



A Touchstone Energy® Cooperative 

January 8, 2019

Dr. Burl Haar  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7<sup>th</sup> Place East, Suite 350  
St. Paul, MN 55101-2147

RE: In the Matter of Minnkota Power Cooperative, Inc.'s 2019 Resource Plan; ET6/RP-19-416.

Dear Dr. Haar,

Enclosed for e-filing with the Minnesota Public Utilities Commission, please find Minnkota Power Cooperative's ("Minnkota") Reply Comments in the above-referenced docket on behalf of the Joint System referenced therein. These reply comments are made to address the Comments of the Minnesota Department of Commerce, Division of Energy Resources, made on November 7, 2019, specifically their recommendation that MPC and NMPA submit "the evaluation of progress towards meeting Minnesota's greenhouse gas emission reduction goal..."

The filed Resource Plan covers the forecast period of 2019 – 2033, and outlines Minnkota's plan to meet our member distribution cooperatives' energy needs, as well as those citizens purchasing via NMPA in an affordable and reliable way.

Respectfully submitted,

/s/ Jamie Overgaard

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Service List

## I. Introduction/History

On June 28, 2019 Minnkota Power Cooperative, Inc. (Minnkota) filed its 2019 Integrated Resource Plan (IRP) covering the period 2019 to 2033. On November 7, 2019, Minnkota received the filed Comments of the Minnesota Department of Commerce, Division of Energy Resources, which states:

“The Department recommends that the Minnesota Public Utilities Commission (Commission) accept Minnkota Power Cooperative and Northern Municipal Power Agency’s 2019 Resource Plan once they have submitted the evaluation of progress towards meeting Minnesota’s greenhouse gas emission reduction goal, which is required in all resource plans.”

## II. Minnkota Reply Comment

The Department has recommended that Minnkota provide additional analysis on behalf of the Joint System that would identify how Minnkota’s preferred resource plan would help achieve Minnesota’s greenhouse gas reduction goal under Minn. Stat. § 216H.02. Minnesota’s greenhouse gas emissions are defined as including “emissions of carbon dioxide . . . emitted by anthropogenic sources within the state and from the generation of electricity imported from outside the state and consumed in Minnesota. Minn. Stat. § 216H.01, subd. 1. Minnkota does not own any sources of generation located in Minnesota. All of Minnkota and NMPA’s generation resources are located in North Dakota.

Illustrated below are the following tables which demonstrate the calculation of Minnkota’s CO<sub>2</sub> emission reductions. Table 1 shows Minnkota’s projected MWhs generated by coal fired generators which can serve Minnesota load. Table 2 shows emission statistics for coal generation resources which served Minnkota’s Minnesota load for 2005, and possible emission projections for 2019 thru 2036. Table 3 compares CO<sub>2</sub> emissions for 2005 to CO<sub>2</sub> emissions for 2019 thru 2036 levels.

Table 1

Year	Member MN (MWh)	NMPA MN (MWh)	TOTAL MN (MWh)	MN RES Mandate	Fossil Fuel (MWh)
2005	1,406,229	384,515	1,790,744	0	1,790,744.00
2014	1,623,674	392,176	2,015,850	12%	1,773,948.11
2015	1,515,319	378,173	1,893,492	12%	1,666,273.06
2016	1,494,552	372,330	1,866,882	12%	1,642,856.50
2017	1,498,450	367,600	1,866,050	17%	1,548,821.68
2018	1,575,686	376,250	1,951,936	17%	1,620,106.73
2019	1,475,242	361,907	1,837,149	17%	1,524,833.43
2020	1,494,966	366,746	1,861,712	20%	1,489,369.59
2021	1,515,001	371,661	1,886,662	20%	1,509,329.65
2022	1,534,545	376,455	1,911,000	20%	1,528,799.88
2023	1,551,059	380,506	1,931,565	20%	1,545,252.20
2024	1,568,813	384,862	1,953,675	20%	1,562,940.07

<b>2025</b>	1,580,447	387,716	1,968,162	25%	1,476,121.63
<b>2026</b>	1,596,251	391,593	1,987,844	25%	1,490,882.84
<b>2027</b>	1,612,214	395,509	2,007,722	25%	1,505,791.67
<b>2028</b>	1,628,336	399,464	2,027,799	25%	1,520,849.59
<b>2029</b>	1,644,619	403,458	2,048,077	25%	1,536,058.08
<b>2030</b>	1,661,065	407,493	2,068,558	25%	1,551,418.66
<b>2031</b>	1,677,676	411,568	2,089,244	25%	1,566,932.85
<b>2032</b>	1,694,453	415,684	2,110,136	25%	1,582,602.18
<b>2033</b>	1,711,397	419,840	2,131,238	25%	1,598,428.20
<b>2034</b>	1,728,511	424,039	2,152,550	25%	1,614,412.48
<b>2035</b>	1,745,796	428,279	2,174,075	25%	1,630,556.61
<b>2036</b>	1,763,254	432,562	2,195,816	25%	1,646,862.17

Column descriptions for Table 1

- **Member MN (MWh)** = Total MN member MWh sales plus 4% transmission losses
- **NMPA MN (MWh)** = Total MN MWh sales to NMPA members plus 4% transmission losses
- **TOTAL MN (MWh)** = Member MN (MWh) + NMPA MN (MWh)
- **MN RES Mandate** = MN renewable mandate
- **Fossil Fuel (MWh)** = TOTAL MN (MWh) \* ( 1- MN RES Mandate)

Table 2

Year	Young 1 CO <sub>2</sub> emissions lb/MWh	Young 2 CO <sub>2</sub> emissions lb/MWh	Coyote CO <sub>2</sub> emissions lb/MWh
2005	2,345	2,464	2,374
2014	2,074	2,154	2,404
2015	2,193	2,166	2,405
2016	2,382	2,141	2,281
2017	2,282	2,199	2,339
2018	2,308	2,199	2,319
2019	2,248	2,175	2,319
2020	2,248	2,175	2,319
2021	2,248	2,175	2,319
2022	2,248	2,175	2,319
2023	2,248	2,175	2,319
2024	2,248	2,175	2,319
2025	2,248	2,175	2,319
2026	2,248	217	2,319

2027	2,248	217	2,319
2028	2,248	217	2,319
2029	2,248	217	2,319
2030	2,248	217	2,319
2031	2,248	217	2,319
2032	2,248	217	2,319
2033	2,248	217	2,319
2034	2,248	217	2,319
2035	2,248	217	2,319
2036	2,248	217	2,319

Table 3

Year	2005 CO <sub>2</sub> Emissions, Tons	Projected CO <sub>2</sub> Emissions, Tons	Percent reduction of CO <sub>2</sub> from 2005
2014	2,143,689.25	1,960,741	-8.5%
2015		1,878,563	-12.4%
2016		1,862,782	-13.1%
2017		1,760,344	-17.9%
2018		1,842,867	-14.0%
2019		1,713,255	-20.1%
2020		1,673,409	-21.9%
2021		1,695,835	-20.9%
2022		1,717,712	-19.9%
2023		1,736,197	-19.0%
2024		1,756,070	-18.1%
2025		1,658,524	-22.6%
2026*		878,629	-59.0%
2027*		887,415	-58.6%
2028*		896,290	-58.2%
2029*		905,252	-57.8%
2030*		914,305	-57.3%
2031*		923,448	-56.9%
2032*	932,682	-56.5%	
2033*	942,009	-56.1%	
2034*	951,429	-55.6%	
2035*	960,944	-55.2%	
2036*	970,553	-54.7%	

\* Denotes possible estimates based on utilization of Project Tundra

The CO<sub>2</sub> emissions are based on the MWh generation needed to serve Minnesota load from Young 1, Young 2 and Coyote only. Young 1, Young 2, and Coyote CO<sub>2</sub> emissions are used as a weighted average (from Table 2) and multiplied by Fossil Fuel MWhs (from Table 1) needed to serve Minnesota load.

As described in Section 12 of Minnkota's IRP, Minnkota is pursuing Project Tundra, which is estimated to capture 90% of the CO<sub>2</sub> emissions from Young 2. If the project moves forward, Minnkota currently anticipates construction to initiate in 2022-2023, with an in-service date of 2025-2026.

Accordingly, Minnkota submits Table 3 showing Minnkota CO<sub>2</sub> emissions in 2005 at 2,143,689 tons. Upon the successful completion of Project Tundra, Minnkota CO<sub>2</sub> emissions would be significantly reduced as demonstrated in 2026 in Table 3. At present, Minnkota submits this Reply by only contemplating the implementation of Project Tundra and no other possible scenarios or actions available to Minnkota. Minnkota anticipates determining the plausibility of moving forward with Project Tundra within the next 18 months, which will leave sufficient time to review its CO<sub>2</sub> emissions and its obligations, if any, under Minn. Stat. § 216H et. seq. thereafter should it determine that Project Tundra is not viable.

It is the intent of Minnkota and NMPA to comply with all applicable federal and state requirements regarding reducing carbon emission once those requirements are identified going forward