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December 18, 2015

Sent electronically via airquality@nd.gov to:

Mr. Terry O'Clair, P.E.
Director, Division of Air Quality
North Dakota Department of Health
Gold Seal Center, 918 East Divide Ave
Bismarck, ND 58501-1947

RE: Otter Tail Power Company Comments on 111(d) Plan Development

Dear Mr. O'Clair:

Otter Tail Power Company (Otter Tail) appreciates the opportunity to submit the following comments regarding the above-referenced matter. The Department's development of a 111(d) plan is a central issue for Otter Tail, as we jointly own and operate Coyote Station near Beulah, ND, we own or purchase energy from over 240 MW of wind farms in North Dakota, and we serve more than 58,000 North Dakota customers. Many of our communities are small and rural in nature. An example of a typical community that we serve in North Dakota is Michigan, with a population of 429 and the "largest" employer having just 25 employees. Implementation of 111(d) must ensure low cost, reliable service can continue to be provided to all of our customers and communities.

Notably, before EPA's finalization of the 111(d) rule, Otter Tail has cost-effectively reduced carbon dioxide (CO_2) emissions. On a system-wide basis, from 2005 to 2021 we project an approximate reduction in CO_2 intensity of 24%, and CO_2 mass emissions of 19%. Achieving EPA's 111(d) targets will likely require additional reductions by Otter Tail. Therefore, as the 111(d) plan is developed, we encourage the Department to work closely with the Public Service Commission (Commission), which has jurisdiction over investor-owned electric public utility services and rates.

Otter Tail believes EPA has exceeded its legal authority under the Clean Air Act (CAA) in promulgating the 111(d) rule.[1] We support North Dakota's efforts to challenge the rule. However, Otter Tail believes the Department is acting prudently in moving forward to

[1] Otter Tail is participating in litigation to stay and overturn the 111(d) rule through our membership in the Utility Air Regulatory Group (UARG).

develop a plan that is right for North Dakota, in the event the 111(d) is ultimately upheld in the courts. This plan must be pragmatically developed to achieve reductions, while maintaining reliability and minimizing economic impact.

Due to the unprecedented complexity of the 111(d) rule, Otter Tail notes that our analysis will require further refinement, and as a result the answers to the following questions are preliminary. Therefore, we encourage the Department to continue soliciting additional comments and engaging stakeholders during plan development.

<u>Question 1: Should the Department develop a plan? If yes, should it be a "State only" plan or a regional plan?</u>

Otter Tail supports the Department's intention to develop a State plan in lieu of being subject to a more onerous federal plan that would be implemented by EPA. Otter Tail believes the Department has a far greater understanding of the uniqueness of North Dakota, and can implement a better plan than EPA.

As a public utility operating in multiple states, Otter Tail supports an interstate trading-ready plan that would facilitate nationwide compliance mechanisms. Otter Tail serves portions of North Dakota, South Dakota, and Minnesota and has affected 111(d) sources in each state. Nationwide compliance options will enable utilities to use compliance measures in other states to achieve reductions required in North Dakota. Taking the opposite approach and limiting compliance to only in-state measures would restrict utilities from using more flexible compliance mechanisms that exist in a broader interstate trading-ready program. Importantly, an interstate trading-ready program recognizes that Otter Tail's North Dakota customers will also be directly impacted by the 111(d) plans of South Dakota and Minnesota. Likewise, our customers in those states will be impacted by North Dakota's 111(d) plan.

<u>Question 2: To what extent should the Department develop a plan?</u>

- <u>Only improvements at the power plant (inside the fence line)</u>
- <u>Complete plan as outlined by EPA</u>
- <u>Something in-between</u>

At this early juncture, Otter Tail recommends the Department keep all options on the table. Importantly, the Department should follow the steps and processes necessary for an initial submittal by September 6, 2016, and within that submittal request an extension until September 6, 2018 to submit a final plan. The required components of an initial submittal are described in 40 C.F.R. § 60.5765(a), which includes a broad identification of approaches under consideration.

To the extent the Department considers "inside the fence" improvements at power plants for determining 111(d) limits on affected units, Otter Tail welcomes the opportunity to discuss Coyote Station's proud history of heat rate improvement projects and best operating practices. Notably, Coyote improved its net plant heat rate by nearly 3.5% between 2000 and 2012 (the baseline year for EPA to apply this building block), resulting in a direct reduction in CO_2 intensity by approximately the same percentage. If the Department ultimately makes comparisons amongst power plants to determine unit specific limits, Otter Tail believes it is important for the Department to take into account that each plant has differences that would be overlooked by merely considering each plant's most recently published heat rate or CO_2 intensity. Coyote Station takes great pride in operating an environmentally responsible, low cost unit.

<u>Question 3: Should the plan be based on:</u>

- <u>Mass emission limits (mass) - How should allowances be allocated?</u>
- <u>Emission rate limits (rate) - Uniform rate or uniform percentage reduction?</u>
- <u>Block 1 - Plant efficiency improvements only?</u>
- <u>State measures (e.g. plant limits plus demand-side energy efficiency programs)?</u>

Otter Tail is still evaluating whether the Department's plan should be based on mass emissions or emission rate limits, and we encourage the Department to undertake a thorough analysis before selecting a methodology. Per 40 C.F.R. § 60.5765(c)(2), a commitment to a plan approach is not required until September 6, 2017, if the Department requests and is granted an extension (as Otter Tail recommends in response to Question 2).

Mass emission limits: Under a mass-based plan, the Department will have an allowance budget that will presumably be distributed amongst North Dakota's affected 111(d) units. Otter Tail recommends that allocations be made based on average emissions over a consecutive three-year period, such as 2010-2012. Electric Generating Units (EGUs), including Coyote Station, are typically on a three-year major outage schedule. Therefore, selecting a one- or two-year period could result in inequitable distribution, since not every unit will have undertaken a major outage during that shorter period. Otter Tail recommends allocation based on emissions, and not generation, for several reasons, including:

1. Emissions-based allocation will not disadvantage North Dakota lignite.
2. Emissions-based allocation takes into account the unique characteristics of individual units that result in differences in heat rates amongst EGUs that have implemented similar efficiency improvement projects.
3. While North Dakota has no existing NGCC units, the following example demonstrates the inequity of a generation-based allocation. The same logic applies to a state without NGCC like North Dakota.

   Example: Assume that a State has an allowance budget of 30 tons of CO_2, and there is one existing coal plant and one existing NGCC plant in the state. Further assume CO_2 emission rates of 2,000 lb/MWh for the coal plant, and 1,000 lb/MWh for the NGCC plant. Thus, if each unit generated 20 MWh of electricity, the coal plant would emit 20 tons of CO_2, while the NGCC plant would emit 10 tons of CO_2.

   - Under an emissions-based allocation methodology, the coal plant would receive a pro-rata share of the allowance budget in proportion to its emissions. This would result in the coal plant receiving two-thirds of the budget, or 20 allowances. The gas plant would receive one-third of the budget, or 10 allowances. Each plant would receive allowances to match its actual emissions.
   - Under a generation-based allocation methodology, the coal plant would receive a pro-rata share of the allowance budget in proportion to its generation. This would result in the coal plant receiving one-half of the budget, or 15 allowances. The gas plant would also receive one-half of the budget, or 15 allowances. The gas plant would receive a disproportionate share of allowances as compared to its actual emissions, creating higher compliance costs for the coal plant and a windfall for the NGCC plant.

An important consideration of mass based plans is whether or not the Department should set aside allowances to incent certain actions or address EPA's concerns with emissions leakage to new sources. The two set-aside accounts proposed by EPA for North Dakota in the federal plan are a 5% set-aside for renewable energy that would be applied each year, and a Clean Energy Incentive Program (CEIP) set-aside that would be applied for the years 2022-2024. Otter Tail is concerned about set-aside accounts because they would take away allowances that would presumably otherwise be allocated for North Dakota EGUs that have to demonstrate compliance with the rule, and instead potentially shift those allowances to entities with interests outside of North Dakota. Notably, EPA's proposed federal plan would result in nearly 16 million allowances being set-aside from affected units during the 2022-2029 interim period, and over 1 million allowances per year beginning in 2030.[2] At EPA's estimated cost of compliance at $30/ton of CO_2,[3] these set-asides would increase costs to North Dakota's EGUs by up to $480,000,000 during the interim period, and over $30,000,000 in 2030 and each year thereafter.

Emission rate limits: Under a rate-based plan, each EGU would be required to meet a specific rate limit in terms of pounds of CO_2 per megawatt-hour. Whether this should be a uniform rate or a uniform percentage reduction requires further analysis. Although a percentage reduction may be more equitable, this would result in applying different rate limits to each North Dakota EGU. Under EPA's proposed federal plan, each North Dakota EGU would be assigned a rate of 1,741 lb/MWh in 2022, declining to a rate of 1,305 lb/MWh in 2030. Notably, these rates cannot be achieved by "inside the fence" measures and, therefore, it would be critical to have as many emission rate credit measures available as possible to offset emissions inside the fence of the EGU.

Question 4: How should the Department incorporate cost and electrical grid reliability concerns into the plan?

Otter Tail sincerely appreciates the Department's consideration of these concerns, which are central to our company's mission statement: "To produce and deliver electricity as **reliably, economically**, and environmentally responsibly as possible to the balanced benefit of customers, shareholders, and employees and to improve the quality of life in the areas in which we do business."

Unfortunately, EPA's 111(d) rule largely passes cost and reliability concerns off to states. In the event of a reliability emergency, EPA's reliability safety valve provisions in 40 C.F.R. § 60.5785(e) and § 60.5870(g) require the State to notify EPA within 48 hours and specify the modified emissions standard to be applied to the applicable EGU. Further documentation from the State is required within seven days, and ultimately 90 days of operation under the safety valve are allowed, unless another notification is made before the end of the 90-day period.

[2] As determined from EPA's Allowance Allocation support documents found at http://www2.epa.gov/cleanpowerplan/proposed-federal-plan-clean-power-plan-technical-documents
[3] Federal Register at 64749

In order to include an appropriate reliability safety valve into a state plan, Otter Tail encourages the Department to engage stakeholders such as the Public Service Commission, the Midcontinent Independent System Operator (MISO), the Midwest Reliability Organization (MRO), the North American Electric Reliability Corporation (NERC), and the Federal Energy Regulatory Commission (FERC). Notably, MISO has committed to conducting 111(d) study efforts over the next two to three years.

With regard to incorporating cost concerns into a plan, the Department could consider exploring the development of a cost safety valve that would be triggered if EPA's cost projections are incorrect. For example, EPA estimated that the average cost of achieving the three 111(d) building blocks is $30/ton.[4] Additionally, EPA expects retail electricity prices will rise 3% in 2020 and between 0-1% in 2030 due to the Rule.[5] If EPA's projections are incorrect, States should be afforded the flexibility to adjust their state goals, to ensure costs are kept in line with EPA's justification for the rule.

<u>Question 5: Should the Department propose any legislation necessary for implementing the plan?</u>

At this early juncture, it is unclear whether legislation should be proposed. The necessity for legislation may depend on what plan choices the Department makes during plan development, such as whether or not to include new units in a mass-based program. The North Dakota Legislative Assembly convenes every two years, with the next regular session convening on January 3, 2017. Therefore, if 111(d)-related legislation is necessary prior to the September 6, 2018 deadline for final plan submission, the 2017 regular session may be the only opportunity.

<u>Question 6: Suggestions for cost-effective carbon dioxide reductions.</u>

Otter Tail has been achieving cost-effective carbon dioxide reductions for many years through plant efficiency improvements, economically adding over 240 MW of wind in North Dakota, and offering incentives to encourage our customers to buy energy-efficient electric technologies. Unfortunately, EPA's final 111(d) rule does not enable Otter Tail to receive credit for these reductions. Otter Tail encourages the Department to allow as many flexible compliance mechanisms as possible, including establishing an interstate trading-ready plan, so that credits/allowances issued by another state can be used for North Dakota compliance.

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[4] Ibid
[5] Federal Register at 64927

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

Otter Tail believes all of EPA's building blocks were seriously flawed as applied to North Dakota, which is one of the many reasons that EPA's rule should be overturned. Perhaps the most glaring misapplication was incorporating block 2, which involves increased natural gas combined cycle (NGCC) dispatch, when North Dakota has no NGCC generation.

Notwithstanding these flaws, if the Department were to explore a mass-based plan, Otter Tail recommends the Department take a firm position that the uniqueness of North Dakota with respect to building blocks 2 and 3 is adequate to demonstrate that emissions leakage to new sources is unlikely to occur. Obviously there can be no emissions leakage under block 2 since there are no existing NGCC units in North Dakota. Regarding block 3, North Dakota's impressive track record of renewable energy deployment currently ranks it 11th among states in terms of utility-scale generation, and 6th in wind energy potential.[6] Therefore, creation of set-aside accounts to incent renewable energy utilization or to prevent emissions leakage should not be required. The detrimental impact of set-aside accounts to North Dakota EGUs was previously described in the answer to Question 3.

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

Otter Tail strongly encourages the Department to coordinate with the Public Service Commission as the Commission has jurisdiction over investor-owned electric public utility services and rates.

Coordination with the Commission is also very important since 111(d) likely will result in the addition of substantial energy conversion and transmission facilities. Prior to beginning construction of these activities, certificates of site compatibility or route permit, and (in the case of investor-owned electric public utilities) public convenience and necessity, must be obtained from the Commission. It is the responsibility of the Commission to ensure that such facilities are sited in an orderly manner, energy needs are met and fulfilled in an efficient manner, system reliability and integrity is maintained, and adverse economic and environmental effects are minimized.

Question 9: Comments on coordination with other states.

Otter Tail appreciates the efforts of the Department to coordinate and lead discussion with other states prior to the 111(d) rule even being proposed, including hosting the Energy

[6] http://www.eia.gov/state/?sid=ND

Producing States Summit in April of 2014. Interstate coordination, including developing a trading-ready plan, will be critical to any state plan developed for 111(d). As described in the answer to Question 1, for multi-state utilities such as Otter Tail, North Dakota's electric customers will be impacted by the 111(d) plan decisions made by other states, and vice versa.

<u>Question 10: How should the Department consider "remaining useful life" of each plant in the plan?</u>

Otter Tail believes that EPA's analysis of "remaining useful life" is inconsistent with the requirements of the CAA. Although EPA maintains that buying credits or allowances as a compliance method addresses the consideration of "remaining useful life," Otter Tail believes the CAA's requirement to account for remaining useful life cannot be fulfilled by a trading program, regardless of the flexibility such a program might provide. Additionally, many EGUs in North Dakota (including Coyote Station) have "remaining useful lives" that extend well beyond the final year 2030 compliance date. Otter Tail is committed to Coyote Station and North Dakota lignite. This is commitment is underscored by a 25-year lignite supply agreement entered into in October 2012, under which delivery begins in 2016.

Although Otter Tail believes the Department should be afforded the flexibility to adjust the State's 111(d) goals, or incorporate safety valves to account for remaining useful life, it is difficult to ascertain how this can be accomplished within the framework of EPA's final rule. Otter Tail welcomes discussion with the Department on potential concepts.

<u>Question 11: How should the Department incorporate accounting of renewable generation emission rate credits or excess mass allowances into the plan?</u>

- <u>North Dakota takes credit for all renewable generation in the state</u>
- <u>North Dakota takes credit for a certain percentage of renewable generation</u>
- <u>Owners of the renewable power can decide how to use the credits as they see fit</u>

In order for a state plan to take advantage of interstate trading under a rate-based program, it is Otter Tail's understanding that the rights to emission rate credits (ERCs) must be granted to the generation owner. Thus, Otter Tail's support for a national trading program aligns in favor of granting ERCs to the generation owner. We would be concerned about the potential for higher customer cost impacts in a plan that would limit compliance mechanisms to only in-state measures.

Question 12: Should the Department allow trading of emission rate credits (ERC) or mass allowances (tons of CO2 emissions)?

- No trading at all
- In-state trading only
- Region wide trading
- Nationwide trading

In order to minimize costs for our customers, Otter Tail supports a nationwide trading program as a means of providing the greatest compliance flexibility, economic efficiencies, and market liquidity. Given the likely demand for ERCs and allowances, authorizing in-state trading alone could prove costly.

Summary

Otter Tail appreciates the opportunity to submit comments. If you have any questions about our comments, please feel free to contact me at mthoma@otpco.com or (218) 739-8526.

Sincerely,

Mark Thoma
Manager, Environmental Services