February 27, 2020

Mr. Will Rosquist
Utility Division
Montana Public Service Commission
1701 Prospect Avenue
Helena, MT 59620

RE: Annual Electric Reliability Report – 2019
ARM 38.5.8619

Dear Mr. Rosquist:

Montana-Dakota Utilities Co., (Montana-Dakota) herewith submits an original and ten copies of its Annual Report of Montana Electric Reliability Indices pursuant to ARM 38.5.8619.

The Reliability Indices provided in this report include the System Average Interruption Frequency Index (SAIFI), the System Average Interruption Duration Index (SAIDI) and the Customer Average Interruption Duration Index (CAIDI) for the state of Montana and by major district served by Montana-Dakota in Montana for calendar year 2019. Historical data for calendar years 2018 and 2017 is also included. All indices in this report include outage data for both the distribution system and the transmission system and the SAIDI and CAIDI indices are reported in minutes.

A graphical presentation of the SAIFI, SAIDI and CAIDI indices for 2017-2019 is provided in Attachment A, pages 1 and 2 with a categorization of the causes associated with service interruptions in 2017 through 2019 shown on Attachment A, page 3. Overall, outages decreased in 2019 from the previous two years. Please refer to Attachment B, page 1 for the index data.

In calendar year 2019, Montana-Dakota did not have an outage on the distribution or transmission system that was classified as a major storm event where more than 10% of a major town’s circuits were affected. However, storms did impact the system. An explanation of storm related outages not classified as major storm events is provided in Attachment B, page 2.

Please contact me with any questions regarding this report

Sincerely,

Tamie A. Aberle
Director of Regulatory Affairs
MONTANA-DAKOTA UTILITIES CO.
RELIABILITY INDEX WITH IDENTIFIED STORM EVENT(S)
ELECTRIC UTILITY - MONTANA
2017-2019

SAIFI with Storm Event (in Hours)

SAIDI with Storm Event (in Minutes)

CAIDI with Storm Event (in Minutes)
MONTANA-DAKOTA UTILITIES CO.
RELIABILITY INDEX WITHOUT IDENTIFIED STORM EVENT(S)
ELECTRIC UTILITY - MONTANA
2017-2019

SAIFI without Storm Event (in Hours)

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTANA</td>
<td>2.09</td>
<td>1.65</td>
<td>1.00</td>
</tr>
<tr>
<td>GLENDIVE</td>
<td>0.42</td>
<td>0.45</td>
<td>0.37</td>
</tr>
<tr>
<td>WOLF POINT</td>
<td>0.37</td>
<td>1.30</td>
<td>1.95</td>
</tr>
</tbody>
</table>

SAIDI without Storm Event (in Minutes)

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTANA</td>
<td>164.92</td>
<td>128.13</td>
<td>47.34</td>
</tr>
<tr>
<td>GLENDIVE</td>
<td>54.51</td>
<td>175.18</td>
<td>27.39</td>
</tr>
<tr>
<td>WOLF POINT</td>
<td>136.89</td>
<td>123.11</td>
<td></td>
</tr>
</tbody>
</table>

CAIDI without Storm Event (in Minutes)

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTANA</td>
<td>111.92</td>
<td>78.75</td>
<td>77.45</td>
</tr>
<tr>
<td>GLENDIVE</td>
<td>128.21</td>
<td>81.34</td>
<td>72.87</td>
</tr>
<tr>
<td>WOLF POINT</td>
<td>74.22</td>
<td>70.26</td>
<td>94.91</td>
</tr>
</tbody>
</table>
MONTANA-DAKOTA UTILITIES CO.
ELECTRIC UTILITY MONTANA
OUTAGES BY CAUSE
2017-2019

Distribution and Transmission Outages:

<table>
<thead>
<tr>
<th>Cause</th>
<th>2015</th>
<th>2018</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Customer</td>
<td>5</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>2) Equipment</td>
<td>23</td>
<td>51</td>
<td>67</td>
</tr>
<tr>
<td>3) Other</td>
<td>56</td>
<td>26</td>
<td>37</td>
</tr>
<tr>
<td>4) Planned</td>
<td>26</td>
<td>65</td>
<td>73</td>
</tr>
<tr>
<td>5) Storms</td>
<td>81</td>
<td>66</td>
<td>47</td>
</tr>
<tr>
<td>6) Trees/Vegetation</td>
<td>27</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>7) Unknown</td>
<td>103</td>
<td>185</td>
<td>150</td>
</tr>
<tr>
<td>8) Wildlife</td>
<td>34</td>
<td>50</td>
<td>49</td>
</tr>
<tr>
<td>9) Vehicle Collision</td>
<td>7</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>10) Improper Construction/Dig In</td>
<td>16</td>
<td>15</td>
<td>14</td>
</tr>
</tbody>
</table>

Total: 378 | 520 | 487
### Reliability Index with Identified Storm Event(s)

- **SAIFI (System Average Interruption Frequency Index)**
  - Montana: 0.91, 2.65, 1.96
  - Glendive District: 1.00, 2.75, 2.16
  - Wolf Point District: 0.69, 2.70, 1.57
- **SAIDI (System Average Interruption Duration Index)**
  - Montana: 84.51, 262.87, 171.21
  - Glendive District: 82.33, 198.17, 181.62
  - Wolf Point District: 90.59, 439.63, 142.33
- **CAIDI (Customer Average Interruption Duration Index)**
  - Montana: 92.70, 99.20, 87.24
  - Glendive District: 85.73, 75.83, 62.47
  - Wolf Point District: 130.86, 162.93, 90.69

### Reliability Index-Without Identified Storm Event(s)

- **SAIFI (System Average Interruption Frequency Index)**
  - Montana: 0.42, 2.09, 1.65
  - Glendive District: 0.45, 2.18, 1.78
  - Wolf Point District: 0.37, 1.95, 1.3
- **SAIDI (System Average Interruption Duration Index)**
  - Montana: 47.34, 164.92, 128.13
  - Glendive District: 54.51, 175.18, 129.93
  - Wolf Point District: 27.39, 136.89, 123.11
- **CAIDI (Customer Average Interruption Duration Index)**
  - Montana: 111.92, 78.75, 77.45
  - Glendive District: 128.21, 81.34, 72.87
  - Wolf Point District: 74.22, 70.26, 94.91

2019 had no Major Storm Events
The following storm outages, while not classified as a major storm events by definition, did affect reliability indices in calendar year 2019.

Specific storm related outages on the transmission system not classified as a major storm event affecting distribution substations included:

Storm Related Weather and Wind – Glendive District
- 06/05/2019 – Cenex Pumping, Forsyth 12kV & 14kV, Hathaway, MC Radar Base, Rosebud & Ulmer
- 07/08/2019 – Coral Creek, Fertile Prairie, Little Beaver 1&2, & Lookout Butte
- 07/09/2019 – Coral Creek & Lookout Butte
- 07/15/2019 – OneOK Booster
- 07/28/2019 – Pennel
- 09/11/2019 – Baker, Baker Gas Comp, Butte Pipeline 1 & 2, Coral Creek, Encore Air Comp, Fertile Prairie, Little Beaver 1 & 2, Lookout Butte, ODonnell and Pennel
- 09/17/2019 – Fletcher, Hi-Line Truck, Holly Sugar 1534 & 1539, Intake, KRMC Savage, Savage & Sidney East

Storm Related Weather and Wind – Wolf Point District
- 03/26/2019 – Poplar Oil Field
- 06/28/2019 – Froid, Homestead & Medicine Lake
- 07/24/2019 – Poplar Oil Field
- 08/14/2019 – Froid, Homestead & Medicine Lake