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VIA E-FILING

Burl W. Haar
Public Utilities Commission
121 7th Place East
Suite 350
St. Paul, MN 55101-2147

**Re: In the Matter of Minnesota Power's Application for Approval of its 2013-2027
Resource Plan
Docket No. E015/RP-13-53**

Dear Dr. Haar:

Enclosed please find the Reply Comment of the Large Power Intervenors in the above referenced docket.

If you have any questions, please contact me.

Very truly yours,

Stoel Rives LLP

/s/ Andrew P. Moratzka

Andrew P. Moratzka

APM:kap
Enclosures
cc: Service List
Chad T. Marriott

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

121 7th Place East, Suite 350
St. Paul, MN 55101-2147

In the Matter of Minnesota Power's
Application for Approval of its 2013-2027
Resource Plan

PUC Docket No. E015/RP-13-53

LPI REPLY COMMENT

The Large Power Intervenors ("LPI"), consisting of ArcelorMittal USA (Minorca Mine); UPM-Blandin Paper Company; Boise, Inc.; Enbridge Energy, Limited Partnership; Hibbing Taconite Company; Mesabi Nugget Delaware, LLC; NewPage Corporation; PolyMet Mining, Inc.; Sappi Cloquet, LLC; USG Interiors, LLC; United States Steel Corporation (Keewatin Taconite and Minntac Mine); and United Taconite, LLC; submit this reply comment with respect to Minnesota Power's application for approval of its 2013-2027 integrated resource plan (the "Resource Plan").

I. INTRODUCTION

On May 10, 2013, the Minnesota Public Utilities Commission (the "Commission") issued its *Order Finding Resource Plan Complete and Setting Procedural Framework* (the "May 10 Order")¹ in the above-captioned docket, wherein the Commission extended the deadline for filing initial comments on the Resource Plan to June 3, 2013, and extended the deadline for filing reply comments to July 3, 2013. In compliance with the May 10 Order, LPI, the Minnesota Department of Commerce – Division of Energy Resources (the "Department"), and the Izaak Walton League- Midwest Office, Fresh Energy, the Sierra Club and the Minnesota Center for Environmental Advocacy (together, the "Environmental Intervenors") each submitted initial comments on the Resource Plan on June 3, 2013. LPI submits this reply comment in accordance with the Commission's revised schedule. Specifically, LPI submits this reply comment to respond to certain issues and arguments raised by the Department and the Environmental Intervenors in their initial comments and to describe why LPI believes the "Retrofit Small Coal"

¹ *In the Matter of Minnesota Power's 2013 – 2028 Integrated Resource Plan*, Docket No. E-015/RP-13-53, ORDER FINDING RESOURCE PLAN COMPLETE AND SETTING PROCEDURAL FRAMEWORK (May 10, 2013).

option remains the most appropriate course of action to ensure the lowest cost and highest benefit to all Minnesota Power ratepayers.

II. ANALYSIS

A. Introduction

Through the Resource Plan and comments submitted by parties to this proceeding, the Commission has before it a range of alternatives for Minnesota Power's future energy supply. LPI's initial comment highlighted the risks associated with the Resource Plan and suggested the Commission accept one of Minnesota Power's alternative courses of action – the Retrofit Small Coal option. This reply comment addresses the weaknesses of the proposals offered by the Department and Environmental Intervenors.² These remarks are not, however, intended to imply that LPI's proposals are without risk. LPI hopes the Commission recognizes through the constructive dialogue between parties in this proceeding that Strategist is not an oracle for least-cost planning. To the contrary, Strategist is a highly sensitive tool with limited application. Assumptions such as the availability of a wholesale market, size and timing of a carbon tax, and natural gas prices significantly influence results. And these results do not take into account operational realities such as power flow and the potential need for transmission upgrades.

LPI believes the Commission is best served by (1) incorporating appropriate assumptions, potential risks, and transmission upgrades, (2) analyzing the results of a few key sensitivities, and (3) reviewing the short-term and long-term projected costs of those results. Given the factors to be considered by the Commission in approving a resource plan, as well as the current and developing regulatory environment, LPI believes its recommended course of action is the most likely to keep ratepayers' bills as low as practicable in the long run while minimizing adverse socioeconomic and environmental impacts. LPI's specific remarks on the submissions of the Department and Environmental Intervenors are set forth in detail below.

² LPI focuses its analysis on the comments of these parties and does not repeat the arguments and analysis contained in its initial comment. However, LPI continues to rely on that analysis in support of this reply comment.

B. Response to the Department

LPI appreciates the Department's substantial efforts in analyzing Minnesota Power's Resource Plan. The Department engaged in extensive modeling reviews and other analysis in developing its comment, but LPI believes the Commission should not accept the assumptions necessary to support the Department's recommendation. In its initial comment, the Department recommended that the Commission order Minnesota Power to take the following actions in the 2013-2017 time frame:

- Initiate the process of retiring or selling Taconite Harbor Energy Center ("THEC") Unit 3 so that the unit is removed from Minnesota Power's system by no later than the end of 2015;
- Switch the fuel of Laskin Energy Center ("Laskin") Units 1 and 2 to natural gas by 2015;
- Add 100 to 200 MW of wind capacity in the 2014-2016 time frame as long as the resource is reasonably priced; and
- Add about 200 MW of intermediate capacity in the 2015-2017 time frame as long as the resource is reasonably priced.³

The one major difference between Minnesota Power's Preferred Plan and the Department's recommendations is the addition of 200 MW of intermediate capacity within the short-term (i.e., 2013-2017) planning horizon. Minnesota Power did not identify the need for intermediate capacity until at least 2020.

LPI believes that the Department's results differ from Minnesota Power and other parties because the Department makes the following key assumptions: (1) limited reliance on the spot market, (2) use of unforced capacity (or "UCAP") to calculate the planning reserve margin requirements, (3) use of forecasted values for SO₂ and NO_x allowance, and (4) monetizing CO₂. One factor the Department failed to consider was the potential volatility of natural gas prices. The discussion below addresses LPI's concerns about these assumptions and the increased price risk for natural gas. LPI believes the Department's assumptions are unreasonable and its

³ Department Comment at 51.

proposed plan too costly. LPI respectfully requests that the Commission reject the Department's proposal.

1. The Department's Proposed Limited Reliance on the Spot Market is Not a Realistic Assumption

The Department's recommendations are based on modeling assumptions that eliminate the procurement of short-term capacity purchases and reduce the reliance on the spot market for energy purchases to roughly half of what was proposed by Minnesota Power. In particular, the Department created a limited market construct where "no capacity was available and energy would generally be limited to less than 10 percent of [Minnesota Power's] energy requirements."⁴ It appears that changing the construct with respect to market purchases in turn created the need for intermediate capacity in the five year action plan.

LPI appreciates that the Department utilized this construct to protect ratepayers from paying high market prices. But it is critical for the Commission to carefully weigh the costs and risks of building a new resource that may not be needed against the possibility of securing short-term capacity and energy purchases. Minnesota Power is a market participant in the Midcontinent Independent System Operator, Inc. ("MISO"), balancing area and has the ability to realize the benefits of access to a regional market. While Minnesota Power and other utilities should not assume that they will cost-effectively acquire significant capacity from the market, it is unreasonable to assume zero or very limited reliance. There needs to be a balance and the Department's assumptions provide no opportunity for such balancing. As the comments below indicate, LPI believes that the Department's recommended cap on energy procurement and its total elimination of capacity procurement from the market are overly conservative to the detriment of ratepayers. Acquiring reliable power is important. But the acquisition of such power must be made efficiently, cost effectively and in a way that recognizes Minnesota Power's need for flexibility due to the unique characteristics of the load on its system.

⁴ Department Response to LPI Information Request No. 312.

With respect to capacity procurement, Minnesota Power predominantly obtains capacity through bilateral purchases, not the spot market.⁵ Its reliance on the MISO market for capacity is very minimal, especially in the five year action plan.⁶ Minnesota Power's future load growth is highly contingent on industrial load, which in turn is dependent on national and international economic activity. For that reason, Minnesota Power needs flexibility in procuring both capacity and energy and PPAs offer such flexibility. For example, given the sluggish economy in the U.S and worldwide, it is conceivable that economic conditions for industrial customers will worsen. If this occurs and the Commission allows Minnesota Power to move forward with a intermediate plant over the next five years, Minnesota Power would end up with surplus capacity and industrial customers would be burdened with paying for that surplus at a time when their businesses are contracting.⁷ Such an outcome would not be a least-cost solution for ratepayers.

With respect to energy procurement, Minnesota Power's modeling assumptions include what are called "hurdle rates" for procuring energy from the MISO market. Minnesota Power asserted the following in the Resource Plan:

A conservative approach was taken when creating the wholesale energy market that would be made available as a power supply resource during the study period. While the regional market is a valuable and useful piece of a utility's power supply, it should not be considered as an "endless" resource. To help account for the increased risk and volatility that is present when purchasing incrementally larger amounts of energy from the short term market, an increasing price adder was included based on the level of energy purchased. As the volume of energy purchased from the market increased, so did the price adder. This is referred to as a "Tiered Energy Market" and includes the following pricing assumptions:

- i. 0 to 150 base forecast price

⁵ Minnesota Power Response to LPI Information Request No. 200.

⁶ Minnesota Power included 18 MW of market purchases between 2013-2017. *Resource Plan*, App. I, Table 9.

⁷ It should be noted that Minnesota Power would have a surplus of capacity even without the addition of the intermediate capacity under the low load growth scenario. See Minnesota Power Response to LPI Information Request No. 116.1 (low economic and industrial forecast).

- ii. 150 to 300 MW of base forecast price plus \$15/MWh premium adder
- iii. 301 to 600 MW of base forecast price plus \$40/MWh premium adder
- iv. Greater than 600 MW at emergency energy price (\$250/MWh in 2013 and escalated at 2.2% annually).⁸

In other words, Minnesota Power used hurdle rates and allowed the model to “solve” for least-cost options whereas the Department imposed a hard cap. LPI believes the Department’s hard cap is unreasonable.

Furthermore, the need to add hurdle rates highlights a major flaw with the Strategist model. Namely, that the utility system is assumed to operate in isolation and not as part of the MISO market. Strategist does not model Minnesota Power’s interaction with the MISO market and therefore does not take into account the MISO market or power-flow configuration in its production cost modeling. From LPI’s perspective, the most realistic outcome would result from a production cost model that includes power flows so that artificial hurdle rates or caps would not be needed. Absent this ideal model, LPI believes that the Department’s limited market construct is far too restrictive and conservative. Minnesota Power took the next-best step by adding hurdle rates. By doing so, Minnesota Power’s analysis more realistically captures the risks of procuring increasing amounts from the MISO spot market and this indicates that the amount and duration of procurement is not enough to justify building new resources significantly in advance of when they may be needed.

2. Using UCAP to Calculate the Planning Reserve Margin requirements is Shortsighted

While Minnesota Power used installed capacity (“ICAP”) to calculate the planning reserve margin in the Resource Plan, the Department utilized the UCAP method in the analysis it presented in its initial comments. In support of this decision, the Department argues that, because MISO’s rules specifically account for each utility’s forced outage rate in ascertaining planning reserve margins, the utility should account for these rates in order to more accurately

⁸ *Resource Plan*, App. H at 4.

predict dependability on its supply portfolio.⁹ Minnesota Power's position, on the other hand, is that near-term forced outage rates are not predictive of the long-term capability of its supply-side resources. LPI recognizes the concerns outlined by the Department in this matter. Ignoring the forced outage rates altogether will under- or over-predict resources, which in turn impacts the resources needed.

However, MISO's resource adequacy rules apply one year forward (unlike the 15-year plan contemplated in this proceeding) and incorporate a five year forced-outage rate by unit. Although this may be a relevant yardstick to follow for the short-term one year forward resource planning conducted by MISO, it is probably more relevant to utilize a longer-term forced-outage rate in addition to transitioning particular generating units from the current unforced capacity rating to one that is more reflective of expected operating capacity.¹⁰ In other words, the solution may be an analysis somewhere between the UCAP method and the ICAP method. LPI suspects that the parties will be unable to reach a resolution on this issue in this proceeding. Therefore, the best course of action may be for the Commission to require Minnesota Power to incorporate both methods into modeling in future resource plans.

3. Using values for SO₂ and NO_x allowances, Forecasted or Otherwise, is Unnecessary

The Department's modeling analysis included forecasted values for SO₂ and NO_x allowances. While it would be relevant to include such values if EPA's Cross-State Air Pollution Rule ("CSAPR") rule had been in effect, it is not an issue at present because this rule was vacated.¹¹ Furthermore, it is not clear what values SO₂ allowances will have in the future as utilities continue their work to comply with the Mercury and Air Toxics Standard ("MATS"). Consequently, LPI believes that including such values is not reflective of current federal regulations or reality and results in skewing the Resource Plan towards a solution that is not least cost. LPI highlighted similar concerns regarding Minnesota Power's use of the midpoint of the

⁹ It is not clear why the Department, on the one hand, advocates for the use of MISO's rules pertaining to reserve margin planning, but on the other hand, advocates for a very limited recognition of the wholesale market MISO oversees.

¹⁰ See e.g., Department Comment at 23.

¹¹ LPI recognizes that the United States Supreme Court recently granted review of the decision vacating CSAPR.

Metropolitan Fringe externality values. Specifically, LPI stated the following in its initial comments:

LPI is concerned that using these assumed values, which are based on speculative legislation, in the base case and all sensitivities is inconsistent with the Commission's prior decisions. LPI further asserts that use of the midpoint of the Metropolitan Fringe externality values biases the supply side solution against certain resources in such a way that could ultimately result in a plan that is not the least cost to ratepayers.¹²

LPI went on to present PVRR results without considering any externality values, which demonstrated that by not imposing artificial penalties, the least-cost plan is the Small Coal Retrofit plan in more cases than Minnesota Power's Preferred Plan.¹³ In a similar vein, the base case should be modeled without SO₂/NO_x externality values. If the purpose of including these values is to quantify the customer cost impact of any potential SO₂/NO_x-related regulation in the future, sensitivity runs should be conducted solely to assess the impact of those externalities.

4. Including Carbon Cost Assumptions Significantly Alters the Direction of the Department's Recommendations Regarding Resource Decisions

While LPI does not agree with the Department on its recommendation to monetize CO₂ costs, LPI appreciates the candid assessment of CO₂ cost impacts on Minnesota Power's resources. The Department's conclusions about retiring THEC Units 1, 2, and 3 and Laskin Units 1 and 2 reinforce the point that including CO₂ costs in the analysis has material impacts and can significantly alter retirement decisions. The Department specifically states:

b. Taconite Harbor Unit 3 Retirement Results

In terms of units selected for retirement, the results are clear for Taconite Harbor unit 3 as long as CO₂ costs are included. Taconite Harbor unit 3 retires early in the planning period (usually 2015-2016) in nearly all contingencies. When CO₂ costs are not included, Taconite Harbor unit 3 retires occasionally (but not a majority of times) under all three spot market designs.

¹² LPI Comment at 13-14

¹³ LPI Comment at 14.

In summary, the modeling provides clear direction regarding Taconite Harbor unit 3 when CO2 costs are included. When no CO2 regulation costs are included, the determination depends upon which contingencies under which spot market design is deemed to be most reasonable and likely.

c. Taconite Harbor Units 1 and 2 Retirement Analysis

The retirement results are clear for Taconite Harbor units 1 and 2 as long as CO2 costs are included and are greater than \$9 in 2017. Taconite Harbor units 1 and 2 are retired in nearly all contingencies. Retirement typically happens in 2017-2019 for the full and limited market designs and in 2021 under the no market design. When CO2 costs are excluded, Taconite Harbor units 1 and 2 do not retire unless conditions are extremely favorable for such retirement (e.g., high coal costs, low natural gas costs).

In summary, the modeling provides clear direction regarding Taconite Harbor units 1 and 2. When CO2 costs at the mid-point are included the units should be retired (typically in 2021 or earlier) and when CO2 costs are excluded continued operation is the most cost-effective option.

d. Laskin Retirement Results

The results for retirement of Laskin units 1 and 2 are inconclusive. In scenarios with the midpoint CO2 costs Laskin is:

- occasionally retired in the Full Market scenario;
- often retired in the Limited Market scenario; and
- retired only once in the No Market scenario.

In scenarios without CO2 costs Laskin is:

- often retired in the Full Market scenario;
- occasionally retired in the Limited Market scenario; and
- never retired in the No Market scenario.

In summary, the modeling provides no clear direction regarding Laskin for the long term. The determination depends upon which scenario and contingencies are perceived to be of greatest likelihood.¹⁴

Since Minnesota Power's decisions about retiring units are sensitive to CO₂ cost assumptions, it is crucial that the Commission carefully weigh the merits of these assumptions. As stated in its initial comments, LPI continues to believe that basing expensive resource decisions on speculative assumptions is a very risky proposition. Based on the analyses conducted by the

¹⁴ Department Comment at 33-34 (emphasis added).

Department and Minnesota Power, it is clear that retirements of the small coal units would not occur *but for* the monetizing CO₂ costs that are nonexistent today. A separate comment on the potential for CO₂ regulation appears below.

5. The Commission Must Consider Increased Fuel Price Risk

The Department's recommendations include the addition of a new 200 MW combined cycle unit within the next five years. LPI has a growing concern that the fuel price risk is not thoroughly examined to reflect the uncertainty in natural gas prices. As noted in LPI's initial comments, natural gas prices are volatile and history has indicated that it would not be unreasonable to envision a 2027 value that is greater than the value in the high sensitivity case. Furthermore, since the demand for combined cycle units is high, it will increase the demand in natural gas and result in additional upward pressure on natural gas prices. It is important to understand and monetize this risk so that a more objective evaluation can be made regarding supply-side resources fueled with natural gas. If the Commission accepts the Department's recommendations without first requiring Minnesota Power to conduct such an analysis, future resource decisions could be misguided and ratepayers run a high risk of paying more for power than they should.

6. The Department's Alternative Proposal Should be Rejected

The analysis above demonstrates that the Department's assumptions are questionable and the impact of its proposals would be significant to ratepayers. In particular, adding a natural-gas-fired resource in the near future would have a substantial impact on the PVRR. The Department's PVRR associated with its base case is \$445 million more than Minnesota Power's Preferred Plan.¹⁵ Although the Department did not provide rate impacts associated with its proposed plan, it is clear that including 200 MW of new intermediate capacity in the near term would trigger rate increases within the five year planning horizon that would be significantly larger than Minnesota Power's Preferred Plan or LPI's recommended plan. LPI therefore respectfully requests that Commission reject the Department's assumptions and reject its proposed alternative resource plan.

C. Response to the Environmental Intervenors

Unlike the Department, which suggests specific courses of action based on its own analysis, the Environmental Intervenors focus on two alleged deficiencies in the Resource Plan to argue for an alternative course of action. First, the Environmental Intervenors claim that the Resource Plan fails to include conservation efforts of customers exempt from the Conservation Improvement Program ("CIP"). Second, the Environmental Intervenors assert Minnesota Power's modeling demonstrates near term elimination of coal plants is cost effective. Both arguments should be rejected by the Commission. The fundamental problem with the latter argument is that lacks the necessary evidentiary support. LPI will therefore address this issue first.

¹⁵ This estimate was derived by taking the difference of the PVRR between the Department's base plan that includes 100 MW of wind and a limited reliance on the spot market and Minnesota Power's Preferred Plan (\$8.733 billion - \$8.288 billion=\$445 million). Since the Department did not conduct a No Externalities case, it was not possible to compare LPI's recommended option with that of the Department. That said, since (1) LPI's PVRR of the Small Coal Retrofit option was least cost in more cases than Minnesota Power's Preferred Plan, including the base case, and (2) the Department's base case is higher than Minnesota Power's, it stands to reason that there is a wider differential between the PVRR related to the Department's and LPI's recommendations.

1. Environmental Intervenor Do Not Meet The Burden For Proposing A New Resource Plan

Although not entirely clear, the Environmental Intervenor appear to be suggesting that more coal units should be retired, based on the alleged minimal difference in cost.¹⁶ The Environmental Intervenor also claim the Resource Plan is deficient in failing to appropriately consider conservation and energy efficiency.¹⁷ The Environmental Intervenor fail to meet the burden under the Commission's rules for proposing such an alternative resource plan. The applicable rule states in pertinent part that:

parties . . . may file proposed resource plans different from the plan proposed by the utility. When a plan differs from that submitted by the utility, the plan must be accompanied by a narrative and quantitative discussion of why the proposed changes would be in the public interest, considering the factors listed in part 7843.0500, subpart 3.¹⁸

The factors that the Commission must evaluate when considering alternative resource plans are the plan's ability to (1) maintain or improve the adequacy and reliability of service, (2) keep the customers' bills as low as possible, given regulatory and other constraints, (3) minimize adverse socioeconomic and environmental effects, (4) enhance the utility's ability to respond to changes affecting its operations, and (5) limit the risk of adverse effects on customers and the utility that the utility cannot control.¹⁹

Rather than cite to any of these factors, the Environmental Intervenor assert that a present value analysis of various options demonstrates that, on a percentage basis, the cost impact is minimal. Cost is of course one of the factors considered by the Commission. But it is not the only factor. The Environmental Intervenor fail to explain what generation would remain to reliably serve Minnesota Power's customers, whether the replacement generation would impose increased risks of adverse effects (*e.g.*, fuel costs), or if the replacement generation

¹⁶ Environmental Intervenor state on page 19 that "the Commission should favor early retirement of Minnesota Power's remaining small coal units" and then subsequently states, on the same page "the Commission should adopt a plan that retires or repowers more coal plants than preferred by Minnesota Power." Environmental Intervenor Comment at 19.

¹⁷ Environmental Intervenor Comment at 14-16.

¹⁸ Minn. R. 7843.0300, subp. 11.

¹⁹ Minn. R. 7843.0500, subp. 3.

would limit Minnesota Power’s ability to respond to other changes impacting its operations. The Environmental Intervenors therefore do not present an adequate quantitative discussion of why the proposed changes would be in the public interest considering the factors set out in Minn. R. 7843.0500, subp. 3. Furthermore, the Environmental Intervenors demand Minnesota Power engage in substantial additional work before the Commission should approve the Resource Plan. As explained below, there is no legal basis upon which to accept the Environmental Intervenors’ position.

2. The Commission Should Not Require Minnesota Power to Account For Energy Conservation Efforts of CIP-Exempt Customers in its Resource Planning Process

The Environmental Intervenors argue that recent legislative amendments changed the legislature’s energy savings policy goal adopted in 2007 from one whereby utilities must achieve a 1.5% energy savings based on *annual retail energy sales* (which, by definition, excludes CIP-exempt customers) to one whereby utilities must demonstrate a 1.5% energy savings based on “*total retail energy sales*,” including sales to CIP-exempt customers.²⁰ This suggestion is not supported by the new statutory language cited by the Environmental Intervenors. Furthermore, important policy considerations weigh against accepting the Environmental Intervenors’ arguments.

a. Historical Overview of CIP-Related Statutes

Utility-sponsored conservation programs are mandated under Minn. Stat. § 216B.241, subd. 1a(a). In pertinent part, the statute reads:

216B.241 ENERGY CONSERVATION IMPROVEMENT.

Subd. 1a. **Investment, expenditure, and contribution; public utility.** (a) . . . Each public utility shall spend and invest for energy conservation improvements under this subd. and subd. 2 the following amounts:

(1) . . . ;

(2) for a utility that furnishes electric service, 1.5 percent

²⁰ Environmental Intervenors Comment at 4 (emphasis added).

of its gross operating revenues from service provided in the state;

(3) . . . ;

For purposes of this paragraph (a), “gross operating revenues” do not include revenues from large customer facilities exempted under paragraph (b).

Prior to 2007, that language stood alone and electric utilities met the state’s energy-savings requirement each year by spending 1.5% of their gross operating revenues on conservation programs. The statute did not require that the utilities’ annual expenditures result in a specific reduction in system load. In other words, prior to 2007, utilities were required to spend money on energy conservation programs but they were not required to meet a minimum level of energy savings based on dollars spent. Similarly, the Commission’s job was to confirm utility expenditures for energy conservation and not validate that those expenditures resulted in a minimum level of energy savings.

But in 2007, the legislature passed the Next Generation Energy Act (“NGEA”),²¹ which, in part, changed how the Commission assesses a utility’s energy savings. Specifically, Article 2, Sections 4 and 5 of the NGEA established an annual energy-savings goal for each utility equal to 1.5% of its annual retail energy sales. That language was codified at Minn. Stat. §§ 216B.2401 and 216B.241, subd. 1c(b):

216B.2401 ENERGY CONSERVATION POLICY GOAL.

It is the energy policy of the state of Minnesota to achieve energy savings equal to 1.5 percent of annual retail energy sales of electricity and natural gas directly through energy conservation improvement programs and rate design, and indirectly through energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

²¹ 2007 Minn. Laws ch. 136.

216B.241 ENERGY CONSERVATION IMPROVEMENT.

Subd. 1c. Energy-saving goals. . . .

(b) Each individual utility and association shall have an annual energy-savings goal equivalent to 1.5 percent of gross annual retail energy sales unless modified by the commissioner under paragraph (d). The savings goals must be calculated based on the most recent three-year weather normalized average.

The new energy savings goal changed the playing field by transforming the statutory scheme from a spending requirement into an overall energy savings goal that utilities could not necessarily meet simply by spending 1.5% of gross operating revenues on energy conservation programs. While each utility was still required to spend 1.5% of its gross operating revenues on energy conservation each year, the legislature recognized that utilities should be permitted to aggregate the energy savings that resulted from those direct expenditures with other energy efficiency efforts to achieve the new overall energy savings goal. To that end, section 216B.2401 provided that any portion of the 1.5% reduction that could not be achieved through direct expenditures under a utility's Conservation Improvement Program ("CIP") could be made up "indirectly through energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation."²² Thus, statewide energy conservation that, prior to 2007, was measured solely through mandatory CIP expenditures was broadened in 2007 so that each utility could achieve a 1.5% reduction in annual retail energy sales through both CIP expenditures and other indirect efforts.

Importantly, however, both the definition of "gross operating revenues" under section 216B.241, subd. 1a(a) and the definition of "annual retail energy sales" under sections 216B.2401 and 216B.241, subd. 1c(b) explicitly exclude revenues from, and electricity sales to, large industrial customers that are exempted under section 216B.241, subd. 1a(b).²³ Therefore, if

²² MINN. STAT. § 216B.2401.

²³ MINN. STAT. § 216B.241, subd. 1a(a) (last sentence) ("For purposes of this paragraph (a), 'gross operating revenues' do not include revenues from large customer facilities exempted under paragraph (b)"); § 216B.241, subd. 1(g) ("gross annual retail energy sales exclude: . . . (2) electric sales to a large customer facility (continued . . .)");

a large industrial customer has petitioned the Commissioner of Commerce to exempt it from CIP, and that petition has been granted, then that customer's facility (1) is not considered to be an available resource for purposes of designing "utility-sponsored conservation programs" under any integrated resource plan and (2) is not measured for purposes of determining the utility's performance with respect to the annual 1.5% energy savings goal. While it is true that, in 2007, utilities like Minnesota Power became responsible for achieving the new 1.5% energy savings goal in connection with their annual CIP expenditures, neither the measured load reductions nor the dollars spent were ever contemplated to include large industrial customers exempted under the statute.

b. Environmental Intervenors Misinterpret the Language of H.F. 729

Given the background presented above, it is clear that the Environmental Intervenors have misinterpreted the language of H.F. 729. In their initial comments, Environmental Intervenors point out that H.F. 729 amended certain language in Minn. Stat. §§ 216B.2401 and 216C.05. In particular, Article 12, Section 2 of H.F. 729 made the following revisions to section 216B.2401 (underline indicates new language; strikethrough indicates deletions):

(. . . continued)

whose electric utility has been exempted by the commissioner under subd. 1a, paragraph (b), with respect to electric sales made to the large customer facility").

216B.2401 ENERGY CONSERVATION SAVINGS POLICY GOAL.

The legislature finds that energy savings are an energy resource, and that cost-effective energy savings are preferred over all other energy resources. The legislature further finds that cost-effective energy savings should be procured systematically and aggressively in order to reduce utility costs for businesses and residents, improve the competitiveness and profitability of businesses, create more energy-related jobs, reduce the economic burden of fuel imports, and reduce pollution and emissions that cause climate change. Therefore, 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 directly through cost-effective energy conservation improvement programs and rate design, and indirectly through energy efficiency achieved by energy consumers without direct utility involvement, energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation.

In addition, Article 12, Section 3 of H.F. 729 amended Minn. Stat. § 216C.05, Subd. 2 as follows:

Subd. 2. **Energy policy goals.** It is the energy policy of the state of Minnesota that:

(1) annual energy savings equal to at least 1.5 percent of annual retail energy sales of electricity and natural gas be achieved through cost-effective energy efficiency;

~~(1)~~(2) the per capita use of fossil fuel as an energy input be reduced by 15 percent by the year 2015, through increased reliance on energy efficiency and renewable energy alternatives; and

~~(2)~~(3) 25 percent of the total energy used in the state be derived from renewable energy resources by the year 2025.

The Environmental Intervenors argue that this new language creates “conservation mandates [that] are distinct from CIP requirements, and do not include an exemption for large

industrial customers.”²⁴ More specifically, they argue that the new language changed the legislature’s energy savings policy goal adopted in 2007 from one whereby utilities must achieve a 1.5% energy savings based on *annual retail energy sales* (which, by definition, excludes CIP-exempt customers) to one whereby utilities must demonstrate a 1.5% energy savings based on “*total retail energy sales*,” including sales to CIP-exempt customers.²⁵ However, the plain language of the statutes do not support such an interpretation and the implications of requiring utilities to take the energy conservation efforts of CIP-exempt customers into account clearly weigh against such a policy shift.

(i) The Plain Language Of The Statutes Show That H.F. 729 Does Not Create New Conservation Mandates

The plain language of the statutes show that H.F. 729 does not create new conservation mandates. The only mandate with respect to energy conservation is the utilities’ requirement to spend 1.5% of gross operating revenues on conservation programs each year under section 216B.241, subd. 1a(a). That language was not changed by H.F. 729. Similarly, the state’s policy goal of achieving energy savings equal to 1.5% of annual retail energy sales was not changed in any meaningful respect. While the addition of “at least” suggests that 1.5% should be a floor and not a ceiling, it does not change the fundamental goal that each utility should work to achieve a reduction in system load of 1.5% per year. Nor is the goal of achieving energy savings “of at least 1.5 percent of annual retail energy sales” somehow transformed into “at least 1.5 percent of *total* retail energy sales” simply by adding the language “energy efficiency achieved by energy consumers without direct utility involvement,” as the Environmental Intervenors suggest. The simple fact that the legislature retained the phrase “annual retail energy sales” – a phrase which explicitly excludes electricity sales to large industrial customers that have been exempted from the CIP program under § 216B.241, subd. 1a(b) – should put that argument to rest. Put simply, addition of “energy efficiency achieved by energy customers without direct utility involvement” does not change the underlying fact that annual retail energy sales are calculated by first excluding sales to CIP-exempt customers. Thus, H.F. 729 does nothing to change the utilities’ mandate and little to alter the policy goals of the state.

²⁴ Environmental Intervenors Comment at 3.

²⁵ Environmental Intervenors Comment at 4 (emphasis added).

Although the legislature's addition of "energy efficiency achieved by energy consumers without direct utility involvement" does not create a new conservation mandate distinct from CIP requirements, the phrase is not without meaning. Rather, it is listed as another asset that utilities can use to achieve energy savings that cannot be achieved through cost-effective expenditures under a utility's CIP or through "energy codes and appliance standards, programs designed to transform the market or change consumer behavior, energy savings resulting from efficiency improvements to the utility infrastructure and system, and other efforts to promote energy efficiency and energy conservation." In that regard, the new language merely increases the number of tools in the utilities' toolbox for achieving energy savings of "at least 1.5% of annual retail energy sales." It does not, as the Environmental Intervenors contend, obligate Minnesota Power to account for energy conservation efforts of its CIP-exempt customers in the Resource Plan. Minnesota Power cannot be required to account for energy conservation efforts of CIP-exempt customers if electricity sales to those customers are excluded from the definition of what the savings are being measured against. At best, including energy savings attributable to CIP-exempt customers in the numerator of a savings-to-sales ratio would skew the calculation in favor of Minnesota Power because sales to those customers are by definition not included in the denominator. At worst, including energy savings attributable to CIP-exempt customers in the calculation would violate the plain language of the statute.

The most logical reason for including "energy efficiency achieved by energy consumers without direct utility involvement" as another tool for utilities is to recognize the system-wide savings that are occurring through the efforts of retail customers outside of any utility-sponsored program (e.g., homeowners making the decision to reduce their loads voluntarily to save money) and to allow the utilities to count these savings toward the 1.5% goal according to the standard set forth in section 216B.241, subdiv. 1c(b)- i.e., "based on the most recent three-year weather normalized average." The new language thus permits utilities to take credit for energy savings achieved by retail users that are not benefitting from CIP but are also not exempt from the calculation of "annual retail energy sales."

Minnesota Power's load forecasting model will adequately incorporate these savings. The Environmental Intervenors disagree, claiming that the utility does not incorporate the full potential for future efficiency savings. This observation is based on the premise that the load

forecast relies on historical years going back to 1990, thereby including several years with less efficiency savings.²⁶ LPI disagrees with this premise. According to Appendix A of the Resource Plan, Minnesota Power utilizes an autoregressive modeling process in its forecast which inherently biases future predictions by relying on the most recent past.²⁷ Furthermore, because Minnesota Power utilizes monthly data, the predictions are even more near term relative to utilizing annual data. The Environmental Intervenors are therefore incorrect in assuming that the current forecast does not reflect the full potential of efficiency savings.

(ii) Policy Considerations Weigh Against Requiring Utilities To Take Energy Conservation Efforts Of CIP-Exempt Customers Into Account

Not only does the plain language of the statutes show that H.F. 729 does not require new conservation mandates, but requiring utilities to take the energy conservation efforts of CIP-exempt customers into account during the resource planning process would place an undue burden on the utilities and would place the Commission in an inappropriate regulatory position. Large and complex energy-intensive industries that compete in a global marketplace have every incentive to conserve energy. The CIP exemption provided for in Minn. Stat. § 216B.241, subdiv. 1a(b) recognizes this built-in incentive and the legislature further acknowledged it by excluding revenues from, and electricity sales to, CIP-exempt customers from the definitions of “gross operating revenues” and “annual retail energy sales.” To require Minnesota Power and other utilities to take the energy conservation efforts of CIP-exempt customers into account based on the mundane statutory changes in H.F. 729 would effectively undo the CIP exemption and put utilities in the undesirable position of collecting and reporting data that should be afforded protection from disclosure to the public in the first instance as highly confidential and proprietary.

Furthermore, energy conservation for large and complex industrial processes like taconite mining and paper and pulp processing is fundamentally different than energy conservation for residential and commercial energy users. For large industrial processes, energy savings is not primarily achieved by replacing light bulbs, windows, heat pumps, air conditioning units, and

²⁶ Environmental Intervenors Comment, pg. 4.

²⁷ *Resource Plan*, App. A at 9.

appliances with more energy-efficient equipment. Rather, increasing the energy efficiency of industrial processes includes rethinking manufacturing processes, investing in new, large industrial machinery, and evaluating transportation methods and supply chain investments. Such considerations are not, and should not be, within the regulatory purview of the Commission for good reason. Not only do decisions regarding the management of industrial processes fall outside the topical expertise of Commission staff, but they vary from industry to industry such that no single conservation program could work effectively to reduce the load of large power customers. For these reasons, and those set forth in preceding pages, the Commission should reject the Environmental Intervenors' argument to significantly modify historical practice in resource planning.

D. Subsequent Analysis and Risk Factors Continue to Support Adoption of the Retrofit Small Coal Plan

LPI recognizes that President Obama's Climate Change Action Plan may be considered by some to be proof that carbon regulation is imminent. LPI asserts that while President Obama's announcement makes CO₂ regulation more likely, history demonstrates it is probably not imminent in the sense of impacting Minnesota Power's five-year action plan. Any announcement from the EPA will take time to release and will probably result in litigation. Even if ultimately upheld, the regulation will be subject to some phasing-in period. LPI therefore continues to caution the Commission against applying a 2017 start date for the CO₂ penalty.

To account for a later start-date, LPI requested that Minnesota Power conduct a run where CO₂ costs are included starting in 2021. The results are shown in Table 1, below.

Table 1: PVRR of Swim Lane Options Without Externalities²⁸

#	Sensitivities	Preferred Plan	Preferred Plan w/ THEC Station Shutdown	Retrofit Small Coal	MATS Shutdown	Preferred Plan w/ LEC 1-2 Retrofit
0	Base Assumption	\$7,938	\$8,012	\$7,936	\$8,081	\$7,970
1	Low Capital Cost (-30%)	\$7,863	\$7,876	\$7,886	\$7,913	\$7,896
2	High Capital Cost (+30%)	\$8,104	\$8,240	\$8,078	\$8,340	\$8,137
3	CO2 Penalty \$9/ton	\$8,634	\$8,676	\$8,676	\$8,738	\$8,687
4	CO2 Penalty \$21.50/ton	\$9,573	\$9,558	\$9,686	\$9,614	\$9,653
5	CO2 Penalty \$34/ton	\$10,489	\$10,419	\$10,675	\$10,471	\$10,593
6	Low Coal Forecast (-30%)	\$7,292	\$7,435	\$7,204	\$7,516	\$7,273
7	High Coal Forecast (+30%)	\$8,561	\$8,583	\$8,642	\$8,640	\$8,642
8	Low Biomass (-10%)	\$7,925	\$7,999	\$7,923	\$8,068	\$7,957
9	High Biomass (+10%)	\$7,950	\$8,025	\$7,949	\$8,093	\$7,983
10	Lower Natural Gas (-50%)	\$7,678	\$7,634	\$7,802	\$7,690	\$7,786
11	Low Natural Gas (-25%)	\$7,813	\$7,844	\$7,871	\$7,901	\$7,879
12	High Natural Gas (+25%)	\$8,048	\$8,158	\$8,008	\$8,243	\$8,057
13	Higher Natural Gas (+50%)	\$8,150	\$8,274	\$8,075	\$8,382	\$8,140
14	Low Externality Values	\$8,054	\$8,124	\$8,064	\$8,190	\$8,095
15	High Externality Values	\$8,523	\$8,574	\$8,572	\$8,629	\$8,585
16	Low Wholesale Market (-50%)	\$7,541	\$7,591	\$7,598	\$7,681	\$7,625
17	High Wholesale Market (+50%)	\$8,203	\$8,279	\$8,162	\$8,339	\$8,206
18	No Wholesale Market	\$8,103	\$8,086	\$8,050	\$8,175	\$8,152
19	No Wholesale Mkt w/CO2 Penalty \$21.50/ton	\$9,794	\$9,689	\$9,875	\$9,764	\$9,885
20	AC DSM Program	\$7,951	\$8,027	\$7,951	\$8,095	\$7,984
21	Additional Environmental Regulations	\$8,105	\$8,167	\$8,127	\$8,235	\$8,138
22	Incremental 0.2% Conservation (Total 1.7%)	\$7,935	\$8,010	\$7,933	\$8,078	\$7,967
23	Incremental 0.5% Conservation (Total 2%)	\$7,930	\$8,005	\$7,929	\$8,073	\$7,963
24	No Externality Values	\$7,938	\$8,012	\$7,936	\$8,081	\$7,970
25	Delayed CO2 Penalty \$9/ton	\$8,373	\$8,428	\$8,399	\$8,494	\$8,420
26	Delayed CO2 Penalty \$21.50/ton	\$8,958	\$8,981	\$9,030	\$9,047	\$9,023
27	Delayed CO2 Penalty \$34/ton	\$9,525	\$9,519	\$9,648	\$9,586	\$9,606
Least Cost Count		8 plans	5 plans	12 plans	Zero plans	Zero plans

These results indicate that Minnesota Power's Preferred Plan and LPI's recommended Small Coal Retrofit option are at similar PVRR with delayed CO₂ assumptions at \$9/ton and \$21.50/ton - there is a difference of 0.3% and 0.8% in the PVRRs respectively, a reduction from .5% and 1.2%, respectively, when the CO₂ assumption starts in 2017. This reduction is a recognition of what should be fairly apparent – the further out the start-date of CO₂ regulation, the closer Minnesota Power's Preferred Plan and the Retrofit Small Coal Plan become on a PVRR basis. After all, while the Retrofit Small Coal Plan is the least cost option in the base case in the table above, it is only least cost by \$2 million.

It is the closeness of the value of these PVRR figures that escalate the importance of other considerations, such as minimizing uncontrollable risks and maintaining reliability, which were discussed in detail in LPI's initial comment. LPI continues to believe that the Small Coal

²⁸ Minnesota Power Response to LPI Information Request No. 310.

Retrofit option is less risky from a fuel perspective because coal prices are more stable than natural gas. Furthermore, retrofitting existing units to maximize the value of the present configuration of Minnesota Power's system should only serve to maintain reliability and minimize investments not captured by Strategist. LPI therefore respectfully requests that the Commission carefully consider the assumptions, analysis, and potential impacts of the parties' proposals before rendering a decision. LPI believes that doing so will lead the Commission to the conclusion that the Retrofit Small Coal plan is in ratepayers' best interests.

III. CONCLUSION

LPI sincerely hopes its initial comment, together with this reply comment, demonstrate to the Commission the significant impact that underlying assumptions can have on the Strategist model. The Commission should reject any suggestion that clear answers exist from total reliance on the Strategist model. The Commission should instead review the analysis, consider alternative assumptions, and incorporate the risks and costs not captured by narrow review of results from the Strategist model. LPI believes that this global review demonstrates the Retrofit Small Coal plan is in ratepayers' best interests.

Date: July 3, 2013

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Kathy Prestidge, hereby certify that I have this day, served a true and correct copy of the following documents to all persons at the addresses indicated below or on the attached list by electronic filing, electronic mail, courier, interoffice mail or by depositing the same enveloped with postage paid in the United States Mail at Minneapolis, Minnesota.

LARGE POWER INTERVENORS' REPLY COMMENT

In the Matter of Minnesota Power's Application for
Approval of its 2013-2027 Resource Plan
Docket No. E015/RP-13-53

Dated this 3rd day of July, 2013

/s/ Kathy Prestidge
Kathy Prestidge

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