

December 9, 2014

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

RE: **Supplemental Comments of the Minnesota Department of Commerce, Division of Energy Resources**
Docket No. E001/RP-14-77

Dear Dr. Haar:

Attached are the supplemental comments of the Minnesota Department of Commerce, Division of Energy Resources (Department), in the following matter:

Interstate Power and Light Company's 2014 Integrated Resource Plan.

The Department submits these supplemental comments in response to additional information that Interstate Power and Light (IPL or the Company) submitted at the Department's request in our initial comments.

Based on our review of IPL's reply comments the Department continues to recommend **approval with modifications**.

Sincerely,

/s/ CHRISTOPHER T. DAVIS
Rates Analyst

CTD/ja
Attachment

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

SUPPLEMENTAL COMMENTS OF THE
MINNESOTA DEPARTMENT OF COMMERCE
DIVISION OF ENERGY RESOURCES

DOCKET No. E001/RP-14-77

I. INTRODUCTION

Interstate Power and Light (IPL or the Company) submitted its 2014 Integrated Resource Plan (IRP) on March 31, 2014. The Minnesota Department of Commerce, Division of Energy Resources (Department) submitted initial written comments on July 31, 2014. The Department's comments included the following recommendations:

A. FORECAST

The Department recommends that IPL continue to monitor the calculation of its MISO coincident peak on a going forward basis. Further, the Department recommends that IPL provide, in *Reply Comments*, a detailed discussion regarding whether the Company believes that creation of a dataset representative of historical MISO conditions is possible, from IPL's perspective, and whether the Company would be amendable to participating in this type of analysis with MISO.

B. MODELING

Based on our modeling the Department recommends that the Commission approve the following short-term action plan for IPL:

- use of short term power purchase agreements to cover capacity deficits until IPL's new Marshalltown [combined cycle] CC unit comes on-line in 2017;
- acquiring approximately 100 MW of wind resources annually, starting in about 2017; and

- acquiring solar resources required by the Minnesota Solar Energy Standard by 2020.

For IPL's long term capacity needs, there are several years before a decision would need to be made. Therefore, the Department recommends that IPL continue to analyze the size, type, and timing of the Company's needs in the mid to late 2020s.

C. COMPLIANCE WITH RENEWABLE ENERGY STANDARD (RES)

The Department recommends the Commission find IPL in compliance with its 2014 RES obligations.

D. Demand-Side Management (DSM)

The Department recommends that the Commission approve IPL's proposed amount of DSM, which on an annual basis averages 1.44 percent of IPL's retail sales.

E. ENVIRONMENTAL ISSUES

The Department recommends that the Commission find that IPL has monitored the important environmental regulations that will impact their resources and operations. The Department requests that IPL provide comments in reply on the impact the proposed new Environmental Protection Agency (EPA) carbon dioxide rules may have on its generation facilities.

F. GREENHOUSE GAS REDUCTION GOAL

In its Reply Comments, the Department recommends that the Company update its analysis of its progress towards meeting the State's greenhouse gas reduction goal by including market energy purchases in its analysis.

IPL submitted reply comments on September 30, 2014. Below, the Department discusses IPL's reply comments in light of our recommendations. The Department notes that issues regarding the forecast of the Midcontinent Independent System Operator (MISO) coincident peak need not be resolved in order for the Minnesota Public Utilities Commission (Commission) to make its decision on IPL's IRP. Therefore, in order to not unduly delay this

docket, the Department will submit comments separately on IPL's comments concerning the forecast of the MISO coincident peak.

II. DEPARTMENT ANALYSIS

A. MODELING AND COMPLIANCE WITH RES

In IPL's initial filing, the Company presented a reference case that included 1,100 MW of additional wind, with 100 MW of wind being added each year 2019 through 2029. In our initial comments the Department recommended that IPL acquire approximately 100 MW of wind resources annually starting in 2017. On page 7-3 of its initial filing, IPL stated the following:

Further, expansion plans for the 2014 IRP include significant wind additions, such that new and existing wind constitutes approximately 25% of the energy portfolio. Therefore, IPL in total is well positioned to meet both its Minnesota and Iowa renewable energy requirements through the study period (2029) absent any purchases of Midwest Renewable Energy Tracking System (MRETS) Certificates.

On page 5 of its Reply Comments, the Company stated:

IPL believes that further investigation and analysis is necessary before there is any commitment to annually acquiring (starting in about 2017) approximately 100 MW of wind resources annually or to acquiring solar resources. Amending the Department's recommendation to direct IPL to "investigate and consider the acquisition of" wind and solar would enable IPL to continue review (over time) whether those resource additions continue to be in customers' interests in lieu of requiring such acquisitions today. Additionally, this would align better with IPL's proposed electric facilities sale. It is IPL's view that, assuming the Commission were to approve the sale transaction as proposed, that the Member Cooperatives would be primarily responsible for achieving state renewable standards.

Minnesota Rules 7843.0400, subp. 3 C states:

The supporting information must include an action plan, a description of the activities the utility intends to undertake to develop or obtain noncurrent resources identified in its

proposed plan. The action plan must cover a five-year period beginning with the filing date. The action plan must include a schedule of key activities, including construction and regulatory filings.

Thus, IPL's action plan covers the years 2014 (the year the present IRP was filed) through 2018.

The Department's analysis indicates that a plan that includes the addition of wind beginning in 2017 is most cost-effective. Thus, the Department recommends that the Commission approve a five-year action plan for IPL that includes 100 MW of wind in 2017 and 100 MW in 2018.

In the event that the Commission wishes to approve IPL's IRP as filed, which includes the addition of 100 MW of wind each year beginning in 2019, then the Department recommends that the Commission adopt IPL's proposed language, that IPL must investigate and consider the acquisition of wind and solar resources to meet its future needs.

B. GREENHOUSE GAS REDUCTION GOAL

IPL provided a discussion of its compliance with the greenhouse gas reduction goal in Section 8 of its initial filing. Table 8.3.1 of IPL's filing shows that under the no carbon scenario, the Company expects that its carbon emissions will decline by 37 percent by 2029 when compared to 2005 emissions. This result appears to show that IPL's proposed plan would contribute towards Minnesota meeting the greenhouse gas reduction goals contained in Minnesota Statutes, section 216H.02, subd. 1, which requires reductions of 15 percent below 2005 levels in 2015, 30 percent by 2025, and at least 80 percent by 2050. However, IPL's analysis excluded expected market energy purchases. At the request of the Department IPL included market purchases for an updated analysis in its reply comments. The results of IPL's analysis are presented in Table 1 below.

Table 1 – No Carbon Scenario, IPL Projected CO₂ Emissions, Including Market Energy Purchases

Year	2005 CO ₂ Emissions, Tons	Projected CO ₂ Emissions, Tons	Reduction from 2005
2014	14,916,674	12,208,076	-18%
2015		11,630,616	-22%
2016		11,792,949	-21%
2017		11,267,733	-24%
2018		11,564,142	-22%
2019		10,691,488	-28%
2020		10,587,302	-29%
2021		9,783,081	-34%
2022		9,688,952	-35%
2023		9,588,499	-36%
2024		9,530,538	-36%
2025		9,306,896	-38%
2026		9,179,554	-38%
2027		9,083,481	-39%
2028		9,011,451	-40%
2029	9,053,869	-39%	
2005 Market Energy Emission Rate per eGRID2007 Version 1.1 Year 2005 Summary Tables, CO ₂ rate for MRO West, 1,821.84 lbs./MWH			
2014+ Market Energy Emission Rate per eGRID 9th edition Version 1.0 Year 2010 GHG Annual Output Emission Rates, CO ₂ rate for MRO West, 1,536.36 lbs./MWH			

As noted by the Company, the reductions would likely be lower if the MISO emissions rate continues to decline as it has in recent years.

IPL's greenhouse gas emissions analysis is based on the addition of 1,100 MW of additional wind. Since IPL has not made a firm commitment to the additional wind, the Department asked the Company in DOC IR No. 14 to project its greenhouse gas emissions without the additional wind. IPL's response is shown in Table 2 below.

**Table 2: Department Simple Energy Replacement Analysis
No Carbon Scenario, IPL Projected CO₂ Emissions,
Wind energy replaced with market energy
Including Market Energy Purchases**

Year	2005 CO₂ Emissions, Tons	Projected CO₂ Emissions, Tons	Reduction from 2005
2014		12,208,076	-18%
2015		11,630,616	-22%
2016		11,792,949	-21%
2017		11,267,733	-24%
2018		11,564,142	-22%
2019		10,966,613	-26%
2020		11,137,553	-25%
2021		10,608,457	-29%
2022	14,916,674	10,789,452	-28%
2023		10,964,125	-26%
2024		11,181,289	-25%
2025		11,232,772	-25%
2026		11,380,555	-24%
2027		11,559,608	-23%
2028		11,762,703	-21%
2029		12,080,246	-19%
2005 Market Energy Emission Rate per eGRID2007 Version 1.1 Year 2005 Summary Tables, CO ₂ rate for MRO West, 1,821.84 lbs/MWH.			
2014+ Market Energy Emission Rate per eGRID 9th edition Version 1.0 Year 2010 GHG Annual Output Emission Rates, CO ₂ rate for MRO West, 1536.36 lbs/MWH			

The Department agrees with IPL that the analysis is simple¹ and that an analysis using capacity expansion modeling software would provide a better comparison. If the Commission is interested in further evaluation of this potential scenario, the Commission could require IPL to submit additional analysis.

¹ In its response to DOC IR No. 14 the Company states, in part: Such an outside-of-EGEAS methodology forces the assumption that only market energy could replace wind, and does not acknowledge optimization opportunities, such as dispatch changes, available in more thorough resource planning modeling.

The Department notes that different parties have been discussing the appropriate method for calculating utility progress towards meeting the State's greenhouse gas reduction goal in Southern Minnesota Municipal Power Association's (SMMPA) 2013 IRP (Docket No. ET9/RP-13-1104). Once the Commission has approved a method for calculating greenhouse gas emission reduction progress, IPL should update its analysis using the approved methodology.

III. DEPARTMENT RECOMMENDATIONS

A. MODELING

Based on our modeling the Department recommends that the Commission require the following for IPL's short-term action plan. IPL must:

- use short term power purchase agreements to cover capacity deficits until IPL's new Marshalltown CC unit comes on-line in 2017;
- acquire 100 MW of wind resources annually in 2017 and 2018; and
- acquire solar resources required by the Minnesota Solar Energy Standard by 2020.

For IPL's long term capacity needs, there are several years before a decision would need to be made. Therefore, the Department recommends that IPL continue to analyze the size, type, and timing of the Company's needs in the mid to late 2020s.

B. COMPLIANCE WITH RES

The Department recommends the Commission find IPL in compliance with its 2014 RES obligations.

C. DSM

The Department recommends that the Commission approve IPL's proposed amount of DSM, which on an annual basis averages 1.44 percent of IPL's retail sales.

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The Department recommends that the Commission find that IPL has monitored the important environmental regulations that will impact its resources and operations.

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Analyst assigned: Christopher T. Davis

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E. GREENHOUSE GAS REDUCTION GOAL

The Department recommends that IPL update its analysis of its progress towards meeting Minnesota's greenhouse gas reduction goal once the Commission has approved a method for all electric utilities to use.

/ja

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce
Supplemental Comments**

Docket No. E001/RP-14-77

Dated this 9th day of December 2014

/s/Sharon Ferguson

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