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Michael S. Greiveldinger
Managing Attorney

June 19, 2015

Mr. Daniel P. Wolf, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

RE: Interstate Power and Light Company
Docket No. E999/AA-14-579
Reply Comments

Dear Mr. Wolf:

Enclosed for eFiling 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,

/s/ Michael S. Greiveldinger
Michael S. Greiveldinger
Managing Attorney

MSG/kcb
Enclosures

cc: Service List

Interstate Power and Light Company
An Alliant Energy Company

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STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger
Nancy Lange
Dan Lipschultz
John Tuma
Betsy Wergin

Chair
Commissioner
Commissioner
Commissioner
Commissioner

IN THE MATTER OF INTERSTATE POWER AND LIGHT COMPANY'S 2014 ELECTRIC ANNUAL AUTOMATIC ADJUSTMENT REPORT	DOCKET NOS. E999/AA-14-579
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AFFIDAVIT OF SERVICE

STATE OF IOWA)
) ss.
COUNTY OF LINN)

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

That on the 19th day of June, 2015, 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.

 /s/ Kathleen C. Balvanz
Kathleen C. Balvanz

Subscribed and Sworn to Before Me
this 19th day of June, 2015.

 /s/ Beverly A. Petska
Beverly A. Petska
Notary Public
My Commission expires on November 12, 2017

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Julia	Anderson	Julia.Anderson@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota St St. Paul, MN 551012134	Electronic Service	Yes	OFF_SL_14-579_AA-14-579
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Amber	Lee	ASLee@minnesotaenergyresources.com	Minnesota Energy Resources Corporation	2665 145th St W Rosemount, MN 55068	Electronic Service	No	OFF_SL_14-579_AA-14-579
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_14-579_AA-14-579

STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Beverly Jones Heydinger
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**INTERSTATE POWER AND LIGHT COMPANY'S
REPLY COMMENTS**

COMES NOW, Interstate Power and Light Company (IPL), and files Reply Comments in response to the May 19, 2015 Report from the Minnesota Department of Commerce, Division of Energy Resources (Department), in the above-referenced docket. In support of its Reply Comments, IPL states the following:

I. INTRODUCTION

On August 29, 2014, IPL filed its 2014 Electric Annual Automatic Adjustment Report, Exhibits and Attachments.

On May 19, 2015, the Department filed its Review of the 2013-2014 Annual Automatic Adjustment Reports ("Review") recommending that the Commission accept the compliance filings A to O, as discussed in the relevant sections. Additionally, the Department requests that the utilities provide further information in their reply comments.

In response to the Department's Review, IPL provides the following reply comments.

II. IPL REPLY COMMENTS

A. MISO Day 2 Markets

In its Report on pages 52 and 53, the Department requests that IPL explain in reply comments why, even with the highly elevated LMPs, IPL's generation was not dispatched in the Midcontinent Independent System Operator, Inc. (MISO) market. (For example, IPL should provide the costs that IPL bid into the Day-Ahead and Real-Time markets during the polar vortex for IPL generators that were not dispatched, along with the LMPs for those days.) Additionally, the Department requests that IPL explain in its reply comments the effect of the polar vortex on its Day-Ahead purchases in FYE14.

i. Background

Section VII of the Department's Review is a review of the subject utilities' MISO "Day 2" charges, which include the net cost of purchases and sales of Day Ahead and Real Time energy, including the congestion component of energy prices and the off-setting effect on the congestion costs of Financial Transmission Rights (FTR) held by the subject utility. Prior to completing its Review, the Department made an information request to IPL, asking for an explanation of the increase in the costs that are classified as "Day Ahead Asset Energy" in the Fuel Cost Adjustment (FCA) monthly filings in FYE14 as compared to FYE13, including an explanation for the increase in the total cost of congestion and FTRs. On April 16, 2015, IPL responded to Department Information Request No. 30 ("IR No. 30"). IR No. 30 is attached to these reply comments as Attachment A in order to provide IPL's explanation in the record. The Department's Review summarizes IPL's response in two paragraphs (p. 51). Although IPL's response to IR No. 30 cited causes for the increase in different seasons, in its comments the Department only requested information on IPL's generation performance

and market offers during the periods in late winter 2013-14 commonly referred to as the polar vortex. To support this request, the Department states, at page 52:

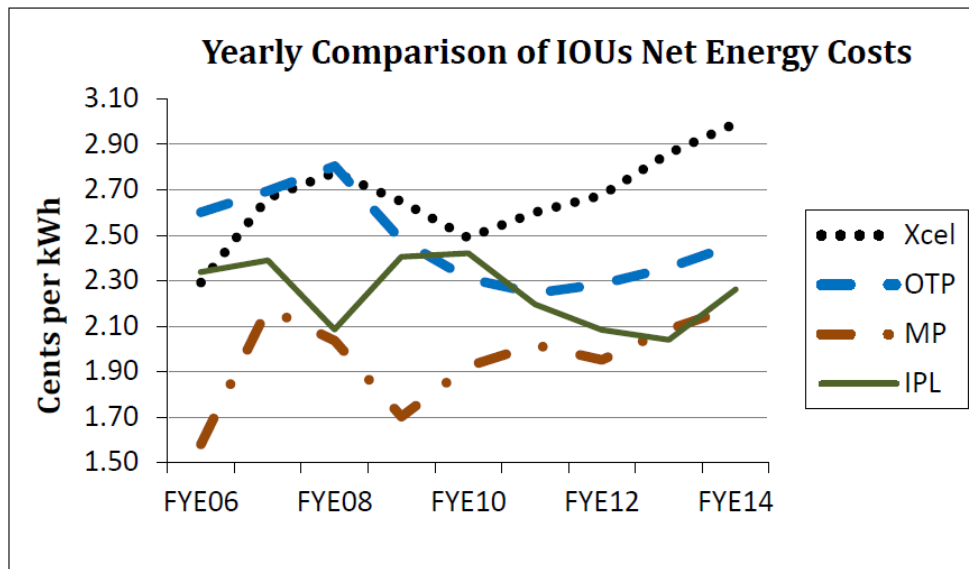
While costs went up for all IOUs during the polar vortex, IPL's costs increased more sharply than for other IOUs, as shown, for example, by the steeper slope of the line for IPL between FYE13 and FYE14 indicated in Figure 2 above in this document. It appears that the steeper increase was caused by IPL's significant reliance on the MISO Energy Market at a time when LMPs were high.

IPL would like to provide a broader view of increases (in cents per kWh) in recent years than the Department has proffered in its statement above, specifically the Department's conclusion that "It appears that the steeper increase was caused by IPL's significant reliance on the MISO Energy Market at a time when LMPs were high."

Graph 1 below is taken from the Department's Review and is provided as visual reference to IPL's "steeper increase" identified by the Department (p.19).

Graph 1:

Figure 2 - Comparison of Energy Costs 2014



Graph 1 does show an increase in cents per kWh for IPL from FYE13 to FYE14. However, it also shows that from FYE12 to FYE13 IPL is the only investor-owned utility

(IOU) that had a decrease in its cents per kWh cost, while the other comparable IOUs had increases, which also continued for the following year.

IPL believes it is difficult to draw meaningful conclusions from cents per kWh comparisons between the IOUs as they are in fundamentally different circumstances. For example, more than 95 percent of the IPL load is located in Iowa, which has a significantly different transmission system topology than Minnesota, where the other identified IOUs are primarily located. As IPL explained in response to IR No. 30, planned transmission and generation outages and high localized congestion caused by concentrated wind resources are some of the topological variables that can affect prices, as well as the types and vintages of legacy generation resources.

ii. **IPL's Dispatch of Generation in the MISO Market During the Polar Vortex**

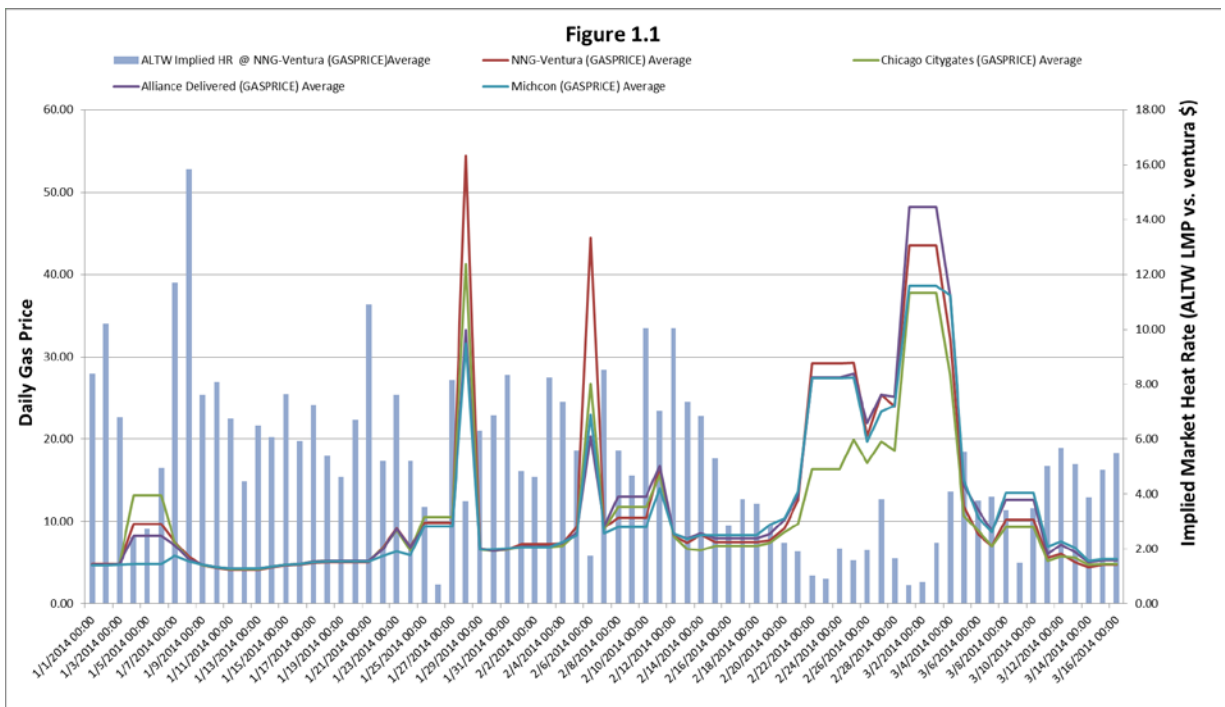
MISO commits generation economically in the day-ahead (DA) market based on the DA prices. All real-time commit decisions are based on reliability only and not economics.

IPL typically offers its low cost coal generation to MISO at cost into the DA market as a must-run generator or self-scheduled as a DA price taker. If these facilities were available during the polar vortex, then they were offered at the daily maximum capacity to MISO. IPL operates several combustion turbines that run on natural gas or fuel oil. Without going into very granular detail of daily IPL generator offers, IPL will compare the nodal locational marginal price (LMP) price at the ALTW.ALTW load zone to the traded Ventura natural gas price. This will demonstrate why some generators offered economic to MISO might not be committed or running by MISO during very high LMPs. The cost of the fuel going into the unit is as important as the price the unit is getting paid by MISO.

During the polar vortex, market participants experienced very volatile natural gas prices due to several reasons. Natural gas storage levels being near an all-time low was the largest driver. IPL peaking units use natural gas, fuel oil, or both to operate and are

priced at the spot market price for fuel. IPL updates these prices daily and incorporates the most current fuel price into its DA offer costs to MISO. IPL generators that run on natural gas are priced off the Ventura gas trading hub plus any transportation costs to the generating unit. During the polar vortex, when natural gas prices were extremely high, the Ventura hub was the highest priced hub in the region (see Graph 2 below). This put generators who are supplied fuel from Ventura at a competitive disadvantage to other resources from other regions during the polar vortex. The increases in the electric prices during the polar vortex were directly related to the spike in natural gas prices. It should be noted that the energy component of the LMPs are the same throughout the MISO footprint while gas prices and gas transportation costs vary to individual units.

Graph 2:



Graph 2 above also displays that when the daily natural gas prices spiked at Ventura on (January 28, 2015, February 6, 2015, February 22, 2015 – March 3, 2015) the electric

market also spiked, but IPL's electric prices did not move one-for-one with the increase of the Ventura natural gas prices. This created a lower implied heat rate (HR). The implied market HR is a calculation at IPL's load zone by taking the nodal LMP and dividing it by the \$/MMBtu at the Ventura hub. Graph 2 shows the implied HR at the ALTW.ALTW load zone using both prices. If the calculated implied market HR is below our generator's actual HR, then it's uneconomical for that generator to operate because the market will not pay the generator enough revenue to cover the high cost of natural gas as the fuel source. When the implied HR is higher than IPL's generator's actual HR, the unit should receive enough revenue to cover the cost of fuel for dispatch and startup. The increased cost of natural gas at Ventura and the non-proportionate increase in electric prices had a downward effect on the marginal implied market unit HR. This explains why, during the polar vortex and during seemingly high electric market prices (LMPs), some IPL generators were not asked economically to run by MISO.

Additionally, IPL has a few natural gas generators that were reported to MISO under outage due to local gas distribution issues. These resources are located in areas where local gas pressures are weak and will be compromised if allowed to operate. These events only occur during very high residential, industrial, and wholesale customers' draw of natural gas in these local areas. IPL experienced a few of these events during the polar vortex at a select few units. All other units were offered economic and available if needed by MISO in an economic or reliability event. The fact still remains that during high gas prices, such as on January 28, 2014, the gas price at Ventura was \$54/MMBtu, which when run through a gas generating unit, was more costly than the price the unit was getting paid by the market, thus, being uneconomical to run.

natural gas prices at the Ventura gas trading hub. This explains why IPL's generating units that run on only fuel oil, weren't asked to operate economically by MISO during the polar vortex.

iii. Effect of Polar Vortex on IPL's Day-Ahead Purchases in FYE14

The polar vortex period in early 2014 can be bifurcated into January 6-8, 22-24 and 27-29, which experienced the coldest sustained weather in two decades, and the period from February through mid-March, where cold weather combined with sustained high natural gas prices continued to cause energy prices to spike. In January, the high demand for electricity and natural gas produced a large increase in load, which contributed to large increases in prices for electricity.

For the previously referenced January periods, the higher energy prices produced a dramatic increase in load expense, which was partially offset by the margins from IPL's generation fleet and bulk power resources (i.e. power purchase agreements (PPA) and hedges). In this environment, the availability of generators is a critical element in mitigating the impact of load prices on net fuel expense. If generating units are available and meet their commitments to deliver energy during high price periods, then the margins serve to reduce utility net fuel expense. IPL's generators were dispatched and performed well during this time. Additionally, bulk power resources can provide protection against rising prices by securing an energy volume at a fixed purchase price and receive revenues based on the current market settlement price. An example of this is the PPA with NextEra Energy, Inc. for output from the Duane Arnold Energy Center nuclear facility located in Palo, Iowa.

In January of 2014, actual IPL load expense was \$73 million, which is nearly 60 percent more than its original forecast of \$46 million. Load volumes were 3 percent

higher than the forecast and contributed \$1 million to the \$27 million increase in actual expense versus forecast. The increase in demand drove prices significantly higher, with an average price of \$49/MWh for the month versus a forecasted price of \$32/MWh. This price impact produced a \$26 million load expense variance versus the forecast.

While spikes in LMPs were observed in each of IPL's three January focus periods, the most significant was January 27-29. The spike in LMPs was influenced by skyrocketing natural gas prices, which raised the cost of generation for each "marginal unit" of electricity in the MISO system. Natural gas prices spiked on January 27 and January 28 due to a variety of factors, including:

- a) a burst in the TransCanada Pipeline, which supplies much of the Midwest;
- b) the cold weather spell drove up demand for gas substantially; and
- c) constraints in pipeline capacity around the country prevented supply from keeping up with demand.

During the three January focus periods, there were not any unexpected transmission system outages that had a significant impact. There was, however, major sustained transmission congestion during January 27-29. Congestion on the Iowa-Illinois flowgate, as well as major congestion on the Northwest Illinois 345 KV system, drove up LMPs. To highlight this, the average LMPs at Grinnell, Iowa during this three day period was \$132.79 per MW.

IPL produced actual resource margins of \$37 million versus a forecast of \$16 million. Generation contributed \$16 million to the total and bulk power accounted for the remaining \$21 million. On the strength of higher energy prices, IPL's actual generation margins were \$7 million higher than the forecast. The combined \$21 million improvement in resource margins produced an offset against the \$27 million increase in

load expense, resulting in a net fuel expense that was \$6 million higher than the forecast (\$36.4 million actual vs. \$30.0 million forecast).

Bulk power margins benefited from higher energy prices and generated margins of \$21 million versus a forecasted expense of \$7 million, representing a net improvement of \$14 million over the forecast. Bulk power margins were high in IPL due to the inclusion of congestion hedges (FTR and GFA) in the bulk power category. Congestion hedges accounted for almost \$15 million of the bulk power margin total in IPL.

The net fuel expense for IPL was \$36 million versus a forecast of \$30 million. The \$6 million increase was driven by a \$27 million increase in load expense (\$73 vs. \$46 million) that was partly offset by \$21 million in resource margin improvements: \$7 million for generation (\$16 vs. \$9 million) and \$14 million for bulk power margins (\$21 vs. \$7 million).

Load in February and early March was once again driven up as a result of extremely cold temperatures. During February, the mean temperature in the Midwest was 10-12 degrees colder than normal. The cold weather continued into the first few days of March. Four time periods in February and March that experienced very low temperatures, high load demand and high energy pricing are February 6-7, February 10-12, February 24-27, March 3 and March 5.

IPL's actual load expense in February and March was \$121 million, 57 percent higher than the forecasted figure of \$77 million. Of this difference, 79 percent is due to higher energy prices and the remaining 21 percent of the deviation was caused by higher load demand.

After the January portion of the polar vortex, natural gas storage levels were very low. Load zone LMPs in IPL spiked above \$150 per MWH four times during February and March. Each of these spikes was associated with cold weather and a corresponding spike in natural gas prices. Due to the cold weather in January and February, gas inventories dropped to lower levels than any year in recent history. As underground gas storage inventories are withdrawn, the pressure in the storage field drops, causing it to be more difficult to withdraw the gas it contains. Furthermore, pipeline capacity problems weighed heavily on the market during the days of extreme cold. These factors caused the market to become more constrained and volatile, resulting in sustained high prices for a several week period from mid-February into March.

IPL produced actual resource margins of \$47 million versus a forecast of \$12 million. Generation contributed \$21.7 million to the total and bulk power resources accounted for \$25.3 million. Higher energy prices resulted in IPL's actual generation margins that were \$12.5 million higher than forecast. Good unit availability allowed generation resources to take advantage of higher LMPs and resulted in actual revenues that were \$17 million higher than forecast. The presence of hedges, as well as GFA and FTR revenue, at IPL produced substantial actual bulk power margins during the months of February and March. Bulk power was projected to provide a \$4.2 million dollar margin, but due to high energy prices, it provided actually \$25.3 million in net benefit. The net fuel expense for IPL in February and March was \$73.7 million versus a forecast of \$63.3 million. The increase was driven by a \$44 million increase over forecasted load (\$120.7 million vs. a forecasted \$76.7 million) that was partially offset by the \$47 million in actual resource margins.

The price certainty that comes with hedging was an enormous benefit to IPL during the polar vortex. As LMPs rose, the fixed price of energy that was secured in both physical and financial markets served to substantially reduce the ultimate cost of fuel for customers. Hedges at IPL resulted in margins of \$2.7 million in January, \$2.2 million in February and \$2.3 million in March. \$800,000 of margin came on January 7, a day when Real-Time LMPs hit \$1,966 at the Indiana Hub.

B. Ancillary Services Market (ASM) – Excessive/Deficient Energy Deployment Charge (EDED) Amounts

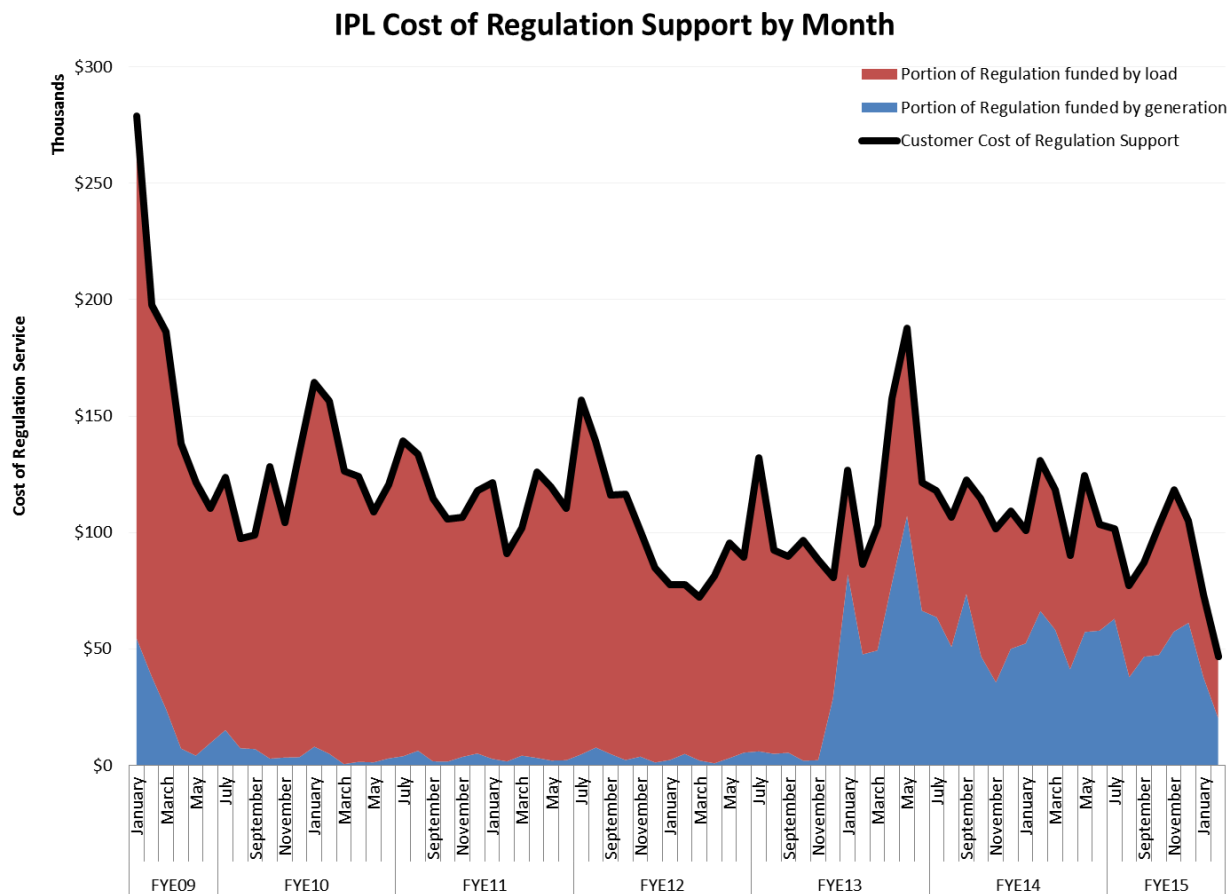
In its Review on pages 63-65, the Department, recognizes that IPL has done a reasonable job of explaining its Ancillary Services Market (ASM) compliance filing; however, the Department requests that IPL explain in reply comments why its ratepayers should pay for the high level of Excessive/Deficient Energy Deployment Charge (EDED) penalty costs charged to IPL during this reporting period, given the information IPL knew about the structure of MISO's tariff pertaining to these costs.

The increase in EDED amounts following the December 2012 implementation of regulation mileage payments and "clawbacks" assessed to IPL's generators is essentially offset by a corresponding decrease in the Regulation Distribution charge paid by customers. With the exception of the first few months after regulation mileage was implemented (before the start of the instant AAA year), this results in no total change to the customers' net cost for receiving regulation services.

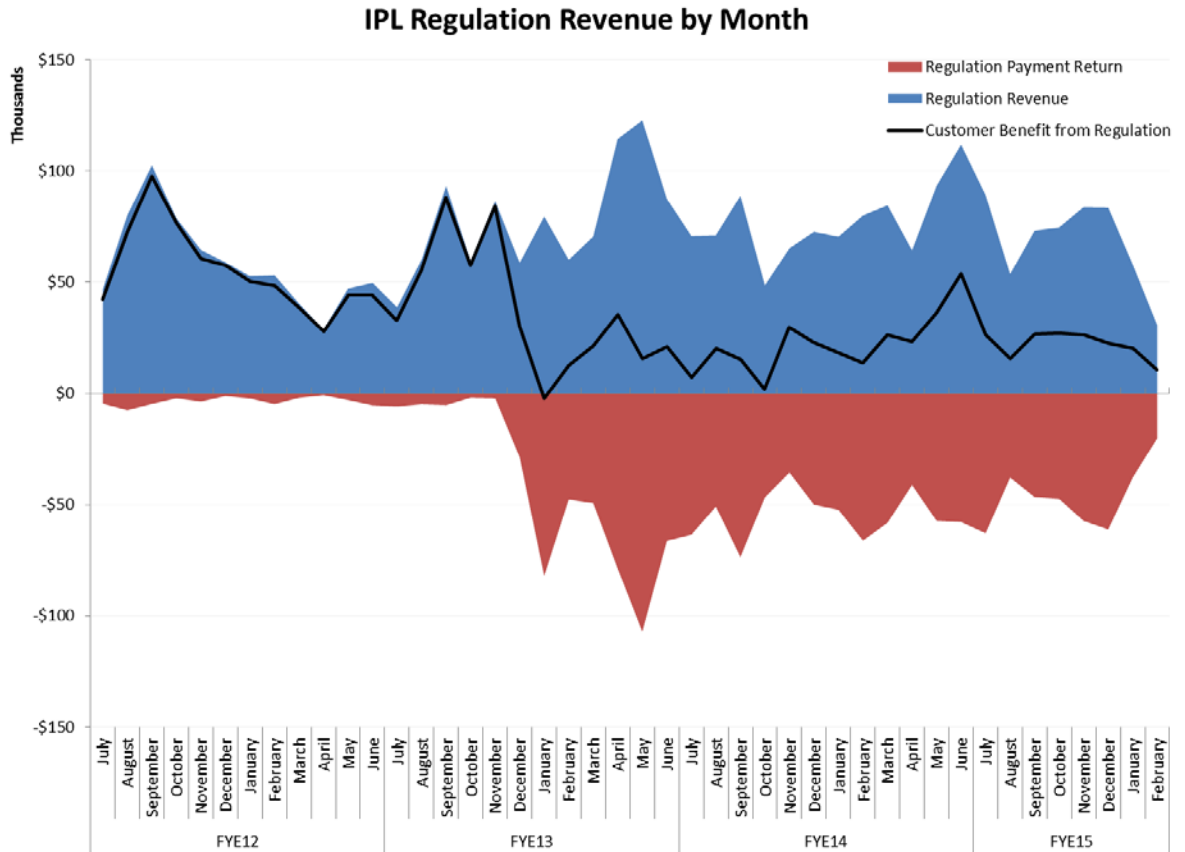
Given that IPL has none of the advanced technologies (e.g. flywheels and utility-scale battery banks) that the new regulation mileage requirements emanating from Federal Energy Regulatory Commission (FERC) Order 755 were intended to incent, IPL analyzed the strategy of ceasing all regulation offers from its legacy units in response to the changing quality requirements. IPL determined that a more measured and

systematic approach yielded better total results. As can be seen in Graph 3 below, IPL did cease making regulation offers on its units that are most difficult to control for provision of frequency response. However, after making that adjustment, IPL's current expectation is that any additional unit that is disqualified from providing regulation service would increase the zonal cost of all regulation, as the award would go to a more expensive generating unit. Additionally, IPL customers are still benefitting, in net, from IPL's regulation program as shown by the solid line in Graph 4 below.

Graph 3:



Graph 4:



IPL continues to evaluate its generation fleet carefully to determine which units will not be able to provide regulation services, and which will require adjustments to optimize. New units will be designed to provide regulation mileage within the parameters required by MISO. While IPL understands the intentions of FERC 755, regulation mileage calculations are based on meter data at a four second granularity. The quantity of data and complexity of the charge calculation make this a very difficult concept to evaluate carefully. IPL has been working on methods to effectively and efficiently capture, store, and evaluate the data required to make the most effective decisions.

The EDEDC charges should be included in IPL's fuel cost recovery. IPL has acted prudently by first, identifying units that are not suitable to offer for regulation and

ceasing to offer those units, and second, by carefully weighing the continued offering of units that will provide regulation and keep the price of regulation lower for its customers, even though in some instances those units may not be able to consistently follow set point instructions, and therefore, must return some regulation mileage payments to MISO. Given this strategy, customers receive a net benefit through the operation of the fuel rules due to the provision of regulation by IPL's generators, even given the paying back of some of the regulation mileage payments received by IPL for failure to follow regulation mileage set points.

WHEREFORE, IPL requests the Commission accept IPL's Reply Comments in this docket.

DATED this 19th day of June, 2015.

Respectfully submitted,

INTERSTATE POWER AND LIGHT COMPANY

By /s/ Michael S. Greiveldinger

Michael S. Greiveldinger

Managing Attorney

Interstate Power and Light Company

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Confidential/Trade Secret

**Response of
Interstate Power and Light Company
to
Minnesota Department of Commerce
Division of Energy Resources
Information Request No. 30**

Docket No.: E999/AA-14-579
Date of Request: April 6, 2015
Response Due: April 16, 2015
Information Requested By: Zac Ruzycki
Date Responded: April 16, 2015
Author: Jane Dolley
Author's Title: Senior Energy Market Analyst
Author's Telephone No.: 608-458-3078
Subject: Day Ahead Asset Energy / Congestion and FTRs
Reference:

Information Request No. 30

Please explain the reason for the increase in Day Ahead Asset Energy from \$94,638,650 in the 2013 Electric AAA filing to \$159,651,805 in the 2014 Electric AAA filing.

Additionally explain the increase in the total cost of Congestion and FTRs in FYE14 compared to the same charges in FYE13.

Response:

IPL provides its response to this information request in the following two sections, "Day Ahead Asset Energy" and "Congestion and FTRs."

Day Ahead Asset Energy

IPL purchases all the energy needed to serve its customers (often referred to as "load") through the Midcontinent Independent System Operator, Inc. (MISO) hourly Day Ahead (DA) and Real Time (RT) markets. IPL also offers its generators into the MISO DA and RT markets. MISO clears the markets based on Locational Marginal Prices (LMPs). LMPs are set at the Commercial Pricing Node (CPn) level. CPns are typically either a generating unit or a load zone, such as the ALTW.ALTW load zone that IPL resides in.

LMPs are made up of three components. The first component, Marginal Energy Component (MEC), represents the cost of producing energy, and is the same value across all MISO CPns for any given hour. The second component, Marginal Losses Component (MLC), represents the cost of physical energy losses incurred due to transmission of the energy and does not vary significantly from hour-to-hour. The third element, the Marginal

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Congestion Component (MCC), represents a monetization of the ability of the transmission system to transmit electricity between specific locations (e.g., from a given generator to a given load), considering the safe operating capacity of the transmission system, given the topology of the transmission system for the given hour.

Generator owners must offer their units in at cost, although for wind units federal Production Tax Credits may be included in the offer price, which may result in offer prices near \$-0- per mega-watt (MW). MISO clears the market from the lowest to highest offer prices, after considering all three components of the LMPs. This process ensures lowest-cost delivered energy for load.

Due to the high concentration of wind resources, the relative input fuel costs and efficiency of IPL's generating units compared to other, often newer generating units in the area, and high levels of transmission congestion caused by wind resources and transmission topology, IPL's cleared generation volume is often less than its load volume. This results in the Day Ahead Asset Energy amount being a cost, on average, because IPL buys more MWs of load from MISO than it sells from its generators.

The Day Ahead Asset Energy value provided in the monthly Fuel Clause Adjustment only includes the MEC of the LMP. But the levels of the MCC in the LMP affect the clearing of IPL's units as the units are cleared on LMPs. Since congestion increased significantly during the FYE14 period, IPL sold less energy because its units cleared relatively less often the FYE13, creating a wider gap between the cost of load requirements and revenues from cleared units.

Thus, after that background, the two drivers for an increased Day Ahead Asset Energy cost increase are:

- Price: The energy component (MEC) of the LMP is the same at all CPNs in MISO. Because of IPL's short energy position, when the energy component of the price rises, the Day Ahead Asset Energy cost rises as well. IPL experiences more of an increase in load cost than it receives in an increase of generator revenue. The energy component was historically high during the frigid temperatures of the Polar Vortex in early 2014. This was one major driver of the increased cost of the DA Asset Energy value during FYE14.
- Volume: The wider the volumetric difference between IPL's load and cleared generation, the larger the DA Asset Energy cost. Holding load constant, two factors increase this gap:
 - Generator Outages – there were several planned baseload generation outages in Fall 2013 and Spring 2014 that widened this gap.
 - Localized Congestion – localized congestion that shows up in the congestion component of the LMP can drive down generation volumes. There were many high wind months during FYE14 which don't necessarily affect the energy component but can cause localized negative congestion that suppresses non-wind generation and widens the gap between total cleared generation and load. Also, transmission outages can suppress generation and there were several in Fall 2013.

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Congestion and FTRs

The Day Ahead Congestion plus the Day Ahead Financial Bilateral Transaction cost increased a total of \$72.5M from FYE13 to FYE14 for two reasons:

- Transmission outages in the Cedar Rapids area coupled with planned baseload generation outages caused high localized load congestion cost in Fall 2013.
- Transmission outages in early 2014 caused localized negative congestion prices at several baseload generators, lowering generator revenue.

However, the total revenue from the Day Ahead congestion hedges (FTRs and Grand Fathered Agreements – Carved Out), plus MISO allocations, more than adequately hedged this cost with an increase of \$73.7M from FYE13 to FYE14.