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December 18, 2015

North Dakota Department of Health
Division of Air Quality
600 E. Boulevard Ave.
Bismarck, N.D. 58505-0200

By electronic delivery only to: airquality@nd.gov

Re: Public Comment on the Department's development of a plan related to the Clean Power Plan

To the Department of Health:

DRC's purpose in filing these comments is to provide the Department of Health ("Department" or "NDDH") with realistic steps to comply with the CPP while mitigating to the fullest extent potential short and mid-term negative impacts of transitioning our state to a lower carbon future. In many instances, the CPP provides opportunity for North Dakota, and DRC will highlight those opportunities throughout this comment as well.

Regardless of the challenges that we will undoubtedly face in implementing this rule, it is paramount that we rise to these challenges. Overwhelming scientific consensus now exists that the climate is changing due our collective actions. The requirements of the Clean Power Plan ("CPP") reflect that consensus.

Thank you for the opportunity to comment. Below are specific responses to the Department's questions as outlined in the October 12th public notice. DRC hopes that the Department will continue to engage us as interested stakeholders in this process moving forward.

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

DRC believes that the state would be best-served if the Department develops a plan. Though DRC fully understands that the state has contested the legality of the rule, there are many Clean Air Act attorneys who think the EPA has acted within its statutory authority under 111(d) in promulgating the CPP. Not developing a plan would result in the EPA's model Federal Implementation Plan (FIP) becoming the state's compliance requirement. Allowing a FIP to be imposed rather than writing our own compliance plan is not in North Dakota's best interest. Allowing the EPA to step in with a generally drafted, model plan would forego the state's opportunity to craft a plan that best fits our local needs. The Department of Health is certainly better situated to develop a plan for North Dakota than is the EPA.

Assuming the state develops its own plan, we hope the state will engage in dialogue and collaborate with other states in the region. The rule is written with the explicit understanding that the electricity grid traverses state lines: "a regionalized approach…better represents the full scope of emission reduction opportunities available to individual affected EGU's through the normal transactional processes of the industry, which do not stop at state borders but rather extend throughout those interconnected regions."[1] A regional approach is also the best way to address two of the most important issues under the CPP: cost and reliability. Transmission planning and reliability standards are also developed on a regional level, making collaboration and regionalized awareness a necessity when building the state plan.[2] At the very least, though, the Department's plan should be "trading-ready" (see response to Question 12).

DRC requests that the question of submission of a regional plan stay open for comment and discussion moving forward as other neighboring states make their own decisions and contemplate collaboration.

2) To what extent should the state develop a plan?

The state should not develop a plan that only allows affected electric generating units (EGUs) to comply with the rule through improvements inside of the fence line. Doing so is the most difficult and expensive compliance pathway, and will either result in only marginal emissions reductions, or reliance on technological improvements that are not yet feasible or economical. Any investment in carbon capture and sequestration (CCS) technology would be passed on to ratepayers, potentially hiking rates beyond what is reasonable.

Instead, we believe the best plan would move North Dakota to the target developed by EPA while taking full advantage of the flexibility that this rule allows. The EPA's determination of the Best System of Emission Reduction (BSER) allows an affected EGU to (i) directly invest in efficiency improvements and in lower and zero-carbon generation (ii) engage in emissions trading to achieve the emissions reductions and (iii) reduce higher-carbon generation.[3] The best compliance plan would allow affected EGUs to use all of these mechanisms to achieve emissions reductions, while also allowing EGUs to take advantage of non-BSER measures such as demand-side energy efficiency (EE), coal co-firing with natural gas, and investment in new generating units using low- or zero-carbon generating technologies that are not part of building block 3.[4]

North Dakota is particularly well situated to take advantage of opportunities in energy efficiency because we have not yet invested in demand-side efficiency or combined heat and power (CHP) to the extent that other states have. To illustrate this, DRC has partnered with the American Council for an Energy-Efficient Economy (ACEEE) to provide analysis on how much of North Dakota's target could be met through energy efficiency. By implementing polices that promote CHP, strict building-code standards, appliance standards, and a 1% state-level efficiency target,

[1] 80 Fed. Reg. 64,738 (Clean Power Plan Rule preamble).
[2] *Id.* at 64,739-64,741 (discussing the regional nature of operations, and the reliability and organizational principles set by NERC, FERC, WECC, MISO and SPP).
[3] *Id.* at 64,718, 64,723-24.
[4] *Id.* at 64,724.

the state could meet over 25% of its CPP target.[5] DRC is concurrently filing separate comments with the Department that addresses the extent to which the state can meet its compliance target solely through energy efficiency.

North Dakota is also well positioned to meet its target through our robust wind resources. According to data from the National Renewable Energy Laboratory (NREL), North Dakota ranks sixth in total wind energy potential. Yet, once corrected for population, North Dakota has more wind energy potential per capita than any other state—more than sixteen times the amount available to Texas.[6] In fact, North Dakota is known to have one of the best wind resources in the world, particularly since wind spread out over larger areas of land can operate predictably. Today, wind energy forecasters can predict what wind output will be hours and even days in advance with high levels of accuracy due to technological improvements. In fact, at one point in 2011, Xcel Energy's Colorado utility system was able to source 55% of its electricity from wind with no reliability problems.[7] Similar experiences in Minnesota, and the fact that the levelized cost of wind is now competitive with conventional generation, are drivers in Xcel Minnesota's recent decision to add 1,600 MW of wind energy over the CPP compliance period, as it phases out two coal fired units.[8] This reality positions the state to export this low-cost, zero-emissions resource in order to further ease compliance costs and help customers realize additional savings through regional trading programs.

DRC recognizes that this rule will impact coal-dependent communities and that this transition will be more difficult for some communities than others. While there are people in these communities that recognize the importance of the CPP—including DRC members—local economic effects of this rule in our coal-dependent communities remains a reality. We hope that the Department leverages every opportunity afforded to it to assist these communities in spurring economic diversification, job creation, job training, and other employment services for communities impacted by closings of coal-fired power plants likely to eventually occur under this rule. For example, the President's Power+ Plan aims to provide over $55 million through several federal programs to help provide job creation and training in order to connect workers with high-quality jobs, along with investments in the health and retirement of mineworkers.[9] NDDH should request that our congressional delegation support this portion of the President's budget request. There are other possibilities as well to assist our coal communities such as directing proceeds from auctioned emissions allowances toward economic development programs for these areas. The Department should coordinate with the legislature and other entities with appropriate authority, as needed, to ensure that these communities are supported fully as this rule is implemented.

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[5] ACEEE Estimate, December 2015.

[6] National Renewable Energy Laboratory, Estimates of Windy Land Area and Wind Energy Potential, by State, available at http://apps2.eere.energy.gov/wind/windexchange/docs/wind_potential_80m_30percent.xlsx.

[7] Wind Energy in Your Region, The Wind Energy Foundation http://windenergyfoundation.org/wind-at-work/wind-your-region/ (last visited Dec. 16, 2015); conversation with Wind on the Wires.

[8] Lazard's Levelized Cost of Energy Analysis—Version 9.0, Lazard, November 2015; Nussbaum, Alex and Martin, Chris, "Wind Power Now Cheaper Than Natural Gas for Xcel, CEO Says," BloombergBusiness, Oct. 23, 2015, http://www.bloomberg.com/news/articles/2015-10-23/wind-energy-cheaper-than-natural-gas-for-xcel-ceo-fowke-says.

[9] Power + Program; White House Fact Sheet, available at https://www.whitehouse.gov/sites/default/files/omb/budget/fy2016/assets/fact_sheets/investing-in-coal-communities-workers-and-technology-the-power-plan.pdf.

That said, there are also North Dakota communities that will stand to benefit enormously from this rule and the wind potential in the state. For example, companies like LM Wind Power in Grand Forks and Wanzek Construction in Fargo stand to benefit from the kind of investment in wind energy that could occur under this rule. Also, the ancillary benefits in terms of property tax revenue and landowner lease payments for wind projects are potentially quite large. According to the American Wind Energy Association (AWEA), North Dakota landowners receive over $5.5 million dollars annually in lease payments from wind projects already.

3) Should the plan be based on a mass-based limit or a rate-based limit?

At this point in time, DRC appreciates the benefits of both approaches, though the state may be best-served by adopting a mass-based approach. First, under a rate-based program, DRC agrees with the EPA that the process of certifying and trading ERCs would likely require recruitment and training of additional Department staff, and even with criteria outlined by EPA in the rule, could be burdensome on the agency. Using a trading-ready, mass-based approach may be preferable for the sake of administrative ease.

Second, the cost-effectiveness of the rule depends on how readily states are able to trade with one another. If most states choose a mass-based approach, then it makes sense for North Dakota to choose a mass-based approach as well to facilitate trading. If other states use a rate-based approach, it makes sense to use a rate-based approach. Conversations with stakeholders in other states suggest that most states in the upper-Midwest and MISO region are indicating their intent to use a mass-based approach at this time. Thus, both for purposes of economical administration of this rule and facilitating trading to allow least-cost compliance with this rule, a mass-based approach appears the most beneficial.

DRC suggests keeping this question open as other states move forward, staying in contact with other state health officials and regulators, and collaborating with entities to model each option to the extent possible.

Assuming the Department adopts a mass-based plan, allowances allocation or auctioning is an important policy decision. There seems to be consensus among utilities that the allowances should be freely given, resting on the assumption that an auction would result in higher rates passed on to customers.[10] However, an auction could actually help to ease the effect on ratepayers if the proceeds of an auction were to go towards energy efficiency, renewable energy, and bill rebates, especially for low-income consumers. Auction proceeds could also be used to support our coal communities through this transition by helping to fund projects that will facilitate economic investment in those areas.

If the allowances are freely allocated, DRC suggests they not be based on historical emissions, which would in effect reward the biggest emitters and create a perverse incentive for continued output. Instead, the allowances could go to generators based on electrical output, which would reward renewable energy investments as well as energy efficiency. If the Department does decide to allocate allowances based on historical emissions, then DRC believes that the

[10] Jeffery Tomich, Clean Power Plan: Parties stake out positions on how to allocate emissions allowances," E&E News, December 14, 2015, available at http://www.eenews.net/stories/1060029415.

Department should devote a certain percentage of those allowances to set-asides for renewable energy and energy efficiency. Whether that set-aside should be 5% or 10% will largely depend on the value of these allowances. EPA has a tool available to calculate the necessary set-asides at certain allowances values to incentivize renewable energy. DRC simply reiterates the importance of incentivizing renewables and energy efficiency, and asks that the set aside be adequate to do so. Both of these options are presumptively approvable methods to prevent "leakage" under a mass-based program, and thus would fulfill an important requirement for submittal of an approvable plan.[11]

If the Department develops a rate-based plan, then it needs to devote staff time and expertise to making sure that the Emissions Rate Credits (ERCs) developed from qualifying energy efficiency and renewable energy projects are in fact resulting in emissions reductions. As EPA finalizes its own rate-based FIP (assuming it does) the Department can likely draw guidance from its technical analysis, as it can from other states looking to use rate-based approach.

4) How should the Department incorporate cost and grid-reliability concerns into the plan?

DRC understands the need for rigorous cost and reliability analysis, and we believe that both ends are served by EPA's approach to the rule. Both cost and reliability concerns can be addressed by developing regionally compatible state plans that allow for trading of allowances or ERCs and by basing our plan on the reality of an interconnected electricity grid. The reliability "safety valve" also serves as a backstop in the event that these other mechanisms are not adequate to ensure reliability during any unanticipated events.[12]As part of its compliance plan, a state must submit evidence that it considered reliability in developing its plan. For this reason, and to ensure that any plan is as cost-effective and successful as possible, it is important that the Department work with and take a proactive role in engaging MISO and SPP, as well as other groups like NERC and WECC who are engaged in high-level reliability modeling. Addressing any reliability concerns proactively and as early as possible will help prevent difficulties in the future.

For reasons related to both least-cost compliance and reliability, DRC suggests the Department seriously consider the options available to it in terms of working with key decision-makers to promote polices that will result in the most energy savings possible through demand-side efficiency programs and CHP. If the state can meet a significant portion of the target by prioritizing efficiency-friendly policies, cost-recovery for efficiency programs for utilities, mandating strict building code standards, and developing incentives for industry to take advantage of CHP, it will likely be able to comply at much less cost to consumers than by relying on the building block approach and trading in isolation.

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

Depending on what the rule the Department writes requires, it may need certain appropriations allowances from the Legislature in order to effectively complete tasks such as conducting auctions and distributing allowances. DRC suggests that the funds available for

[11] 80 Fed. Reg. 64,888.
[12] *See e.g.*, *id.* at 64,827.

purposes such as renewable energy and energy efficiency development in the Resources Trust Fund could be increased to support compliance with this rule. At this point, the biennial cap on those funds is $3 million and $1.2 million, respectively, an extremely small portion of the roughly $400 million that sits in that fund now. Investing resources today will better prepare us to meet the CPP's requirements in the future.

6) Suggestions for cost-effective carbon dioxide reductions.

Significant increases in demand side energy efficiency, utilization of low-cost renewables, increases in the heat rates (supply-side efficiency) of EGUs, and facilitating allowance/ERC trading with nationwide partners is the least-cost method of complying with this rule. Specifically, the Department should model these programs to determine the price at which they will each reach price parity—i.e., the least cost plan to comply with the rule—and then base its plan off of those projections.

It is difficult to understate the importance that energy efficiency can play in helping EGUs to comply with this rule. DRC firmly believes that heavy reliance on energy efficiency is the least-cost approach to CPP compliance. It is, in other words, low-hanging fruit. Heavy siting of wind energy is also a lower cost method of complying with this rule.

Also, in order to facilitate the most cost-effective reductions possible, DRC would urge the state to indicate its intent to participate in the Clean Energy Incentive Program (CEIP) in its initial submission. Through the CEIP, early emissions reductions that come from either wind or solar or energy efficiency projects in low-income communities in the years 2020-2021 are eligible for early credits that will be matched by the EPA. This is a particularly important opportunity for our state. First, allowances will be based on the amount of the reductions that EGUs in the state are required to achieve—this means that North Dakota EGUs will be eligible for a larger share of the pool of CEIP credits.[13] Second, the definition of "low-income communities," though it is still being finalized, may include economically depressed rural communities, tribal communities, and certain urban areas. This program therefore provides an opportunity for communities that have been overburdened by fossil fuel development in the state to begin to access clean, renewable energy and reduced electricity bills from energy efficiency projects.

DRC's affiliate in Ft. Berthold, Protectors of Water and Earth Rights (POWER), is hopeful that this program could provide an opportunity for cleaner energy development for the Three Affiliated Tribes, and urges the Department to engage them in that process moving forward. Although there is some indication in the rule that tribal areas may only be able to sell ERCs to a state operating under a rate-based plan, we hope that the Department can clarify that point with EPA and discuss the potential for eligibility for credit under the CEIP period even if the state adopts a mass-based plan.

At bottom, the Department should participate to the fullest extent possible in the CEIP program because it will serve as a multiplier for the two least-cost compliance pathways available to us: energy efficiency and low-cost renewables. If we forego this opportunity, North Dakota's ratepayers will likely end up paying more than they would if the state does participate in the CEIP.

[13] *Id.* at 64,830.

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

DRC has only limited technical ability to provide comments for building block one, but will briefly note that drying raw lignite with waste heat from coal-fired EGUs is a promising technology that has been tested in North Dakota to good effect and at reasonable cost.[14] It appears that this is a technology that should be implemented statewide, and that doing so is a relatively inexpensive means of moving toward compliance with the CPP in our state. The second building block—substituting existing natural gas—has very limited application in North Dakota because only about 1.5% of the state's electricity is produced from this source.

The third building block is the most important, and DRC has discussed the third building block at length already in regards to wind power. This, however, is not the only non-emitting energy source widely available to North Dakotans. First, significant opportunities for solar energy exist in North Dakota. Even though the sun is not particularly strong in our state, we have an above-average quantity of sunny days and large areas of open land that would allow for inexpensive community-scale or utility-scale solar projects. The Department should consider that the cost of this resource has fallen dramatically, is now less expensive than fossil-fired resources in some parts of the country, and the price of this resource continues to rapidly fall. It also provides a good complement to wind, which is most prevalent at night. Modelling this resource at various scales to ensure that falling costs are accounted for will help us realize the greatest benefits.

In regards to geothermal resources, the Department should seek feedback from our utilities, the oil and gas industry, NREL, and other entities such as UND's EERC on the application of co-producing power systems at oil wells which make use of waste heat from produced water. This technology has shown promise in testing supported by NREL.[15] It is, in essence, a freely available form of geothermal energy. If viable, it too may be a low-cost means of complying with the CPP.

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

As previously stated, we hope the Department will work with the PSC moving forward, particularly in the role that the PSC has in authorizing utility recovery for instituting demand-side efficiency programs. The PSC can also help serve as a gateway to discussions with regional power entities that have significant expertise in terms of grid reliability such as MISO, NERC, and SPP.

We also think it is appropriate, as the state considers strategies for complying with the CPP, that the Department continues to coordinate with the PSC to streamline permitting and build renewable energy projects in a timely manner.

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[14] See generally Power Magazine, Lignite Drying: New Coal-Drying Technology Promises Higher Efficiency Plus Lower Costs and Emissions, available at http://www.powermag.com/lignite-drying-new-coal-drying-technology-promises-higher-efficiency-plus-lower-costs-and-emissions/.

[15] *See, e.g.*, National Renewable Energy Laboratory, Geothermal Energy Production with Co-produced and Geopressured Resources , available at http://www.nrel.gov/docs/fy10osti/47523.pdf.

9) Comments on coordination with other states.

As previously stated, the CPP envisions regional compliance strategies as being the least-cost avenue to achieving targets. Coordination and collaboration with other states in the region is paramount to making this process reliable, cost-effective, and successful.

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

Based on EPA's modeling, it is unlikely that the remaining useful life of plants will enable the Department to adjust performance guidelines for those facilities. DRC is aware of the undesirability of stranded assets, yet, the opportunity for trading, relaxed interim requirements that ramp up more steeply towards the end of the compliance period and other flexibility mechanisms built into the rule makes stranded assets less likely and eliminates the need for remaining useful life adjustments in performance rates or goals.[16]

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

This question is likely better answered by utilities and the potential owners of those ERCs or allowances. The resulting accounting should incentivize renewable and energy efficiency development to the maximum extent possible.

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

It is difficult to understate the importance of allowing trading to comply with this rule. Trading provides two key benefits. First, trading will allow for the least-cost carbon reduction for North Dakota's EGUs. The more trading partners we have, the better off our EGUs and ratepayers will be because we will be able to secure ERCs or allowances from the least expensive locations across the United States. Second, trading significantly ameliorates reliability issues. Without trading, an affected EGU that is unable to comply with the rule may need to cease operations, which in turn could have impacts on grid reliability. Trading allows such a facility to remain in operation by purchasing ERCs or allowances from other sources.

As noted in response to Question 3, trading is a key consideration in whether the state should choose a mass-based or rate-based plan. Though we may not know what other states plan to do at this point in terms of pursuing mass vs. rate-based approaches, the Department should stay engaged in those discussions to make sure that we have a robust market to participate in moving forward. This will facilitate the development of the most reliable and cost-effective plan possible.

[16] 80 Fed. Reg. 64,871-64,874; *see also* Memorandum to Clean Power Plan Docket titled Stranded Asset Analysis dated July 2015.

Thank you for the opportunity to comment on these issues. We appreciate the difficult work that goes into developing this plan and look forward to continued outreach and involvement over the coming months.

Respectfully submitted,

/s/

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