BASIN ELECTRIC
POWER COOPERATIVE
A Touchstone Energy® Cooperative

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Terry O'Clair, Director, Division of Air Quality
North Dakota Department of Health
Division of Air Quality
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Re: Issues for Public Comment 111(d) Plan Development

Dear Messrs. Glatt and O'Clair:

Thank you for this opportunity to submit written comments to the North Dakota Department of Health (**Department**) regarding the choices North Dakota will make regarding implementation of the Clean Power Plan (the **Rule**). Basin Electric Power Cooperative (**Basin Electric**) made initial comments at the meetings the Department held in November and appreciates the opportunity to file additional comments as our analysis of the Rule develops. This will be an iterative process and will require extensive analysis. Basin Electric requests the Department continue to take steps to secure the two-year extension as it is imperative to ensure that Basin Electric, North Dakota and other North Dakota utilities are best positioned to meet the requirements of the Rule.

Statement of Interest

Basin Electric is a regional, consumer-owned, generation and transmission (**G&T**) cooperative formed in 1961 to supply supplemental power to a consortium of rural electric distribution cooperatives. Basin Electric's core business is generating and delivering electricity to wholesale customers, primarily our 138 rural electric member cooperative systems that serve approximately 2.9 million consumers in a nine-state area. By end-of-year 2015, Basin Electric will own 4,015 megawatts (**MW**) and operate 5,003 MW of electric generating capacity. Four coal-fired electric generating stations comprise a large proportion of Basin Electric's generation portfolio. As a G&T cooperative with a robust coal-fired fleet, Basin Electric is extremely concerned with the development of North Dakota's State Implementation Plan (**SIP**) for Greenhouse Gas Emissions from existing Electric Generating Units (**EGU**).

Response to Questions

The Department has requested comments on the following questions:

1. **Should the Department develop a plan? If yes, should it be a "State only" plan or a regional plan?**

Basin Electric supports the Department developing a SIP and will continue to support the Department in taking the steps necessary to secure the extension. Without a SIP, North Dakota and the utilities that operate within North Dakota will be subject to a Federal Implementation Plan (**FIP**). The FIP, as proposed, largely follows the guidelines set forth by the Environmental Protection Agency (**EPA**) without exception for any of the unique circumstances that are present in North Dakota, including: significant load growth, existing environmentally compliant coal facilities with long remaining useful lives and extensive energy exports.

Because electricity generated in North Dakota is exported to other states, North Dakota utilities need to be able to trade with other states, whether individually or as part of a regional plan. Basin Electric requests the Department consider the interstate nature of the electric grid and keep all options open in developing the SIP. Regardless of whether the Department develops a state-only plan or participates in a regional plan, it is essential that all regional and national trading options remain available to ensure the greatest flexibility for the utilities and North Dakota to comply with the Rule.

2. **To what extent should the Department develop a plan?**
   -Only improvements at the power plant (inside the fence line)
   -Complete plan as outlined by EPA
   -Something in-between

Basin Electric requests the Department develop a SIP that addresses all three building blocks of the Rule, not just improvements inside the fence line. The Clean Air Act does not delegate to EPA the power to implement emission guidelines outside the fence line of individual power plant but in the event it is determined by judicial review that EPA has the authority to implement the Rule, the SIP must address all three building blocks in order to secure the two year extension. As the courts rule on the validity of the Rule, the SIP can be modified accordingly. Given the uncertainties surrounding the Rule, it is critical for North Dakota and the utilities to secure the two year extension to comply with the Rule. For this reason, Basin Electric requests the Department develop a SIP that addresses all three building blocks, not just Building Block One. Basin Electric further requests that North Dakota explore "trading ready" options in a way that will allow North Dakota to exercise its authority as Congress intended under section 111(d).

3. **Should the plan be based on:**
   -Mass emission limits (mass) - How should allowances be allocated?
   -Emission rate limits (rate) - Uniform rate or uniform percentage reduction?
   -Block 1 - Plant efficiency improvements only?
   -State measures (e.g. plant limits plus demand-side energy efficiency programs)?

Basin Electric is currently unable to comment on a preference for a rate based, mass-based or state measures plan. There are challenges for Basin Electric with all three options. As Basin Electric is a regional G&T cooperative and provides power to member-owners in nine states, flexibility will be important to resolve issues related to the export of power to states that have selected a different approach than that adopted by the Department for North Dakota. At this time, given the large number of uncertainties surrounding the Rule and market development, it

is impossible to determine the best path forward for the basis of the SIP. The two year extension will be necessary to determine the best approach for North Dakota and the utilities to ensure compliance.

4. **How should the Department incorporate cost and electrical grid reliability concerns into the plan?**

Basin Electric requests the Department structure the SIP in a way that allows utilities to operate according to Federal Energy Regulatory Commission (**FERC**) and North American Electric Reliability Corporation (**NERC**) standards. EPA does not have the jurisdiction to impose rules that threaten electrical grid reliability and greatly increase the cost of electricity. Electrical grid reliability is regulated by the FERC, with determinations from NERC, and regional reliability organizations. Among FERC's many responsibilities are regulating the interstate transmission of electricity and protecting the reliability of the high voltage interstate transmission system. NERC is an international regulatory agency tasked with assuring the reliability of the bulk power system in North America through the development and enforcement of reliability standards. It is these entities that have the authority and expertise to determine grid stability and reliability, not the EPA or States.

If FERC, NERC and/or regional reliability organizations have concerns and determine that grid reliability is in danger, the Department must have the ability to suspend the SIP until such time as the responsible entities with expertise determine it is appropriate to reinstate the SIP. This may occur as a result of allowances or emission reduction credits being either unavailable or extremely expensive to purchase. The current EPA model plan does not allow for cost to be taken into account during SIP development. While the Department may determine it is not worthwhile to address cost in the initial request for an extension, cost must be considered in development of the SIP.

The current transmission system was designed to accommodate the interconnection of the existing generation fleet, including Basin Electric's 3,000 MW of coal-fired generation. From a technical operating perspective, the generation units and the transmission system function as part of a single system. EPA recognized this fact in the Rule. Without a detailed analysis, Basin Electric cannot simply retire a significant portion of our coal-fired generation and replace it with renewable resources. Coal-fired steam driven turbine/generators are designed to support the transmission system. The spinning shafts of the turbine/generator operating in synchronism with the grid provide a critical inertia effect to the system. The inertia of the steam turbine/generator allows the unit to absorb and dampen system disturbances. Wind power generators do not have synchronous inertia. They are connected to the grid usually via an AC-DC-AC connection or via a modulation of their excitation. Without a detailed analysis, Basin Electric does not believe the change in the method of generation will provide an equivalent transmission system performance and anticipates reliability degradation.

5. **Should the Department propose any legislation necessary for implementing the plan?**

Basin Electric does not see any steps for the legislature or any legislation that would be helpful in implementing the SIP at this time. Secondly, the North Dakota Legislature will not convene until 2017. In any event, Basin Electric requests the North Dakota Legislature be cautious not to impede the development of the SIP.

6. **Suggestions for cost-effective carbon dioxide reductions.**

Based on Basin Electric's previous local and international experience, there is no cost-effective technology available to retrofit the existing coal-fired fleet to reduce carbon dioxide emissions. Because the goal of the Plan is to reduce carbon dioxide in the United States, all forms of carbon dioxide reduction, including agricultural sequestration, enhanced oil recovery, and other technologies that may be developed should count toward compliance efforts. Basin Electric encourages the state of North Dakota to continue to pursue research and development in this area, and to include that exploration as one of the factors the Department considers under its SIP.

7. **Comments on EPA's three building blocks and how they apply to North Dakota sources.**

Building Blocks two and three are outside EPA's scope of authority. However, in order to obtain the two-year extension, the Department must consider all building blocks.

Building Block 1 - There are no remaining cost-effective projects to improve the operating efficiency of Basin Electric's coal fleet. Basin Electric and all owner operators of North Dakota coal-fired power plants are in the business of operating as efficiently as possible. Basin Electric has already taken all cost-effective steps to improve efficiency of operations. The remaining projects and options that may further improve efficiency at Basin Electric's coal-fired plants would result in little to no return on investment or are subject to New Source Review. Therefore, these projects have not been implemented due to their small impact on compliance and minimal benefit on efficiency.

Building Block 2 - The potential for Building Block Two to meaningfully impact North Dakota compliance options is essentially zero. At this time there are no natural gas combined cycle (**NGCC**) plants operating in North Dakota. This makes any increased utilization of NGCC and/or load shifting to existing NGCC plants in North Dakota impossible.

Building Block 3 - Of the three building blocks, Building Block Three is the only one that could have a meaningful impact to North Dakota. While it is possible to construct new wind resources in North Dakota, any new development would need to be accompanied by new natural gas development. Wind is an intermediate resource which must be backed up by a firm resource which can be ramped up and down quickly based on the availability of wind.

These wind resources cannot effectively be backed up by coal generation because the nature of coal generation does not allow for such quick load changes. Coal-fired plants were designed for base load operations and cycling is an inefficient use of these plants. Coal-fired plants are not designed for large, rapid and frequent load changes so additional maintenance and higher operational costs would accompany this type of change in operation.

Large quantities of wind energy have already been developed in North Dakota and the vast majority of this existing wind generation does not count toward compliance. There are collateral impacts that EPA did not consider in precluding pre-2013 wind resources. As a result of the existing wind development, there is land-owner fatigue in regard to easements, construction and operation of wind turbines. This same fatigue exists with respect to transmission line development that would be needed in parallel with new wind development. More time will be needed for compliance given the increasing difficulty in securing necessary land use permits for wind resources, addressing landowner concerns, transmission issues and endangered species concerns, as well as permitting with Federal agencies.

8. Comments on coordination with the North Dakota Public Service Commission.

In order to account for "leakage," Basin Electric requests the Department and North Dakota Public Service Commission (**ND PSC**) keep track of early coal-fired plant retirements of out-of-state facilities that could shift replacement generation emissions to North Dakota. Under a mass-based plan, EPA provides states with an option to decide whether existing units' mass-based goal or mass-based goal with new source complement accounts for total emissions from both new and existing sources to assist a state in meeting its goal under the Rule. Because of leakage, states could be faced with managing emission offsets due to displacement of fossil fuel generation. EPA has provided no guidance on how to correct leakage. Without consistent leakage guidance, a state may be able to claim it is meeting the requirement of the Rule by shifting generation to another state that emits at a higher rate. If not managed appropriately, any new fossil fuel generation may negatively impact current in-state carbon dioxide emission reduction efforts. This is especially important in North Dakota because of electric load growth.

Any significant additional wind development and transmission infrastructure development will fall under ND PSC jurisdiction. Because of landowner fatigue, there are multiple examples of wind projects in North Dakota having to be relocated to accommodate landowner concerns. The ND PSC will have to carefully balance the issues arising out of the potential need for electric development to meet the Plan and this landowner fatigue.

9. Comments on coordination with other states.

Basin Electric encourages the Department to work with other states to the extent it is practicable. It is important the Department keep all options open to ensure the SIP is as flexible as possible. There is not a single generating utility in North Dakota that operates solely to serve load in North Dakota. It is important that the Department recognize and protect this interstate characteristic of the electric generation industry.

10. How should the Department consider "remaining useful life" of each plant in the plan?

Remaining useful life must be considered when the Department is developing the SIP. The economic impact of the Rule is extreme. The Rule is an overreach by EPA that forces the

expedited shutdown of existing coal-fired units and requires consumers and utilities to pay for both the units being shut down, as well as the build-out of a replacement generation fleet.

Other EPA pollution control rules and regulations have recently required coal-fired facilities within North Dakota to invest hundreds of millions of dollars for additional pollution control equipment. Those sizeable investments were made based on the presumption that plants would continue operation through their remaining useful lives (which extend beyond 2030). Ignoring remaining useful life results in the stranding of assets including the recent environmental investments made at these facilities. Basin Electric believes this would constitute an unconstitutional governmental regulatory taking.

Remaining useful life is one of the statutory factors that Clean Air Act Section 169A requires EPA to allow states to consider in determining Best Available Retrofit Technology and "reasonable progress" under EPA's Regional Haze Rule. It is imperative the Department assert its authority to consider "remaining useful life" "among other factors" as provided in Section 111(d) in determining the "standards of performance" that it will apply to each "affected EGU" under the plan. Basin Electric requests the Department assert its Congressionally-mandated authority to take remaining useful life in to account when developing the SIP.

11. How should the Department incorporate accounting of renewable generation emission rate credits or excess mass allowances into the plan?

-North Dakota takes credit for all renewable generation in the state

-North Dakota takes credit for a certain percentage of renewable generation

-Owners of the renewable power can decide how to use the credits as they see fit

Regardless of how the Department ultimately handles credits or allowances in the SIP, Basin Electric encourages the Department to explore ways that a conversion mechanism between credits and allowances be developed that would allow trading between rate-based and mass-based states. Allowances should not be auctioned. Because there is no market currently available, additional time is needed to determine the best method to allocate credits or allowances.

12. Should the Department allow trading of emission rate credits or mass allowances (tons of carbon dioxide emissions)?

-No trading at all

-In-state trading only

-Region wide trading

-Nationwide trading

Because of uncertainties as to the trading market for emission rate credits (ERC) or allowances, the Department should allow nationwide trading to provide utilities with the maximum flexibility that is allowed under the Rule. It is critically important the Department explore a conversion mechanism between ERCs and allowances. Additional discussion between the Department and

North Dakota utilities is necessary to determine the feasibility and the best method of conversion to demonstrate equivalency.

In addition to the above issues that the Department has solicited comments on, Basin Electric offers the following comments for consideration by the Department when developing the SIP:

Impacts to Communities
As demonstrated by the large attendance at recent public meetings held by the Department, the impacts of the Rule are important to the people of North Dakota. Basin Electric encourages the Department to take into account the potential impact to communities that depend on coal, when making decisions regarding the SIP and North Dakota's ultimate compliance strategy. The premature closing of coal-fired plants would be detrimental to nearby communities and regional economies. Closing or curtailing production at coal-fired plants would result in the loss of jobs for both employees of utilities and employees of coal mines.

Within Basin Electric's service territory in North Dakota there are a number of tribal and low-income communities. In an effort to reduce the marginalization of these populations by the Rule, Basin Electric requests an off-ramp within the SIP if the percentage increase in the cost of electricity to these communities becomes too burdensome. Basin Electric also urges the Department to conduct hearings in these communities to gauge the economic impact of the increased electric costs that would result from the Rule.

Increasing Cost of Electricity
Basin Electric has provided low-cost electricity while operating its coal fleet in an environmentally responsible manner throughout its fifty plus year history. Basin Electric member owners enjoy some of the lowest cost electricity in the country. Any large increase to the cost of electricity has the potential to greatly affect the cost of other goods and services produced in North Dakota which could result in additional economic hardships. The implementation of the Rule would increase the cost of electricity in ways that can't easily be predicted. Basin Electric requests the Department consider the increases in the price of electricity when developing the SIP, especially for people living in rural areas.

Ability to Comply
The Rule does not take into account the logistics required for utilities to comply with the Rule's requirements. Basin Electric encourages the Department to make adjustments for these concerns and limitations when developing the SIP. A utility's ability to comply with the Rule and any SIP will be constrained by time requirements for permitting new generation and transmission, the availability of engineering resources nationwide, the availability of equipment nationwide and the available work force for construction, among other issues.

In North Dakota, more than 60% of the reductions must be made by 2022. Assuming the Department secures a two year extension, the SIP would likely be approved by the EPA in 2019. The significant magnitude of the reductions that will need to be made in a very compressed timeframe should not be overlooked. Basin Electric has built its existing fleet of coal, natural gas and wind resources over a period of more than fifty years. To expect a utility to revamp such a large portion of its generation portfolio in just a few years is certainly unreasonable, and may likely be impossible.

Basin Electric appreciates the opportunity to comment and welcomes additional dialogue and conversations with the Department regarding these and any other Plan issues.

Very truly yours,

Mark D. Foss
Senior Vice President & General Counsel

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