

**STATE OF MINNESOTA
BEFORE THE PUBLIC UTILITIES COMMISSION**

In the Matter of Minnesota Power's
Application for Approval of its
2015-2029 Resource Plan

PUC Docket No. E015/RP-15-690

CLEAN ENERGY ORGANIZATIONS' REPLY COMMENTS

On Behalf Of

**Fresh Energy
Minnesota Center for Environmental Advocacy
Sierra Club
Wind on the Wires**

March 4, 2016

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	TACONITE HARBOR ENERGY CENTER UNITS 1 AND 2 SHOULD NOT CONTINUE TO OPERATE.	1
III.	BOSWELL UNITS 1 AND 2 SHOULD BE RETIRED BEFORE 2022.....	2
IV.	MINNESOTA POWER’S BOSWELL 1 AND 2 EARLY RETIREMENT ANALYSIS OVERSTATES RELIABILITY CONCERNS AND FAILS TO FULLY CONSIDER ENVIRONMENTAL LIABILITIES.	4
A.	Minnesota Power Has Not Established The Need To Keep Boswell Units 1 And 2 Operational.....	4
B.	Minnesota Power’s Reliability Concerns Are Overstated.	5
C.	Boswell Units 1 And 2 Face Significant Environmental Liabilities Not Included In Minnesota Power’s Analysis.	6
V.	DOC’S ENERGY SAVINGS RECOMMENDATION IGNORES POTENTIAL FROM CIP-EXEMPT CUSTOMERS.....	8
VI.	DOC’S DISCUSSION OF COMPLIANCE WITH GREENHOUSE GAS REDUCTION GOALS.	10
VII.	THE COMMISSION SHOULD CONSIDER ESTABLISHING CERTAIN “BEST PRACTICES.”	11
	CONCLUSION.....	12

I. INTRODUCTION

The Clean Energy Organizations (“CEOs”) submit these Reply Comments to supplement our Initial Comments to Minnesota Power’s 2015 Integrated Resource Plan (“IRP”) and to respond to Initial Comments submitted by other parties to this proceeding. We appreciate the opportunity to provide these Reply Comments and continue to advocate for an IRP that adequately plans for a clean energy future. We commend Minnesota Power for hosting several stakeholder discussions during resource planning for dialogue. We also recognize the 1,500 community member comments submitted in this docket calling on Minnesota Power to do more to responsibly transition beyond coal to clean energy, including wind, solar, and energy efficiency.

II. TACONITE HARBOR ENERGY CENTER UNITS 1 AND 2 SHOULD NOT CONTINUE TO OPERATE.

CEOs agree with the Department of Commerce Division of Energy Resources (“DOC”)’s analysis that “shutting down Taconite Harbor units 1 and 2 early is more cost effective than a later shut down date.”¹ Our own analysis set forth in Initial Comments reached the same conclusion. Minnesota Power has not provided adequate justification for its plan to “idle” these uneconomic units. Its claim that idling the Taconite Harbor units is justified to “maintain grid reliability,” rings hollow.² Minnesota Power could have, but has not, requested MISO to conduct an “information only” Attachment Y-2 study to substantiate Minnesota Power’s claim that the two units could be needed for grid reliability.³ Nor is it clear whether the local impacts discussed in Appendix F of Minnesota Power’s IRP comply with this Commission’s previous Order that

¹ Comments of the Minnesota Department of Commerce, Division of Energy Resources in Docket No. E015/RP-15-690, dated January 4, 2016 (hereinafter “DOC Comments”) at 31.

² Minnesota Power 2015 IRP at 8, 14, 52.

³ *Id.* at App. F, 13.

“[i]n its next resource plan filing, Minnesota Power shall include a full analysis of the effects of retiring or repowering the Taconite 1 and 2 plants, including transmission and distribution effects.”⁴ As both CEOs and DOC have recommended, given the diminishing economics of operating Taconite Harbor Units 1 and 2, Minnesota Power should retire the units. The Commission should therefore direct Minnesota Power to make its Attachment Y filing with MISO.

III. BOSWELL UNITS 1 AND 2 SHOULD BE RETIRED BEFORE 2022.

We agree with DOC’s recommendation to shut down Boswell units 1 and 2 as soon as replacement capacity is available.⁵ DOC assumed this could happen by 2022, but CEOs assert that it should happen sooner. The Commission should place a priority on requiring Minnesota Power to analyze retirement of Boswell units 1 and 2 with an emphasis on minimizing the need for a fossil-fuel replacement resource and avoiding additional investments in the Boswell 1 and 2 units in the interim. Judging from Minnesota Power’s pending request for proposals for natural gas capacity,⁶ however, it appears that Minnesota Power is (1) requesting bids that will lock in the fuel-type of a replacement resource, (2) inflating the size of the replacement resource beyond what this current IRP would support, and (3) planning a \$30 million investment in the coal-fired Boswell 1 and 2 units despite imminent retirement. We disagree with this proposed course of action.

⁴ Order Approving Resource Plan, Requiring Filings, and Setting Date for Next Resource Plan, Docket No. E-015/RP-13-53, dated November 12, 2013 at 8, ¶ 14.

⁵ DOC Comments at 30.

⁶ Minnesota Power’s pending solicitation is expressly limited to natural gas plant proposals. Large Power Intervenors Comments, Docket No. E-015/RP-15-690, dated January 4, 2016 (hereinafter “LPI Comments”), at Ex. B, 2.

First, Minnesota Power's timing is ill advised—there has not been a demonstrated need for a natural gas replacement resource. The Clean Energy Organizations share the concerns of the Large Power Intervenors (“LPI”) that Minnesota Power is improperly pursuing procurement of substantial new natural gas generation capacity based on the Company's as-yet unapproved 2015 Resource Plan.⁷ Minnesota Power's procurement strategy is even more circular than stated by LPI, because Minnesota law prohibits Commission approval of a new natural gas resource in the resource plan, unless Minnesota Power has first demonstrated that a renewable energy facility is not in the public interest.⁸ Minnesota Power has not attempted to make this demonstration and such a demonstration must be a part of a request to approve a natural gas replacement resource for Boswell 1 and 2.

Even if Minnesota Power could demonstrate that a renewable energy replacement is not in the public interest, Minnesota Power's RFP overstates the need for a natural gas combined cycle unit. The RFP requests bids for up to 400 megawatts (“MW”) of natural gas capacity and energy, but even DOC's analysis supported only half that amount.⁹ DOC recommends Minnesota Power add additional solar, wind, and DSM resources in the near term, which must be considered and maximized before a fossil fuel replacement can be approved.¹⁰ In addition to these statutory requirements, CEOs agree that LPI has a logical expectation that Minnesota Power would first consider demand response program alternatives to its claimed supply needs.¹¹

⁷ Minnesota Power has informed bidders that the pending Resource Plan supports the need for the requested resource proposals. *Id.*

⁸ Minn. Stat. § 216B.2422, subd. 4 (2014).

⁹ DOC Comments at 36.

¹⁰ Minn. Stat. § 216B.2422, subd. 4 (requiring a demonstration that a renewable energy facility is not in the public interest before the Commission can approve a nonrenewable energy facility in an integrated resource plan); Minn. Stat. § 216B.2401 (stating that “cost-effective energy savings are preferred over all other energy resources”).

¹¹ LPI comments at 6.

These combined efforts could easily avoid at least a portion of Minnesota Power's claimed need for a large fossil-fueled replacement thermal unit.

Lastly, CEOs are concerned that Minnesota Power is planning a \$30 million investment into Boswell Units 1 and 2 by rerouting effluents through the Boswell Unit 3 scrubber.¹² While reducing harmful emissions is a laudable goal, CEOs suggest that ceasing operations of Boswell Units 1 and 2 would be a more prudent alternative.

IV. MINNESOTA POWER'S BOSWELL 1 AND 2 EARLY RETIREMENT ANALYSIS OVERSTATES RELIABILITY CONCERNS AND FAILS TO FULLY CONSIDER ENVIRONMENTAL LIABILITIES.

Minnesota Power claims that long-term operation of Boswell Units 1 and 2 is integral to the Boswell Energy Center as a whole and to the reliability of its system as a whole.¹³ But these concerns are overstated. Moreover, Minnesota Power's analysis of its Boswell Units fails to consider important aspects of the environmental liabilities faced by those units. CEOs therefore recommend that the Commission order a thorough analysis of the ability of Minnesota Power to cease operations at Boswell Units 1 and 2 before 2022.

A. Minnesota Power Has Not Established The Need To Keep Boswell Units 1 And 2 Operational.

Minnesota Power has not established any legitimate "need" to continue operating Boswell Units 1 and 2, which are already nearly 60 years old. Nevertheless, in November 2015, Minnesota Power filed a separate petition to extend the remaining life of Boswell Units 1 and 2 for another 35 years, until 2050.¹⁴ As Commission Staff recognized, however, that conclusion is

¹² Minnesota Power's IRP at 44.

¹³ *Id.* at 43 – 49.

¹⁴ PUC Docket No. 15-988 (Minnesota Power's Petition to Modify the Boswell Energy Center Remaining Life).

fundamentally inconsistent and incompatible with the company's own preferred strategy to transition to a cost-effective, lower-carbon future.¹⁵

In any case, Minnesota Power's conclusory assertion that the power generated from Units 1 and 2 "will be needed to serve customers well into the future" is wholly unsupported by the record.¹⁶ In response to Commission Staff's inquiry about the extension of the useful life for Units 1 and 2, the company asserted that it "obtained an opinion from Burns & McDonnell stating that there are no known technical reasons" why the units could not physically be operated until 2050 with appropriate maintenance and investments.¹⁷ But that "summary" opinion is not based on any unit inspections or unit-specific analyses.¹⁸ It merely reflects Burns & McDonnell's general industry experience with coal units in general. Moreover, the opinion makes clear that it does not consider limitations due to future environmental regulations or the economics of continuing to operate the units. Burns & McDonnell's cursory, 3-page opinion simply fails to provide a rational basis for concluding that these two nearly 60-year old units will be needed for another 35 years.

B. Minnesota Power's Reliability Concerns Are Overstated.

Minnesota Power's response to PUC Staff next suggests that Boswell Units 1 and 2 cannot be retired before 2024 because the units provide critical infrastructure and system restoration support for Units 3 and 4,¹⁹ but those concerns appear to be overstated. Although Minnesota Power asserted that Boswell Units 1 and 2 share many critical infrastructure systems with units 3 and 4, the company has failed to identify any system infrastructure that actually

¹⁵ PUC IR No. 5 to Minnesota Power.

¹⁶ Minnesota Power Resp. to PUC IR No. 5.

¹⁷ *Id.*

¹⁸ See Minnesota Power Resp. to CEO IR No. 50 and Attach. 50.1.

¹⁹ Minnesota Power Resp. to PUC IR No. 5.

requires units 1 and 2 to generate power as an essential condition to generating power at Units 3 and 4.²⁰ Moreover, Minnesota Power has not conducted any detailed analysis or study to evaluate the feasibility or cost of retiring units 1 and 2, while keeping Units 3 and 4 operational.²¹

Minnesota Power also asserts that Units 1 and 2 contribute to the system reserves needed to start Units 3 and 4, but the Company has not actually considered the feasibility or cost of any alternative to its current black-start plan.²² Nor has the Company determined that Units 1 and 2 are somehow critical to this process. In any event, the Company admits that it could and would work with the North American Electric Reliability Corporation and the Midcontinent System Operator to address black-start issues through the typical five-year decommissioning planning process.²³ In short, there is simply no legitimate reliability or technical justification for continuing to operate Units 1 and 2 for more than five years.

C. Boswell Units 1 And 2 Face Significant Environmental Liabilities Not Included In Minnesota Power's Analysis.

Finally, as noted, CEOs agree with DOC's recommendation to shut down Boswell units 1 and 2 as soon as replacement capacity is available.²⁴ Accordingly, we believe that Minnesota Power's plan to spend \$30 million rerouting the flue gas from Boswell Units 1 and 2 through the Unit 3 scrubber is imprudent. While CEOs generally support reductions in harmful air pollution, Minnesota Power appears to underestimate significantly the cost of continuing to operate Units 1 and 2.

²⁰ Minnesota Power Resp. to CEO IR No. 52.

²¹ Minnesota Power Resp. to CEO IR No. 54. In fact, Minnesota Power admits that it could retire Units 1 and 2, while still keeping critical equipment housed within the Unit 1 and 2 structure operational and useful to support Units 3 and 4, at a "minimal" cost. Resp. to CEO IR No. 54.

²² Minnesota Power Resp. to CEO IR No. 53.

²³ *Id.*

²⁴ DOC Comments at 30.

wastewater discharge rate, or the cost of conversion to dry ash handling.²⁹ Given that Units 1 and 2 are already marginally economic, and in light of the additional and previously overlooked costs of compliance associated with the Final ELG Rule, CEOs believe that Minnesota Power's plan to invest a minimum of \$30 millions of dollars into the continued operation of Units 1 and 2 is simply throwing good money after bad. CEOs suggest that ceasing operations of Boswell Units 1 and 2 would be a more prudent alternative.

V. DOC'S ENERGY SAVINGS RECOMMENDATION IGNORES POTENTIAL FROM CIP-EXEMPT CUSTOMERS.

We welcome DOC's recommendation that Minnesota Power pursue "an additional annual 30 GWh of energy efficiency, or annual energy savings of 76.5 GWh" through CIP.³⁰ CEOs do not agree, however, that this recommended level meets Minnesota's 1.5% energy savings policy goal, because DOC did not consider the potential for additional energy savings from CIP-exempt customers.

Minnesota Statute Section 216B.2401 states that "it is the energy policy of the state of Minnesota to achieve annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas through cost-effective energy conservation improvement programs and rate design, energy efficiency achieved by energy consumers without direct utility involvement[.]" Similarly, section 216C.05, subdivision 2 states that "[i]t is the energy policy of the state of Minnesota that: . . . annual energy savings equal to at least 1.5 percent of annual retail sales of electricity and natural gas be achieved through cost-effective energy efficiency." CEOs argued in Minnesota Power's last IRP proceeding that "these conservation mandates are distinct from CIP requirements, and do not include an exemption for large industrial

²⁹ Minnesota Power Resp. to CEO IR No. 59.

³⁰ DOC Comments at 32.

customers.”³¹ The Commission agreed. The Commission stated in its Order on Minnesota Power’s 2013 IRP that it agreed that “the energy savings goals described in Minn. Stat. §§ 216B.2401 and 216C.05 do not exclude consideration of savings that may be achieved by Minnesota Power’s CIP-exempt customers.”³² The Commission emphasized that “resource planning should reflect the possibility of energy conservation among all of Minnesota Power’s customers.”³³ Accordingly, the Commission ordered Minnesota Power to submit “an energy savings goal of 1.87 percent of Minnesota Power’s retail sales by its next resource plan filing.”³⁴ This was not limited to only “non-opt-out” retail sales.

Given this strong direction, CEOs were surprised that DOC limits its recommendations to savings potential from CIP customers only. DOC bases its analysis of Minnesota Power’s compliance with the statutory goal on “*adjusted* average retail sales” of 3,071,180 MWh.³⁵ But in Minnesota Power’s Supplemental Filing dated February 22, 2016, Minnesota Power indicated that its 2014 total for electric consumption by ultimate consumers was 9,284,816 MWh—a difference of 6,213,636 MWh. In its 2013 comments, DOC pointed out this difference and calculated energy savings percentages for both savings as a percent of non-opt-out retail sales and savings as a percent of total resale energy including opt-out. As an example, Minnesota Power’s claimed energy savings percentage calculated based on non-opt-out retail sales of 2.09% dropped to just 0.74% when opt-outs were included.³⁶

³¹ MCEA Public Comments on MN Power IRP, Docket No. E015/RP-13-53, dated June 3, 2013 at 3.

³² Order Approving Resource Plan, Requiring Filings, and Setting Date for Next Resource Plan, Docket No. E-015/RP-13-53, dated November 12, 2013 at 6.

³³ *Id.*

³⁴ *Id.* at 8 ¶ 11.

³⁵ DOC Comments at 36, Table 10 (emphasis added).

³⁶ PUBLIC Comments of the Minnesota Department of Commerce, Division of Energy Resources, Docket No. E015/RP-13-53, dated June 3, 2013 at 40, Table 12.

For reasons that are unclear, DOC did not perform a similar comparison in this IRP and instead concluded that “1.87 percent translates into energy savings of approximately 57.3 GWh.”³⁷ It is clear from DOC’s Tables 10 and 11 that this calculated energy savings percentage is based on adjusted average retail sales, not total retail sales.³⁸ Based on *total* retail sales, DOC’s recommended 76.5 GWh of savings goal shrinks to just 0.82% of system-wide retail sales, or just over half of the policy goal set forth in Minn. Stat. § 216B.2401.

The Commission’s Order on Minnesota Power’s 2013 Resource Plan was clear that ignoring the savings potential from the CIP-exempt segment of retail customers does not satisfy the 1.5% energy savings goal for Minnesota’s preferred energy resource.

VI. DOC’S DISCUSSION OF COMPLIANCE WITH GREENHOUSE GAS REDUCTION GOALS.

CEOs appreciate DOC’s explanation of the different methodologies in use to track greenhouse gas reductions in Minnesota.³⁹ However, the state greenhouse gas reduction statute is about more than just an accounting methodology. Minnesota Statute section 216H.02 subdivision 1 states that “[i]t is the goal of the state to reduce statewide greenhouse gas emissions across all sectors producing those emissions to a level at least 15 percent below 2005 levels by 2015, to a level at least 30 percent below 2005 levels by 2025, and to a level at least 80 percent below 2005 levels by 2050.” To reach these deep emission reductions across all sectors of Minnesota’s economy, the electricity sector will need to make even deeper cuts. Utilities’ resource plans need to substantively address and plan for achieving the law’s long-range greenhouse gas reduction

³⁷ DOC Comments at 41.

³⁸ *Id.* at 45 – 46.

³⁹ *Id.* at 61 – 62.

goals, that is, an at least 80% reduction from 2005 levels by 2050. Minnesota Power's Resource Plan does not.

VII. THE COMMISSION SHOULD CONSIDER ESTABLISHING CERTAIN "BEST PRACTICES."

DOC identifies areas where best practices have not been established, including how to estimate the energy savings embedded in a forecast and evaluating the impact and cost-effectiveness of future DSM investments.⁴⁰ CEOs recommended in initial comments that a technical workgroup could help establish some of these practices and the need for such a group is reinforced by DOC's comments. CEOs envision a PUC-led process that considers first whether there is a need for standardized modeling or other best practices, and then works to establish such practices. While resources are currently stretched very thin for DOC in particular, CEOs believe that a docket of this nature would create efficiencies in the long-run. Topics could include how to treat embedded savings, modeling practices (such as CEOs concern that the way Minnesota Power models energy efficiency underestimates the potential for energy savings to defer supply side resources), as well as load forecasting techniques. While this suggestion is not limited to Minnesota Power's IRP and would cut across all IRP proceedings (and could even look at practices in other states), we appreciate the opportunity to raise the suggestion and begin a dialogue with the Commission and other stakeholders about the merits of such a proceeding.

⁴⁰ *Id.* at 45.

CONCLUSION

CEOs reiterate our request in Initial Comments that the Commission order Minnesota

Power to:

1. Immediately retire Taconite Harbor Units 1 and 2;
2. Correct the identified problems in its load forecasting and modeling that create bias against clean energy resources;
3. Suspend its pending natural gas power plant procurement;
4. Time future supply additions closer to demonstrated need, using a fuel-neutral resource acquisition process;
5. Proactively seek ways to increase conservation by its CIP-exempt customers and consider additional DSM scenarios for CIP opt-outs.

CEOs additionally request that the Commission:

6. Order a full analysis of ceasing operations at Boswell Units 1 and 2.

CEOs make these requests in order to put Minnesota Power on a path to achieving the state's greenhouse gas emissions reduction goal in a proactive, cost-effective way that plans for the clean energy future we all need.

Dated: March 4, 2016

Respectfully submitted,

/s/ Leigh Currie

Leigh Currie

Elizabeth Goodpaster

Minnesota Center for Environmental Advocacy

26 E. Exchange Street, Ste. 206

St. Paul, MN 55101

(651) 287-4873

*Attorneys for Fresh Energy, Minnesota Center
for Environmental Advocacy, Sierra Club, and
Wind on the Wires*