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Michael S. Greiveldinger Senior Attorney

September 30, 2014

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

RE: Interstate Power and Light Company Docket No. E001/RP-14-77 Reply Comments

Dear Dr. Haar:

Enclosed for e-filing with the Minnesota Public Utilities Commission, please find Interstate Power and Light Company's Reply Comments in the above-referenced docket.

Copies of this filing have been served on the Minnesota Department of Commerce, Division of Energy Resources, the Minnesota Office of Attorney General-Residential and Small Business Utilities Division, and the attached service list.

Respectfully submitted,

<u>/s/ Michael S. Greiveldinger</u> Michael S. Greiveldinger Senior Attorney

MSG/kcb Enclosures

cc: Service List

Interstate Power and Light Company An Alliant Energy Company

Alliant Tower 200 First Street SE P.O. Box 351 Cedar Rapids, IA 52406-0351

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STATE OF MINNESOTA

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger David C. Boyd Nancy Lange Dan Lipschultz Betsy Wergin Chair Commissioner Commissioner Commissioner Commissioner

IN THE MATTER OF INTERSTATE	
POWER AND LIGHT COMPANY'S 2014	DOCKET NO. E001/RP-14-77
INTEGRATED RESOURCE PLAN	

AFFIDAVIT OF SERVICE

STATE OF IOWA

COUNTY OF LINN

Kathleen C. Balvanz, being first duly sworn on oath, deposes and states:

) ss.

That on the 30th day of September, 2014, copies of the foregoing Affidavit of Service, together with Interstate Power and Light Company's Reply Comments, were served upon the parties on the attached service list, by e-filing, overnight delivery, electronic mail, and/or first-class mail, proper postage prepaid from Cedar Rapids, Iowa.

<u>/s/ Kathleen C. Balvanz</u> Kathleen C. Balvanz

Subscribed and Sworn to Before Me this 30th day of September, 2014.

/s/ Kathleen J. Faine

Kathleen J. Faine Notary Public My Commission Expired on February 20, 2015

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STATE OF MINNESOTA

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger David C. Boyd Nancy Lange Dan Lipschultz Betsy Wergin Chair Commissioner Commissioner Commissioner Commissioner

IN THE MATTER OF INTERSTATE POWER AND LIGHT COMPANY'S 2015-2029 INTEGRATED RESOURCE PLAN

DOCKET NO. E001/RP-14-77

INTERSTATE POWER AND LIGHT COMPANY'S REPLY COMMENTS

COMES NOW, Interstate Power and Light Company (IPL), and respectfully submits to the Minnesota Public Utilities Commission (Commission) its Reply Comments in response to the Comments filed on July 31, 2014, by the Minnesota Department of Commerce, Division of Energy Resources (Department), in the above-referenced docket.

I. INTRODUCTION

On March 31, 2014, IPL filed its 2014 Integrated Resource Plan (IRP) covering the period from 2015 to 2029.

On July 31, 2014, the Department filed Comments recommending that the Commission approve IPL's IRP with modifications.

IPL provides the following Reply Comments in response to the Comments filed by the Department.

II. IPL REPLY COMMENTS

A. Dataset Representative of Historical MISO Conditions

Department Recommendations include the following under Section A. FORECAST (page 38):

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.

Monitoring

IPL will continue to monitor the calculation of its coincident peak going forward.

Is it possible to create a dataset representative of historical MISO conditions?

In preparing a response to the Department's comments, IPL identified a MISOcreated dataset of member historical loads dating back to 1999. In particular, IPL identified a MISO memorandum, dated September 17, 2013, regarding "Previous 15 Years of Summer and Winter Peaks." That memorandum lists summer and winter peaks from 1999 through 2013, with peak times prior to Summer 2005 based upon data provided by MISO members. A copy of that memorandum is provided as Attachment A, and is also available at:

https://www.misoenergy.org/Library/Repository/Report/Resource%20Adeq

uacy/PeakDatesAndTimes/1999-2013%20Summer-Winter%20Peaks.pdf

Please note that there is no documentation indicating if Attachment A includes loads from MISO's recent southern expansion.

Relying upon a dataset with representative loads as part of the coincident peak process is challenging. The dataset needs to be maintained and updated for changes in territory or definitions, such as zones or seasons. Also, clear communication is necessary, since users are not able to observe the underlying data.

IPL is also providing, as Attachment B, a MISO document titled "MISO Peak Dates and Times." That document lists MISO's published seasonal peaks dating back to 2005, and includes the annual peak days needed for the calculation of coincident peak factors. IPL notes that, in some cases, the data in Attachment B is inconsistent with the Attachment A dataset; for example, the 2007 annual peak in Attachment A is two days prior to the peak day listed in Attachment B.

Finally, gathering historical data prior to 1999 would be difficult for IPL because only limited data is available due to the merger of IES and Interstate Power Company.

Does IPL see value in creating such dataset?

IPL believes that the dataset created by MISO has limited value. By allowing the use of annual MISO peaks, the dataset allows a slightly better assumption than the current process, but is inconsistent with the normal weather assumption of the non-coincident peak.

IPL understands that the purpose of the dataset is to help forecast diversity. Diversity depends on at least two loads, which have their own drivers. Finding average local temperature at the time of the MISO peak treats each year equally and ignores changes in the drivers that determine the load outside of IPL which ultimately drives the MISO peak. Changes in Zone 6, which is currently the most coincident, could change the diversity factor for the rest of MISO.

Currently, Load Balancing Authorities assume that the relationship between monthly coincident factors and weather is constant from June through September. However, loads, weather, and diversity vary by month. Therefore, using the monthly coincident factors to determine the annual coincident factor is not appropriate.

The Department proposes to find weather at the historical MISO peaking hours. This assumes that the annual peaking conditions are constant over time. Given that MISO currently uses an annual coincident factor, assuming constant annual diversity is a slightly better assumption than assuming constant diversity across months.

The assumption that coincidence factors associated with annual peaks are consistent from year-to-year is also an oversimplification. Over time, the load composition will change geographically. For example, geographically unique events— such as Michigan's decline in the automotive industry, Hurricane Katrina in the Gulf Coast, or the fracking boom in North Dakota—would change the emphasis placed on these regional loads within the MISO footprint, shifting the timing of the MISO peak and potentially affecting IPL's overall coincident factor.

A flaw with the currently available dataset is that the results are not consistent with the non-coincident peak (NCP) assumptions. Using the 15 years in Attachment A to calculate the coincident peaking conditions would be inconsistent with the 20 year normal definition of weather that IPL uses in the calculation of the NCP. Currently, the second regression finds the relationship between NCP weather and the weather differential, which is assumed to be the driver of the coincident factor. The NCP weather is then substituted to determine a consistent expected weather differential. The average of the available data, while probably not materially different, is not consistent.

Additionally, if any other utility were to use a 30-year NOAA definition of normal, the dataset would have to include data dating back to 1981.

Is IPL amendable to participating in this type of analysis with MISO?

IPL is willing to participate in such an analysis with MISO, to the extent it is able, should it be determined that additional data is needed.

B. <u>Action Plan / Modeling</u>

Department Recommendations include the following under Section B. MODELING (page 38):

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 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.

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 "<u>investigate and consider the acquisition of</u>" 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.

C. <u>Greenhouse Gas Reduction Goal</u>

In its Reply Comments, the Department recommends that IPL update its analysis of its progress towards meeting the State's greenhouse gas reduction goal by including market energy purchases in its analysis (page 39). The Department-recommended calculation assumptions for market energy emission rates, which IPL followed as noted in Table 1 below.

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		10,691,488	-28%		
2020	14,916,674	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, CO2 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, CO2 rate for MRO West, 1,536.36 lbs./MWH					

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

The projection above satisfies the Minnesota greenhouse gas reduction goals of

15 percent by 2015 and 30 percent by 2025. Further, the analysis may be conservative

based on the observed reduction in CO2 emission rates on the grid; this is seen on Table 2 below, which provides historical MRO West emission rates.

Year ¹	CO2 Emission Rate, Ib./MWH
2005	1,822
2007	1,723
2009	1,629
2010	1,536

Table 2 – MRO West Historical Emission Rates

D. <u>New EPA Carbon Dioxide Rules</u>

Department Recommendations (section III) include the following under part E.

ENVIRONMENTAL ISSUES (page 39):

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 EPA carbon dioxide rules may have on its generation facilities.

IPL continues to evaluate the EPA's Clean Power Plan (CPP) proposal published for public comment on June 18, 2014. The CPP proposal establishes requirements to reduce CO2 emissions from certain existing fossil-fueled electric generating units (EGUs) under Section 111(d) of the Clean Air Act (CAA). The proposed rule reflects what EPA has determined to be the Best System of Emission Reduction (BSER) for CO2. The proposed rule provides a framework for states to develop implementation plans to comply with the CO2 emission reduction requirements. The EPA's proposed CPP is the beginning of a multi-year process to determine the specific requirements

¹ 2006 and 2008 eGRID data not available. 2010 year latest available, released February 24, 2014.

applicable for IPL's existing fossil-fueled EGUs to comply with EPA's CO2 reduction goals.

The EPA's proposal is based on broad measures that can reduce CO2 emissions from existing fossil-fueled EGUs, including making existing coal-fired EGUs more efficient, increasing dispatch of existing combined-cycle natural gas-fired EGUs, maintaining or expanding zero- or low-CO2 energy resources such as renewables and nuclear, and reducing customer demand for electricity through energy efficiency programs. The state-specific goals are based on an emissions rate basis measured in pounds per net MWh. The EPA is proposing a two part goal structure: an "interim goal" that each state meets on average over the period from 2020 through 2029, and a "final goal" based on a three-year rolling average that each state meets beginning in 2030.

State Plans will determine the specific compliance requirements applicable to affected EGUs in meeting the state goals. Each state has flexibility in determining how to achieve the goals, which can include the broad measures included by the EPA as well as other enforceable measures related to the electric system that the state can demonstrate will reduce CO2 emissions from existing fossil-fueled EGUs. The EPA also proposed to give states the option to convert the rate-based goal to a mass-based goal measured in tons. States can develop a State-only Plan or collaborate in developing multi-state Regional Plans. State Plans that provide details of how these guidelines are to be met would be required for submission to the EPA by June 30, 2016. If a state needs additional time and provides proper notification and explanation, the EPA's proposal allows for a one-year extension to submit State-only Plans and a two-year

extension if a state elects to join a multi-state Regional Plan. The EPA is currently expected to issue final standards by June 1, 2015.

Specific requirements will be contingent on EPA's issuance of final guidelines as well as EPA's approval of the State Plans for Iowa and Minnesota where IPL operates. Due to the incomplete and evolving nature of the rules, it is difficult for IPL to establish firm impacts on its generation facilities. However the following insights are offered to the Commission:

- The 2014 IRP shows a strong reduction in IPL's CO2 rate in-line with proposed targets for Iowa (where IPL's generation fleet is generally located).
- With the planned retirement of Fox Lake Units 1 and 3 by 2017, IPL will no longer operate fossil-fueled EGUs in Minnesota as of 2020 (when the proposed CPP would commence).
- IPL's preliminary evaluation does not anticipate any changes to the broader IRP which includes:
 - Installing emissions controls on our newest and largest generating units to comply with other EPA requirements.
 - o Retiring our older less efficient units.
 - Investing in generation performance and reliability to improve the operating efficiency of our larger and newer coal-fired electric generating units.
 - Expanding company-owned natural gas generation.
 - Utilizing renewable energy, such as wind and solar.
 - Supporting customer energy efficiency programs.

- IPL expects that the EPA's CPP could have operational impacts including increased dispatch of existing natural gas-fired generation and additional need for load balancing due to further addition of renewables.
- IPL's current portfolio supports a future position to comply with the EPA's CPP with incremental changes depending on the final requirements.

The EPA's proposed CPP rulemaking will impact the electric sector differently than other environmental regulations, such as the Mercury and Air Toxics Standards (MATS), which applied emissions limitations at each power plant and for which known air pollution control technologies exist to achieve these reductions. Extensive public comment is expected on the EPA's proposed CPP due to the broad nature of the proposal, which would regulate activities and actions beyond the "power plant fence line".

IPL intends to monitor and actively participate in the rulemaking process, and if necessary, will revise its resource plans as further details become known regarding the EPA's CPP and State Plans. Key steps in the rulemaking process include the following:

- Provide comments to EPA on proposed CPP by December 1, 2014. IPL will share its comments with Department upon filing.
- Review final released rules June 2015.
- Provide information as requested to support regulatory agency development of State Plans.
- Provide comments on the proposed initial State Plan when issued for public review in advance of submission to EPA. State-only Plans are due for EPA

approval by June 2016 (or June 2017 depending on extension) or alternatively Regional Plans are due June 2018 with extension.

 As necessary, provide comments on EPA's review and approval or disapproval of the final State Plan submission. After receipt of a complete plan submittal, the EPA proposes that the agency will review the plan and, within twelve months, approve or disapprove the plan through a notice-andcomment rulemaking process.

IPL intends to will work constructively with our regulators and legislators as more details of EPA's rules become available and plans to comply with any final requirements that apply to it.

WHEREFORE, IPL respectfully requests the Commission give IPL's Reply Comments due consideration.

DATED this 30th day of September, 2014.

Respectfully submitted,

INTERSTATE POWER AND LIGHT COMPANY

By: <u>/s/ Michael S. Greiveldinger</u> Michael S. Greiveldinger Senior Attorney Alliant Energy Corporate Services, Inc. 4902 N. Biltmore Lane Madison, Wis. 53718 (608) 458-3318 michaelgreiveldinger@alliantenergy.com



	MEMO
To:	Generator Operators
From:	The MISO as a Planning Coordinator
Date:	9/17/13
Re:	Previous 15 Years of Summer and Winter Peaks

As per ReliabilityFirst's standard MOD-024-RFC-01 the Midwest ISO is providing the previous 15 years of annual summer and winter peak load dates.

All times are Eastern Standard save for those denoted with an * which are Eastern Daylight. All times are represented as the Hour Ending (HE) utilizing a 24 hour clock.

Summer	Winter
	1/4/99 HE 20
7/30/99 HE 15 *	12/21/99 HE 20
8/15/00 HE 16 *	12/21/00 HE 21
8/8/01 HE 16 *	1/3/02 HE 20
7/22/02 HE 19 *	1/22/03 HE 20
8/15/03 HE 17 *	1/30/04 HE 20
7/21/04 HE 17 *	12/20/04 HE 20
8/3/2005 HE 16	12/19/2005 HE 20
7/31/2006 HE 16	2/5/2007 HE 20
8/6/2007 HE 16	1/24/2008 HE 20
7/29/2008 HE 16	1/15/2009 HE 20
6/25/2009 HE 14	12/10/2009 HE 19
8/10/2010 HE 16	12/13/2010 HE 19
07/20/2011 HE 17	12/6/2011 HE 19
07/23/2012 HE 16	1/12/2012 HE 19
07/18/2013 HE 16	

Peak times prior to the Summer of 2005 are derived from historical data provided by MISO members.

MISO PEAK DATES & TIMES

For the Period 2005 - 2013, June - September

	DATE	HE		DATE	HE
	June 27, 2013	15		June 26, 2008	15
	July 18, 2013	16		July 29, 2008	17
-	•		~	•	
	August 29, 2013	16		August 1, 2008	16
	September 10, 2013	16		September 2, 2008	16
	June 28, 2012	17		June 26, 2007	16
€	July 23, 2012	16		July 31, 2007	17
	August 3, 2012	16	€	August 8, 2007	16
	September 4, 2012	17		September 5, 2007	16
	June 7, 2011	17		June 22, 2006	15
€	July 20, 2011	17	€	July 31, 2006	16
	August 2, 2011	16		August 2, 2006	16
	September 1, 2011	16		September 7, 2006	16
	June 22, 2010	17		June 27, 2005	15
	July 23, 2010	16	€	July 25, 2005	15
0	August 10, 2010	16		August 3, 2005	16
	September 1, 2010	16		September 12, 2005	16
€	June 25, 2009	15			
	July 10, 2009	16			
	August 10, 2009	15			

NOTES:

1. HE = Hour-ending, MISO time (Eastern Standard year-round)

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2. Hourly Integrated System Peaks

3. C Annual Peak

September 14, 2009