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June 23, 2023

Via Federal eRulemaking Portal [regulations.gov] Via Email [benish.sarah@epa.gov]

Ms. Sarah Benish Sector Policies and Programs Division Office of Air Quality Planning and Standards U.S. Environmental Protection Agency Research Triangle Park, NC 27711

Re: NorthWestern Corporation Comments re: Proposal on National Emissions Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review

Docket ID No. EPA-HQ-OAR-2018-0794

Dear Ms. Benish:

On behalf of NorthWestern Corporation d/b/a NorthWestern Energy ("NorthWestern"), I am commenting on the U.S. Environmental Protection Agency's ("EPA's") proposed changes to the National Emissions Standard for Hazardous Air Pollutants ("NESHAP") for the Coal- and Oil-fired Electric Utility Steam Electric Generating Units ("EGUs"), commonly known as the Mercury and Air Toxics Standard ("MATS"). The proposed changes were published in the *Federal Register* on April 24, 2023, at 88 Fed. Reg. 24,854 ("Proposed Rule"). As discussed herein, the Proposed Rule poses significant challenges for NorthWestern and its rate-paying customers in Montana, will likely have environmental and Environmental Justice impacts that are contrary to Administration policies, and is likely unlawful.

NorthWestern agrees with and incorporates by reference the concurrent comments submitted by Talen Montana, LLC ("Talen") as part owner and based on its knowledge as operator of Units 3 and 4 of the Colstrip Steam Electric Station ("Colstrip"). NorthWestern. NorthWestern endeavors to minimize duplication of the Talen comments.

These comments are organized into the following sections:

- Summary of Comments;
- NorthWestern's commitment to environmental and climate responsibility;
- NorthWestern's commitment to Environmental Justice;
- NorthWestern's energy portfolio and role in serving Montana electricity customers;



- Transmission limitations on the ability to import power;
- Inability to close Colstrip prior to 2035 without constructing replacement thermal baseload capacity;
- Costs of installing additional controls on Colstrip;
- Colstrip and NorthWestern portfolio scenarios;
- Cost and safety hazards of closing Colstrip prior to 2036 without constructing replacement thermal baseload capacity;
- Consequences of diverting capital from other beneficial projects to comply with the Proposed Rule
- Prejudice to NorthWestern of the Proposed Rule;
- Statutory and Administrative Procedure Act deficiencies with the Proposed Rule; and,
- Requests.

Each of these subjects is addressed below.

1. <u>Summary of Comments</u>

The Proposed Rule, if finalized in its current form, is deeply harmful to the residents of Montana and will work in contradiction to the President's environmental objectives in Executive Order 13990, and Executive Order 12898, as most recently amended by the President on April 23, 2023. This is a result of the specific history and current electrical generation and grid limitations of NorthWestern and Montana.

As EPA is aware, Colstrip is in full compliance with the current MATS standards, which EPA does not dispute meet the statutory objectives of the Clean Air Act. However, as EPA also acknowledges and Talen explains in detail, Colstrip cannot come into compliance with either of the candidate standards set forth the Proposed Rule without extensive supplementation of existing pollution controls – the venturi wet scrubbers currently in use cannot meet the proposed standards. As detailed by Talen, upgrading Colstrip to comply with the Proposed Rule is cost-prohibitive, resulting in at least \$350,000,000 in capital costs, plus an additional \$15 million annual operating costs. *See* Talen Comments, Attachment C. NorthWestern and residents of Montana would bear the majority of these costs. Colstrip is the only facility identified by EPA as facing this predicament.

In addition, if Colstrip is closed in the near term, NorthWestern cannot provide adequate and reliable electrical service for its Montana customers without new replacement baseload capacity. Colstrip currently plays an essential role in baseload capacity for NorthWestern, and there are no near-term feasible means to replace Colstrip's capacity with other existing NorthWestern capacity or market purchases from in-state or out-of-





state sources. Imported power is further constrained by significant transmission limitations.

NorthWestern has modeled and evaluated scenarios for closure of Colstrip in 2025, 2030, and 2035, and 2042 in its May 2023 Integrated Resource Plan. The 2025 and 2030 closure scenarios expose NorthWestern to extreme degrees of market risk, resulting high probabilities of ruinous market electricity purchases and grid instability.

If the Proposed Rule is finalized in its current form, NorthWestern will therefore be faced with an array of costly and environmentally unsound choices. Renewables are not a viable option because NorthWestern's portfolio is already renewable-heavy, and additional renewable capacity will not solve the problem of variable generation deficits NorthWestern currently experiences.

On the one hand, if NorthWestern participates in upgrades to Colstrip, it will either need to materially increase electricity rates for Montana customers, or redirect funding previously earmarked for other projects. Projects that may be abandoned to fund Colstrip upgrades include transmission improvements, planned upgrades to facilities that are in excess of maintenance requirements, or other non-required beneficial capital projects. The vast majority of these have direct environmental benefits, deferral of which would undermine or even fully negate the environmental benefits of the Proposed Rule.

Alternatively, the only baseload capacity that can conceivably be constructed within the statutory compliance deadlines is new natural gas generation capacity. Carbon-free baseload alternatives are either unproven, or require significantly longer development times. The net result would be a substantial investment in a new, large, long-lived fossil fuel based generation assets. This outcome would clearly contradict the objectives of E.O. 13990.

NorthWestern has been substantially and uniquely prejudiced by EPA's course of action. The 2020 Residual Risk Technology Review ("RTR") confirmed that Colstrip's pollution controls satisfy the requirements of the Clean Air Act, and there have been no significant technological or implementation advancements since the 2020 RTR that would change that conclusion. Had NorthWestern known that EPA would undertake a complete reversal of the conclusions of the 2020 RTR just three years later, NorthWestern could have factored compliance costs earlier and more robustly into NorthWestern's Integrated Resource Planning process.

The combination of prejudice to NorthWestern and the ratepayers of Montana, coupled with mis-application of the technology review provisions of Clean Air Act Section 112(d)(6), places EPA at significant risk of having the Proposed Rule declared as arbitrary and capricious and contrary to law.





Consequently, NorthWestern respectfully urges EPA to use its discretion under the Clean Air Act and E.O.s 13990 and 12898 to take the following actions:

- Withdraw the Proposed Rule, revisiting the subject closer to the eight year timeframe provided in Clean Air Act Section 112(d)(6), or earlier if and when actual technological advancements occurring since the 2020 RTR satisfy the conditions for revisitation of standards set forth in Section 112(d)(6);
- (2). If the Proposed Rule is not withdrawn, create a source subcategory that exempts those facilities presently employing wet scrubber technology without ESP or fabric filter add-ons until the next RTR; and/or
- (3). Create a retirement subcategory allowing units to continue to meet the existing 0.03 lb/MMBtu fPM standard so long as they opt-in to the retirement subcategory within 18 months after finalization of the rule, with a retirement date no later than December 31, 2035 (and where continued operation after 2035 would later be permitted if (i) the unit is essential to maintain regional grid reliability, as determined by the Western Regional Adequacy Program, Regional Transmission Organizations, Independent System Operators, North American Electric Reliability Corporation, or other similar system reliability authorities; or (ii) or if EPA determines that additional time is required to allow the unit to transition to renewable or clean energy generation).

The foregoing courses of action are the only options that comply with the statutory requirements of the Clean Air and Administrative Procedure Acts, and are consistent with the objectives of E.O.s 13990 and 12898.

2. NorthWestern's commitment to environmental and climate responsibility

NorthWestern is a strong proponent of environmental protection, consistent with its responsibilities to deliver reliable, cost-efficient electrical service to its customers. To that end, NorthWestern has a corporate objective to achieve net zero emissions by 2050 ("Net Zero 2050"). A copy is attached as Exhibit A. NorthWestern already has one of the highest percentages of carbon-free generation in the United States, and has significant additional carbon and other emissions-reducing projects in development. Although NorthWestern disagrees strongly with the Proposed Rule, this should not be confused with opposition to environmental protection or the objectives of E.O. 13990.



3. NorthWestern's commitment to Environmental Justice

NorthWestern shares the Administration's commitment to Environmental Justice. NorthWestern has extensive programs to support critically needed affordable and reliable energy to low income and tribal communities within NorthWestern's service area. It is not clear from the Proposed Rule and supporting documentation that EPA has fully considered the Environmental Justice consequences of the Proposed Rule, especially as related to Montana and the Environmental Justice communities in Montana. For example, 25% of NorthWestern's service base is low income, with approximately half of those below poverty standards. The costs of the Proposed Rule will fall in important ways on those who are least able to afford it, and as detailed further in Sections 4 and 5, the grid reliability dangers posed by Proposed Rule also threaten the most vulnerable in Montana. In addition to the essential services NorthWestern provides, Colstrip and the Rosebud Mine supplying Colstrip directly employ 82 people of tribal affiliation, or 14% of the facilities' total employment. Premature closure of Colstrip would devastate these families and the Colstrip community as a whole.

Consistent with the Administration's updates and revisions to Executive Order 12898 (Executive Order on Revitalizing Our Nation's Commitment to Environmental Justice, April 21, 2023), EPA must evaluate these Environmental Justice effects in comparison with the claimed health benefits of the Proposed Rule. This is an acute issue where the environmental benefits claimed from the rule are extremely incremental (from 99.6% fPM existing removal efficiency to 99.8% efficiency under the Proposed Rule), and start from a baseline level of performance that is highly protective of human health and in compliance with Clean Air Act objectives.

4. <u>NorthWestern's energy portfolio and role in serving Montana electricity</u> <u>customers</u>

NorthWestern provides energy and capacity to customers in Montana, South Dakota, and Nebraska. For transmission interconnection reasons explained later, Colstrip is principally relevant and important to electrical supply in Montana. NorthWestern provides electricity to customers in its service areas in Montana and also serves as a "Balancing Authority," which means that NorthWestern is responsible for ensuring that the supply of and demand for electricity within our Balancing Authority Area are in equilibrium or balanced.

The Montana Public Service Commission ("MPSC") oversees NorthWestern's resource planning activities and the recovery of costs of generation and power purchase agreements. At all times relevant to this matter, the MPSC had set forth the following objectives that Montana utilities should meet: (a) reliability; (b) affordability; (c) environmental responsibility; (d) optimality; and (e) transparency. *See* MCA 69-3-1202.



NorthWestern thus has legal obligations to reliably and affordably supply electricity to its customers in Montana and to do so cost-effectively while seeking to reduce adverse environmental impacts. In addition to those legal obligations, NorthWestern recognizes that as a practical matter its customers count on NorthWestern to provide the cost effective electricity used to power their homes and businesses and the critical infrastructure upon which they rely.

Under Montana law, NorthWestern, as a regulated public utility, is required to prepare and file a plan every 3 years for meeting the requirements of its customers in the most cost-effective manner consistent with its obligation to serve under the law. MCA § 69-3-1204(1)(a).

The plan must include:

- a. an evaluation of the full range of cost-effective means for the public utility to meet the service requirements of its Montana customers, including conservation or similar improvements in the efficiency by which services are used and including demand-side management programs in accordance with 69-3-1209;
- b. an annual electric demand and energy forecast developed pursuant to commission rules that includes energy and demand forecasts for each year within the planning period and historical data, as required by commission rule;
- c. assessment of planning reserve margins and contingency plans for the acquisition of additional resources developed pursuant to commission rules;
- d. an assessment of the need for additional resources and the utility's plan for acquiring resources;
- e. the proposed process the utility intends to use to solicit bids for energy and capacity resources to be acquired through a competitive solicitation process in accordance with 69-3-1207; and
- f. descriptions of at least two alternate scenarios that can be used to represent the costs and benefits from increasing amounts of renewable energy resources and demand-side management programs, based on rules developed by the commission.

Planning for reliable service requires NorthWestern to ensure that it has enough electricity generation resources to meet its customer demands every hour of the year, even with changing weather and demands. As a matter of physics, for the electric grid to operate reliably, the amount of energy generated ("generation") and the consumption of that energy ("load") must be equal or in balance. Generation and load must be in balance year-to-year, month-to-month, day-to-day, hour-by-hour, and minute-by minute for the electric grid to remain stable. Because of the long lead times needed to build or acquire new electrical generation or transmission assets or negotiate power purchase contracts,



NorthWestern, like other electric utilities, makes plans for the supply of electricity years in advance. This long-term planning is also required by law. In Montana, NorthWestern prepares formal, written plans that are filed with the MPSC. Attached as Exhibits B-1 and B-2 to these comments is a copy of Volume 1 of NorthWestern's 2019 Electricity Resource Procurement Plan ("ERPP"), which was filed at the MPSC in Docket No. N2018.11.78.¹ Attached as Exhibit C is the 2020 Supplement to the 2019 Plan. Attached as Exhibits D and E are the two volumes of NorthWestern's May 2023 Integrated Resource Plan ("2023 IRP").

NorthWestern began to serve customers in Montana when it purchased the transmission and distribution assets of the Montana Power Company in 2002. Initially, NorthWestern did not own any generation assets to serve Montana customers. This situation was not ideal as it required NorthWestern to purchase all the electricity needed to serve customers. These purchases were and continue to be from a market that experiences volatile pricing and increasing supply shortages.

Since then, NorthWestern has acquired various types of electricity supply resources. Most notably, in 2014 NorthWestern purchased a portfolio of hydroelectric facilities in Montana. NorthWestern has also made significant investments in wind power. NorthWestern currently owns approximately 1,271 megawatts ("MW") of generation capacity and has long-term contracts for another 680 MWs.

NorthWestern's generation portfolio now is a diverse mix of resources, the majority of which are renewable. The portfolio includes 497-MW of hydroelectric maximum delivered capacity, 455-MW of maximum delivered wind capacity, 222-MW of coal capacity, 202-MW of natural gas capacity, 87-MW of waste coal capacity, and 187-MW of solar capacity. The Company also has market capacity contracts for 460 MWs which have price or market exposure. In summary, NorthWestern's current portfolio has 202 MW of natural gas capacity, 309 MW of coal and waste coal based capacity, and 1,129 MW of renewable fueled generation.

The table below lists NorthWestern's existing owned generation facilities and contracted generation resources along with some additional resources that the Company expects to bring online, including the Yellowstone County Generating Station, which is currently under construction.

¹ Volume 2, which includes underlying hourly data among other material, is so voluminous that NorthWestern usually only provides it in electronic form. Given the size of Volume 2 and the number of additional files that would require submission, it is not provided with these comments. NorthWestern will certainly provide it if desired or needed for EPA's evaluation.



MT Portfolio Resources				
Hydro Generation – Online				
Thompson Falls				
Cochrane				
Ryan				
Rainbow				
Holter				
Morony				
Black Eagle				
Hauser				
Mystic				
Madison				
Turnbull Hydro LLC				
State of MT DNRC (Broadwater Dam)				
Tiber Montana LLC				
+ QF Hydro Resources				
Thermal/Natural Gas Generation – Online				
Basin Creek				
DGGS 1 -3				
Thermal/Natural Gas Generation – Contracted				
Yellowstone County Generating Station (Laurel)				
Thermal/Coal Generation – Online				
Colstrip 30% U4				
Yellowstone Energy Limited Partnership (BGI) (QF)				
Colstrip Energy Limited Partnership (QF)				
Wind Generation – Online				
Judith Gap Energy LLC				
Spion Kop Wind				
Two Dot Wind Farm				
+QF Wind Resources				
Solar Generation – Online				
+QF Solar Resources				
Solar Generation – Contacted				
Clenera Apex I (QF)				
Short Term Contracts – Max				
Morgan Stanley (3 yr) On Peak Only, Q1, Q3, Q4 - expires				
10/31/2023				
Morgan Stanley (3 yr) ATC, Q1, Q3, Q4 - expires 10/31/2023				
Powerex (3 yr) Contingency Reserves - expires 12/31/2023				
Powerex (5 yr) - expires 12/31/2027				
Heartland (10 yr) - (150 MW to 200 MW) - expires 12/31/2031				



NorthWestern currently has over 200 percent more wind generation than its Colstrip generation. In terms of generation asset nameplate capacity, the two largest, by far, are hydroelectric assets and the fleet of wind farms, both of which are carbon free. NorthWestern's portfolio of solar generating facilities has also been increasing in recent years. At the same time, it is important to note the difference between "nameplate" and "accredited" capacity. Nameplate capacity refers to the maximum electrical generating output (in MW) that a generator can sustain over a specified period of time when not restricted by seasonal or other "deratings" (events that reduce effective output), as measured in accordance with the United States Department of Energy standards. In contrast, accredited capacity means the electrical rating given to generating equipment that meets the Utility's criteria for uniform rating of equipment. These criteria include but are not limited to reliability, availability, type of equipment and the degree of coordination between the Distributed Generation and the Utility. Wind and solar accredited capacities are much lower than their nameplate capacities, because of the seasonal and weather variability of those generation sources. Hydroelectric generation also has a gap between nameplate and accredited capacity, reflecting periods when generation is restricted by stream flows. All this is reflected in the table below:

MT Portfolio Resource	Nameplate Capacity (MW)	<u>Accredited</u> Capacity (MW)
Hydro Generation - Online		
Total	497	298
Thermal/Natural Gas Generation - Online		
Total	255	195
Thermal/Coal Generation - Online		
Total	309	288
Wind Generation - Online		
Total	455	59
Solar Generation - Online		
Total	97	1
Short Term Contracts - Max		
	460	460
Total	2073	1301

In fact, while news coverage of NorthWestern often discusses the coal or natural gas facilities, the proportion of NorthWestern's generation resources that are renewable compares highly favorable to other utilities. In 2022, 59% of NorthWestern's electric generation was from carbon-free resources, which compares to 40% of megawatt hours generated by the U.S. electric power industry as a whole.

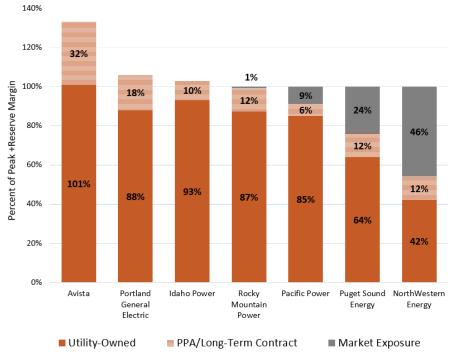


Despite the significant improvement in NorthWestern's generation capacity, including acquisitions of hydroelectric plants and wind farms, NorthWestern's resource portfolio is not yet sufficient or "reliable", as defined by regional planning organizations.

In periods of peak loads, NorthWestern often does not have sufficient capacity, meaning that NorthWestern must make market purchases of electricity to meet customers' needs.

Periods of peak load are those times when customer demand for electricity is particularly high. This tends to occur during periods of extreme weather, during the coldest winter days (below 10 degrees Fahrenheit) when more electricity is used for heating purposes and during the hottest summer days (above 90 degrees Fahrenheit) when more electricity is used for cooling. The availability or unavailability of other resources can also be a significant factor. For example, the amount of rain during a season or snow during a preceding winter impacts the generation of our hydroelectric facilities. Similarly, there are periods when more or less wind power is generated. Unfortunately, critical weather in Montana typically occurs with high pressure, meaning wind generation more frequently than not generates very little power during these critical conditions. Those instances when there is both high demand for electricity and less available renewable generation can be particularly challenging from both a reliability and customer affordability perspective.

The chart below, which is drawn from NorthWestern's 2019 Electricity Supply Resource Procurement Plan filed at the MPSC, illustrates the difference between NorthWestern's available capacity and that of its regional peers.





As the chart shows, NorthWestern relies more heavily on market purchases to meet its electric needs during peak periods than any other utility in the Pacific Northwest. There are significant disadvantages to being reliant on market purchases to manage peak demand periods.

As an initial matter, prices for electricity tend to increase when there is greater demand. Typically, NorthWestern's periods of peak demand coincide with those of other utilities in the region. At the same time market prices are increasing during the critical weather events, especially winter, the available wind and solar generation frequently diminishes, sometimes to near zero. The same weather patterns that impact Montana also frequently impact other states in the region. As a result, the demand for electricity is high during such periods, which drives up the prices. Those higher prices increase our costs and ultimately lead to higher bills for our customers, which impacts their household and business finances and the broader Montana economy. Importantly the costs of electricity obtained through power purchase contracts are substantially passed directly through to consumers. NorthWestern's lower income and smaller business customers tend to be most sensitive to the impacts of increased electric costs.

In addition to pricing, there is also the question of availability. Simply put, it is not prudent to assume that there will always be sufficient out-of-state power that can be both purchased and transmitted to Montana. The limitations of the transmission system and how those impact NorthWestern's ability to bring electricity into Montana to serve customers are discussed in more detail in Section 5. This section further discusses the availability of electricity to purchase, setting aside the increasing uncertainty of whether it can be transmitted to Montana.

In recent years, several large power plants in Montana and adjacent states have closed. J.E. Corette, with a nameplate capacity of 163 megawatts (MWs), was closed in 2015. Colstrip Units 1 and 2, each with nameplate capacities of 307 MWs, ceased operation in early 2020. That same year, the Boardman plant in Oregon, 601 MWs, and Unit 1 of the Centralia plant in Washington, 730 MWs, both closed. Idaho Power ended its participation in Unit 1 of the Valmy facility, 254 MWs, in 2019 and the operations there completely halted in 2021.

In addition to those significant retirements that have already taken place, more retirements are anticipated in the near future. In particular, Unit 2 of the Centralia plant, 670 MWs, is scheduled to cease operation in 2025, as is North Valmy Unit 2, which is 289 MWs.

In summary, there is much less reliable electrical generation available in Montana and the Pacific Northwest (the market) than in the past, and the closures scheduled for 2025 are expected to result in the loss of an additional 959 MWs of nameplate capacity by the end of that year. Importantly, these losses of nameplate capacity are all for facilities for which



their accredited capacity is very close to their nameplate capacity. As a result, the regional portfolio is shifting away from high-accredited to low-accredited generation sources. A difficult situation is expected to get worse and grave reliability concerns are no longer just the province of states like California and Texas that have had well publicized blackouts.

Equally importantly in terms of timing and supply, 185 MW of NorthWestern's current market contract capacity will be expiring by mid-2024. Given the retirements of facilities throughout the region, NorthWestern does not have confidence it will be able to renew or replace these contracts when they expire, especially under as favorable of terms. To the extent any can be replaced, market conditions indicate that they will be at much higher costs, which will be passed directly on to customers.

Montana's decision to deregulate its electricity sector, and the concurrent decision by Montana Power Company to sell all of its electricity generation portfolio, coupled with subsequent plant closures, has placed NorthWestern in a critically tenuous position of not being able to reliably serve its customers' needs during periods of peak loads, such as hot summer and most critically, cold winter days. This is in spite of NorthWestern acquiring a substantial amount of generation since 2011, none of which has been carbon-emitting. In NorthWestern's 2017 and 2019 Electricity Supply Resource Plan (and in the 2020 supplement), NorthWestern identified significant deficiencies and risks to customers due to our portfolio's reliance on market purchases, much of which originates from out of state, plus a lack of reserve margin to reliably serve our customers. These Plans empirically and analytically set forth particular capacity vulnerabilities that need to be addressed in order to continue to provide reliable service to our customers. In particular, NorthWestern identified a need to have resources available to serve 20-hour, 10-hour, and 5-hour periods in the future when there will be capacity portfolio deficits.

Notably, NorthWestern at that time did <u>not</u> identify a need for new baseload capacity. As stated in the 2019 ERPP, "NorthWestern's resource portfolio generally generates enough energy to serve average load, but is significantly short both peaking and flexible capacity." A key reason that NorthWestern did not plan for new baseload capacity was that it had made substantial investments in Colstrip to comply with the 2012 MATS Rule and regional haze requirements. NorthWestern knew that Colstrip would be able to achieve Clean Air Act statutory and health-based standards over the medium-to-long term. NorthWestern knew that there were no significant pollution control technology advancements in the offing that would change control performance. Consequently, the 2019 ERPP and 2020 Supplement focused investment on the identified peaking and flexible capacity needs, as well as improving transmission capabilities.

Based on those identified needs, NorthWestern issued a Request for Proposals (RFP) in January 2020. This RFP was explicitly for any type of generation that was able to provide



capacity for those three distinct shorter-duration categories. This RFP was conducted by an independent and respected third party. NorthWestern was not directly involved in the evaluation process. After receiving the identified short-list from the evaluator, NorthWestern in conjunction with the evaluator selected three proposals: the Yellowstone Generating Station to address the 20-hour need and a portion of the 10-hour capacity need, a 5-year power purchase agreement with Powerex Corp., the marketing partner of BC Hydro System, to address the remaining portion of the 10-hour duration need and part of the 5-hour need, and a contract with Beartooth Energy Storage, LLC for a 50 MW, 4hour battery facility to be located near Billings for the remaining portion of the 5-hour duration need. No RFP was issued to upgrade or replace Colstrip capacity, because no need had been identified.

5. <u>Transmission limitations on the ability to import power</u>

The United States electric grid has an Eastern Interconnection, a Western Interconnection, and a separate Texas interconnection, which each operate largely independently with limited transfers of power between them. NorthWestern's Montana electric transmission system is located in the Western Interconnection of the United States grid. NorthWestern also has an electric transmission system in South Dakota; however, that is in the Eastern Interconnection and there is no effective means to transfer electricity from NorthWestern's South Dakota generation sources to Montana. In addition, those generation sources are fully subscribed.

NorthWestern manages its transmission system in Montana as a Balancing Authority Area ("BAA") operator, with responsibility for ensuring that system supply and demand are in constant balance. To support the continuous flow of electricity, NorthWestern is also responsible to provide ancillary services such as scheduling, system control, and dispatch; regulation and frequency response; and contingency reserves. When demand and supply are not in balance, equipment damages, cascading outages, or blackouts can result. As a BAA operator, NorthWestern must meet and operate within the reliability standards established by NERC.

NorthWestern's Montana electric transmission system covers over 97,000 square miles. This integrated system includes about 7,000 miles of transmission lines. The system includes over 280 circuit segments, 79 transmission or transmission/distribution substations, and over 100,000 poles and towers. The transmission system integrates resources and loads through 500 kilovolt (kV), 230 kV, 161 kV, 115 kV, 100 kV, 69 kV, and 50 kV lines to deliver power to the various load centers dispersed throughout NorthWestern's service territory.

Montana was traditionally an exporter of power. However, following the 2015 closure of the J.E. Corette plant (163 MW) and the 2020 closure of Colstrip units 1 and 2 (614 MW), the NorthWestern BAA has transitioned from being a net exporter of energy to a



net importer. During the most critical periods, times of peak energy demand, NorthWestern now relies heavily on imports, and frequently on non-firm transmission, to meet customer needs. "Firm" transmission is transmission capacity reserved for the full duration of the transmission service agreement. In contrast, "non-firm" is transmission capacity that can be used only on an as-available basis when unreserved capacity is available on the transmission system. The existing NorthWestern transmission system was not designed to transmit imports, serving such a large portion of customer load.

NorthWestern's transmission system and its connections to utilities in other states were not designed to import significant additional amounts of electricity. While there are existing lines and interconnections, there is limited capacity available on those facilities and further complications and congestion outside of Montana, making it imprudent for NorthWestern to assume it can import additional power when needed. Redundancy in the reliable transmission of energy is also extremely important because an outage on one transmission line can cause overloads to another. Relying on transmission lines and interconnections to import the electricity needed to serve such a large portion of our Montana load inherently increases the risk of outages and the resulting failure to serve customers during times of greatest electricity demand.

NorthWestern's transmission system has interconnections to six major transmission utilities – Idaho Power Company, Avista Corporation ("Avista"), BPA, Western Area Power Administration ("WAPA"), PacifiCorp, and the Alberta Electric System Operator as noted in Figure 1 below. NorthWestern transfers power in and out of Montana through Western Electricity Coordinating Council ("WECC") rated "Paths", each consisting of transmission lines crossing Montana's borders. To the west and south are Paths 8, 18, and 80, and to the north is Path 83, on the Montana Alberta Tie Line ("MATL"), and these are shown in the figure below. Note MATL is not owned or operated by NorthWestern. Figure 1 shows the Total Transmission Capability amounts, or TTCs. However, TTC represents the total designed and approved transmission capacity, <u>not</u> the amount of additional available capacity above the capacity already in use.





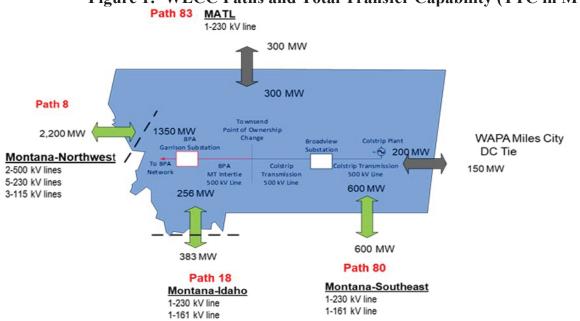


Figure 1: WECC Paths and Total Transfer Capability (TTC in MW)

As can be seen, the largest single path to the Pacific Northwest and other Western Interconnection markets is Path 8, which consists of the interconnections with BPA and Avista. As the figure indicates, Path 8 is made up of multiple lines and has a significantly higher TTC than the other paths.

However, there is very little Available Transmission Capacity ("ATC"), which is the difference between the TTC and the amount of capacity already reserved by existing transmission commitments, that could be used to import additional electricity to NorthWestern's system via Path 8 for the foreseeable future. In short, Path 8 is a significant and convenient interstate transmission path, but its capacity has already largely been reserved.

Path 80, located in the southeastern portion of Montana, theoretically has more ATC. However, it is a very complex path that experiences significant congestion and curtailments due to reliability issues. Path 80 is greatly impacted by what is going on in other transmission owners' transmission systems outside of Montana. Path 80 is affected by loads and generation in Wyoming, Colorado, and Utah as well as other potential impacts. Moreover, Path 80 is far from the Pacific Northwest market, causing greater potential congestion if it is used to import power from that area. As one example of the problems with Path 80, during the significant cold weather of February 2021, there were curtailments of transmission on Path 80 at the worst possible time. Path 80 very commonly has non-firm transmission curtailed (and sometimes even firm transmission) as a result of congestion on the transmission system in Wyoming and further south. This





most commonly happens during peak events, but also during non-peak events. That is the reason NorthWestern currently has no remaining firm import ATC posted on Path 80.

Path 83 provides transmission capacity between Montana and Canada. Path 83 consists of a single 230 kV line – the Montana Alberta Tie Line, which is not owned by NorthWestern. Most of the activity on the Path is related to wind projects located in north central Montana, also not owned or controlled by NorthWestern. Additionally, Path 83 is a very complex path that routinely must be curtailed to manage generation and loads. This path also contributes significantly to our challenges and limitations across an internal path we refer to as "South of Great Falls". The South of Great Falls path frequently must be curtailed and has impacts on the Great Falls, Billings, Helena and Butte areas.

Path 18 has relatively smaller overall capacity and is highly utilized today with little import capacity remaining. As described in Paragraph 23 below, for several years ending in 2012 NorthWestern attempted to permit an upgrade to the transmission capacity of Path 18 through the proposed Mountain States Transmission Intertie ("MSTI"). Ultimately, that effort failed. Consequently, Path 18 offers little potential for increased imports at this time.

In summary, ATC is quite limited for import into the NorthWestern BAA. Figure 2 below is a snapshot as of February 23, 2023 of long-term firm ATC that is posted on NorthWestern's Open Access Same-time Information System ("OASIS") for each year displayed. The OASIS provides real-time, up-to-date information and access to transmission system capacity for all customers. Figure 2 clearly indicates that there is very little to zero firm ATC to import from any Path of import.





	BPA Import	3) Yearly Firm ATC		
Path 8	2023	0		
	2024	31		
	2025	47		
	AVAT Import			
	2023	196		
	2024	162		
	2025	162		
	BRDY Import			
	2023	59		
	2024	59		
Path 18	2025	0		
Path 18	Jeff Import			
	2023	72		
	2024	72		
	2025	72		
	YTP/Crossover Import			
Path 80	2023	0		
Falli ou	2024	0		
	2025	0		

Figure 2: Import Available Transfer Capability (ATC in MW)

Even when there is available capacity on a path, NorthWestern has to compete with other transmission customers/users. The operation of NorthWestern's transmission system is subject to regulation by FERC in accordance with NorthWestern's FERC-jurisdictional Open Access Transmission Tariff ("OATT"). As a result, NorthWestern is required to provide transmission service to several types of customers on a first come first serve basis, which means that there is competition for ATC among many potential users of the transmission system. NorthWestern's transmission system serves four types of customers - retail, network, interconnection, and point to point ("PTP"). In addition to NorthWestern's retail customers, our FERC customers include electric cooperatives, federal marketing agencies (e.g. BPA and WAPA), and "choice" customers, who are all customers that do not receive their electric supply service from NorthWestern. This means that there are many non-NorthWestern entities within the NorthWestern BAA that are competing for available transmission, constraining transmission of power at critical peak times when customers need that power the most. Critically, this transmission competition is becoming much greater as in-state generation shuts down. As noted above, transmission capacity is awarded on a first-come, first-served basis. Of critical importance is that NorthWestern's own "native" load does not receive any preference over other eligible customers. In addition, there are rules governing what is a valid transmission service request or network service designation. For example, long-term network transmission service designation requests must be tied to legitimate network resources with valid contracts for service in place. Figure 3 displays the current firm transmission imports that are reserved on a long-term basis by parties. Many of these reservations are not for service to NorthWestern's customers. This transmission capacity



is reserved under NorthWestern's FERC OATT, which includes point-to-point customer wheeling into and out of NorthWestern's system, and Network customers, including some reservations by NorthWestern, importing energy from outside of Montana and into NorthWestern's transmission system to serve load.

Long Term Firm Reservations from Import Interface Paths (as of 01/27/2023)				
	Path 8 Imports	Path 83 Imports	Path 80 Imports	
Network	690	225	37	
Point to Point	342	0	31	
Total	1032	225	68	<u>1325</u>

While NorthWestern faces challenges resulting from limited transmission capacity, it might seem the obvious solution would be to build new transmission lines. However, that is only a solution in theory; in reality, it is not currently a practical option. As an initial matter, increased transmission is only useful in addressing capacity constraints if it connects to a generation resource willing and able to sell capacity to NorthWestern, and as explained in Section 3, there is significant uncertainty on that point going forward given recent and planned power plant closures.

Even if an additional generation resource is located, attempting to build the transmission lines to that resource is a difficult, time-consuming, and expensive endeavor that might not succeed. NorthWestern would have to gain approval from the Montana Department of Environmental Quality ("DEQ") to permit, site, and construct new transmission infrastructure by obtaining a certificate of compliance under the Montana Major Facility Siting Act ("MFSA") and gain rights-of-way over the proposed transmission path. Securing easements across land owned privately or by state or federal agencies can be extremely challenging. Permitting approval would likely be required from other state or federal agencies as well. The transmission infrastructure would also have to be designed to satisfy regulatory requirements enforced by FERC, NERC, and WECC. The combination of all these factors means that actually obtaining authority to construct a transmission line would take several years, if it is achievable at all.

Increasing transmission capacity, if it could be accomplished, would require upgrades to not only NorthWestern's system, but potentially other transmission systems outside of Montana. Of course, work in other states would require satisfying the regulatory requirements in those jurisdictions. The need to cooperate with more than one utility and perform work in multiple jurisdictions makes transmission upgrades even more difficult as a solution.



As an example, in 2012, after spending four years and approximately \$24 million, NorthWestern indefinitely postponed its attempts to secure permits for the proposed 500kV Mountain States Transmission Intertie ("MSTI"), which would have provided an additional connection outside of Montana. This transmission line would have extended from southwestern Montana to southcentral Idaho and would have been capable of transmitting approximately 1000 MW of power. The abandonment of the project was due to continued permitting issues including never-ending process, analysis and movement of goalposts, as well as difficulty in getting all agencies to timely act and cooperate to define a reasonable end to the permitting process. Although the Inflation Reduction Act has made available some resources for such projects, the regulatory environment in terms of approval timelines has not improved since 2012.

There are no presently proposed interstate transmission lines or upgrades that would facilitate added import capability into Montana. Given the MSTI experience, if a project was proposed tomorrow, it could require 7-10 years to design, permit, construct, and bring into operation, if that was even possible.

6. <u>Costs of installing additional controls on Colstrip</u>

The options and anticipated costs of installing additional controls on Colstrip to comply with the Proposed Rule are set forth in detail in Talen's comments, accompanied by a supporting analysis prepared by Burns & McDonnell. NorthWestern joins the Talen comments and will not reiterate them here. NorthWestern's comments assume capital costs of at least \$350,000,000, and annualized costs of \$57,000,000, based on the working assumption that Reheat Fabric Filter is the most viable technology Colstrip would deploy to comply with the Proposed Rule. ("Proposed Rule Costs").

7. <u>Colstrip and NorthWestern portfolio scenarios</u>

NorthWestern has not planned for the Proposed Rule or the Proposed Rule Costs. Because the Proposed Rule reflects a reversal or prior EPA analyses and conclusions, and is not based on new information, there was no reason for NorthWestern to anticipate the Proposed Rule or the Proposed Rule Costs in the 2019 ERPP or 2020 Supplement, and neither the Proposed Rule or the Proposed Rule Costs were factored into the recently completed 2023 IRP.²

As explained in Sections 4 and 5, Colstrip is central to NorthWestern's generation portfolio, and purchasing additional market capacity from existing generation sources to replace Colstrip's capacity carries high costs and risks from a generation resource or

² Although the 2023 IRP was released shortly after the publication of the Proposed Rule, the Proposed Rule was released far too close to the finalization of the 2023 IRP to be factored into the analyses and planning.



transmission perspective. Faced with hundreds of millions of dollars in unanticipated costs, NorthWestern therefore has three principal options: (a) close Colstrip in the immediate future and engage in an emergency program to construct additional baseload capacity; (b) install the controls required by the Proposed Rule and attempt to recoup the Proposed Rule Costs through rate increases; or (c) postpone or abandon existing planned capital projects to free up resources to address the unanticipated Proposed Rule Costs without raising rates. These scenarios are discussed in the following sections.

8. <u>Cost and safety hazards of closing Colstrip prior to 2036 without constructing</u> <u>replacement thermal baseload capacity</u>

Although the Proposed Rule came as a surprise to NorthWestern, NorthWestern closely examined Colstrip closure scenarios as part of the 2023 IRP process. This included scenarios involving closures in 2025, 2030, and 2035. The 2025 and 2030 closure scenarios resulted in materially higher total costs, amounting to \$1.1 billion in higher costs (25% increase over the base case) for a 2025 closure, and \$540 million higher costs (12.1% increase over the base case) for a 2035 closure. *See* 2023 IRP, Exhibit B-1, Section 8.9. Moreover, these scenarios rely on substantial purchases of power at market rates, in excess of \$50 million each year commencing with Colstrip's closure. *Id.* As explained in Sections 4 and 5, there is substantial uncertainty whether such large market purchases can even be consistently executed and delivered, especially during peak load events. Consequently, the 2025 and 2035 closure scenarios are accompanied by worrisome grid stability and service interruption hazards.

These risks are sufficiently high that NorthWestern would need to closely examine embarking on an emergency program to construct replacement thermal capacity. On the timeframes contemplated by the Proposed Rule, the only thermal capacity that could feasibly implemented is natural gas fired capacity. The net effect would be to replace relatively short-lived (approx. 10-20 year life) coal-fired thermal capacity with new, long-lived (30+ year) natural gas capacity. Although natural gas has a lower carbon and MATS profile than coal, this tradeoff would clearly appear to be inconsistent with the long term objectives of E.O. 13990.

9. <u>Rate consequences of the Proposed Rule Costs and impracticality of rate</u> <u>recovery</u>

NorthWestern currently plans to invest over \$2.4 billion in capital outlays over the next five years. Many of these investments are required by law. Others are intended to improve system reliability, better utilization of renewables, or other projects (e.g., wildfire mitigation) with demonstrable and significant environmental benefits.



Proposed Rule Costs would constitute significant increase in capital commitments, weighted toward the earlier part of the five years and could imperil NorthWestern's ability to make those critical investments.

Any rate increases to cover Proposed Rule Costs would be on top of other recent rate increases funding the existing capital and operational budgets. Presently pending before the MPSC is a 28% residential electricity rate settlement, driven in material part by NorthWestern's investments in carbon free and reduced-emissions projects. Proposed Rule Costs did not factor into the settlement. NorthWestern believes it is uncertain that the MPSC would approve cost recovery for such a large new increase on top of other recent increases, and may not approve any portion of it.

As a result, the most likely outcome of the Proposed Rule and Proposed Rule Costs would be to force NorthWestern to evaluate postponing or abandoning previously approved capital projects.

10. Consequences of diverting capital to comply with the Proposed Rule

As should be clear from the preceding discussion, it is unlikely that NorthWestern could feasibly comply with the Proposed Rule by either building replacement thermal capacity or by attempting to recoup the Proposed Rule Costs through rate increases, and early closure of Colstrip likely poses unacceptably high market and grid stability risks. This leaves a re-allocation of previously committed capital outlays as the most likely compliance scenario.

As discussed, a large fraction of the planned investments are focused on improving grid reliability, and upgrading existing renewables. Other projects (e.g. wildfire mitigation) have clear environmental benefits. NorthWestern had intended to perform a more detailed examination of potential capital program consequences of the Proposed Rule, had it been granted the requested extension of time to comment. Because that request was denied, NorthWestern can only hypothesize in more general terms.

The adverse net environmental consequences of capital reallocations from the subjects identified above should be obvious. The collective effect would be reduced utilization of renewables, slowing NorthWestern's progress toward its Net Zero 2050 objectives. Perversely, a very plausible scenario under the Proposed Rule, if implemented in its current form, would be to *extend* the life of Colstrip, and result in NorthWestern utilizing Colstrip *more heavily* than in the absence of the Proposed Rule. NorthWestern has not had the opportunity to fully calculate the emissions consequences, but there is a significant likelihood that, as applied to Colstrip, the Proposed Rule would have the effect of *increasing* net carbon and HAPS emissions over Colstrip's remaining life than if Colstrip is exempted from the Proposed Rule. Such a result would certainly be contrary to the objectives of E.O. 13990.



11. <u>Prejudice to NorthWestern of the Proposed Rule</u>

NorthWestern has been materially and uniquely prejudiced by the Proposed Rule. The 2023 RTR acknowledges that Colstrip will require far more extensive and expensive capital investments than any other facility subject to the Rule. RTR at 9. Indeed, the entire rationale for the Proposed Rule – that existing EGUs can attain additional emissions reductions at minimal cost – does not apply to Colstrip.

As revealed in the 2017 and 2019 ERPP's and 2020 ERPP supplement, NorthWestern did not plan for the Proposed Rule and Proposed Rule Costs, because it had no reason to anticipate them. As a result, NorthWestern made major capital commitments to improve integration of renewables, grid reliability, and transmission capacity. These all advance NorthWestern's progress toward Net Zero 2050. But these investments depended critically on the assumption that Colstrip would remain an essential component of NorthWestern's portfolio through approximately 2042, and that major new emissions controls to address mercury and HAPS would not be necessary given Colstrip's compliance with the performance objectives of the original MATS rule, the regional haze rule, and the statutory standards in the Clean Air Act. The Proposed Rule (as well as other regulatory initiatives detailed by Talen) would upend these assumptions.

NorthWestern also notes that the Proposed Rule, in combination with the other proposed rules, disincentivizes superior performance. As detailed by Talen, the venturi scrubbers control both sulfur dioxide and fPM. Colstrip has been a high performer in SO₂ emission reduction for years because of that system, but under the Proposed Rule Colstrip would be punished for having "wrong" system to control fPM, in comparison to other facilities.

No other utility bears anywhere close to the burden that NorthWestern would bear under the Proposed Rule. And, because Colstrip essentially serves only Montana, no other State would bear anywhere close to the burden that Montana electricity customers would bear.

12. <u>Statutory and Administrative Procedure Act deficiencies with the Proposed Rule</u>

The Proposed Rule is unlawful under Clean Air Act Section 112(d)(6). That Section provides that EPA must take into account "developments in practices, standards, and control technologies" in determining whether a revision in standards is necessary. EPA purports to satisfy this requirement by citing to performance data from 2017 to 2021, and opining that facilities have performed better and at lower costs than anticipated when the MATS Rule was promulgated in 2012. But this dataset is selective and misleading. All the performance and cost metrics EPA now relies on were known to EPA when it released the 2020 RTR. EPA has withdrawn its prior "Appropriate and Necessary" determination, but it has not withdrawn the 2020 RTR. As a result, the 2023 RTR is *not* based on "developments in practices, standards, and control technologies" since the prior



RTR, but rather only a *change in policy* regarding the *same* practices, standards, and control technologies.

Basing revised standards simply on a policy reversal is contrary to the text and structure of Section 112(d)(6), especially when coupled with the tight statutory compliance deadlines provided in Section 112. The Clean Air Act envisions that both EPA *and* the regulated community would be able to monitor evolving trends in emission control technologies and practices, such that regulated could see and plan for potential upgrades that might be needed on the horizon. But when EPA reverses course based on policy, not technological changes, regulated entities do not have similar advance notice when planning capital programs. This is contrary to the statute.

The Proposed Rule's statutory deficiencies are compounded by its proxy-on-proxy structure, where PM (a pollutant independently regulated under the NAAQS program) is used as a stand-in for HAPS. NorthWestern understands the technical rationale for focusing on PM rather than attempting to measure HAPS directly, but the indirectness of the regulation is problematic given the history of the Rule. Moreover, it will not be lost on a reviewing court that the Proposed Rule is a transparent attempt to indirectly regulate greenhouse gas emissions in the immediate wake of *West Virginia v. EPA*, 142 S.Ct. 2857 (2022). For that reason, and because of its severe impacts to Montana and the reliability of the Western Interconnection, there is a significant likelihood that a court will subject the Rule to scrutiny under the Major Questions Doctrine. It is doubtful that EPA's departures from the text and purposes of Section 112(d)(6) would survive such scrutiny.

Independently of statutory and constitutional infirmities, the Proposed Rule is also arbitrary and capricious under the Administrative Procedure Act. In addition to the reasons articulated by Talen, the Proposed Rule and 2023 RTR takes the same practices, standards, and control technologies as were examined in the 2020 RTR, and reaches a polar opposite conclusion. This is textbook arbitrariness. At a minimum, the fact that EPA has reversed course so completely in such a short timeframe likely deprives EPA of any judicial deference it might otherwise have enjoyed. Given the unprecedented methods deployed in the Proposed Rule to determine that the Rule would result in positive net benefits, there is a significant likelihood that the Proposed Rule, if finalized, would be invalidated under the APA.





13. <u>Requests</u>

As a result of the foregoing general deficiencies in the Proposed Rule and specific injuries to NorthWestern, NorthWestern respectfully requests the following actions. These are consistent with the concurrent requests by Talen.

(A). EPA should abandon the Proposed Rule until technological developments that warrant a new RTR have occurred

As explained above, the Proposed Rule is unlawful. As a result, and because of the significant prejudice and injury NorthWestern will suffer, EPA should withdraw the Proposed Rule until such time as a revised form of the Rule can be justified, if at all, by advancements in practices, processes, or control technologies, as envisioned by Section 112(d)(6).

(B). If rulemaking proceeds, EPA should create a subcategory exempting facilities with wet scrubbers only

In the event the Proposed Rule is finalized, at a minimum the Final Rule should create a subcategory for those facilities that employ wet scrubber control technologies without additional ESP or fabric filter controls, and exempt them from the Proposed Rule. The rationale of the Proposed Rule is that significant performance improvements can be obtained through minimal equipment upgrades and costs, and that is plainly not true of facilities that only employ wet scrubbers without additional controls. Therefore such facilities should be subject to subcategory treatment and exempted.

(C). If rulemaking proceeds, EPA should also create an opt-out option for facilities that decide, within one year of the publication of the Final Rule, to enforceably commit to closure by December 31, 2035.

If the Final Rule does not create an exempt subcategory for facilities with wet scrubbers alone, EPA should create a retirement subcategory allowing units to continue to meet the existing 0.03 lb/MMBtu fPM standard so long as they opt-in to the retirement subcategory within 18 months after finalization of the rule, with a retirement date no later than December 31, 2035 (and where continued operation after 2035 would later be permitted if (i) the unit is essential to maintain regional grid reliability, as determined by the Western Regional Adequacy Program, Regional Transmission Organizations, Independent System Operators, North American Electric Reliability Corporation, or other similar system reliability authorities; or (ii) or if EPA determines that additional time is required to allow the unit to transition to renewable or clean energy generation). This would provide units another compliance option and needed flexibility.



This timeline is also necessary in NorthWestern's case because of the prejudice NorthWestern has experienced in the development of the Proposed Rule, and the longlead time needed for closure and planning and construction of replacement baseload capacity. Such a timeline will also maximize the likelihood that replacement capacity will be carbon-free rather than fossil fuel-based. In its deliberations, EPA must consider net environmental and environmental justice consequences over all time scales, rather than only short term objectives. This is both consistent with the law and the objectives of Executive Orders 12898 (as updated) and13990.

Conclusion

NorthWestern is disappointed that the Proposed Rule in its current form does not achieve its intended objectives, and that NorthWestern was deprived of the opportunity to submit additional useful information by EPA's denial of NorthWestern's extension request. Nevertheless, NorthWestern's strong carbon-free portfolio performance and Net Zero 2050 commitments demonstrate that it shares many of the Administration's long term environmental objectives. NorthWestern is available to further discuss the consequences of the Proposed Rule and potential solutions to the problems it poses. If you have any questions regarding these comments, or would like to further engage on the subject, please contact me at 406-443-7969 or shannon.heim@northwestern.com.

Sincerely,

Sanna M. Hein

Shannon M. Heim Vice President and General Counsel NorthWestern Energy