
| | 2026 | \$3.89 | \$4.96 |
| | 2027 | | \$4.99 |

Montana-Dakota's natural gas generation facilities were developed for capacity resource requirements and produce very little energy in the marginal cost study models so changes in natural gas prices do not have a material effect on the Company's avoided energy rates.

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1-5. Provide the amount of capacity purchases, by year, MDU is projecting to make in years 2026-2030.

Response:

Montana-Dakota is still assessing the impacts of the recent MISO resource adequacy changes including the seasonal construct approved by FERC in Docket ER22-495 and effective June 1, 2023. At this time, it does not appear that Montana-Dakota will need much for additional summer capacity resources or purchases through 2030. Regarding the winter requirements and the higher planning reserve margin for the winter season, it looks like Montana-Dakota may be short over 100 MWs of winter capacity resources by 2030. We are still evaluating our assigned winter capacity for existing generation resources and what can be done to increase their winter capability.