



August 31, 2017

**PUBLIC DOCUMENT
TRADE SECRET DATA HAS BEEN EXCISED**

VIA Electronic Filing

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

Dear Mr. Wolf:

Re: **Minnesota Rules 7825.2800 - 7825.2840**
Annual Reports Containing Fuel Information and Data

In compliance with the above rules, Minnesota Power hereby submits to the Commission the following reports and information:

- | | |
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| Attachment No. 1 | Minnesota Power's Fuel and Energy Source Procurement and Energy Dispatching Policies Annual Report (MN Rule 7825.2800). (Docket No. E015/M-05-277) In addition, Minnesota Power's additional information regarding its plans with respect to acquiring fuel and purchased energy as required in Docket No. E015/M-05-277 dated December 20, 2006. <u>Please note this document contains Trade Secret Data.</u> |
| Attachment No. 2 | Independent Auditor's Report on Minnesota Power's Accounting for Automatic Adjustments during the period July 2016 through June 2017 (MN Rule 7825.2820). |
| Attachment No. 3 | Minnesota Power's Annual Report of Automatic Adjustment Charges for the period July 2016 through June 2017 (MN Rule 7825.2810). Included is a breakdown by energy type as required in Docket No. E,G999/AA-04-1279 dated December 7, 2005. |
| Attachment No. 4 | Minnesota Power's Annual Five-Year Projection of Fuel Costs (MN Rule 7825.2830). <u>Please note this document contains Trade Secret Data.</u> |
| Attachment No. 5 | Minnesota Power's Notice of Reports Availability (MN Rule 7825.2840), Certificate of Service and Service Lists. |
| Attachment No. 6 | Minnesota Power's Compliance Report on MISO Operations and Cost Impacts to Minnesota Power (Docket No. E015/PA-01-539). |

August 31, 2017

Mr. Wolf

Page 2

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| Attachment No. 7 | Minnesota Power's List of Network Resources Designated to Serve Native Load (Docket No. E015/M-05-277 dated December 20, 2006). |
| Attachment No. 8 | Minnesota Power's additional reporting requirements. MISO Day 2 Cost Order Reporting Matrix (Docket No. E015/M-05-277 and Docket No. E015/M-08-528) and Listing of Dockets (Docket No. E999/AA-15-611). |
| Attachment No. 9 | Minnesota Power's monthly MISO Day 2 charges and allocation (Docket No. E999/AA-07-1130). |
| Attachment No. 10 | Minnesota Power's Annual and Daily ASM charges and summary (Docket No. E015/M-08-528 dated August 23, 2010). |
| Attachment No. 11 | Minnesota Power's ARR process and information. (Docket No. E015/M-05-277). <u>Please note this document contains Trade Secret Data.</u> |
| Attachment No. 12 | Minnesota Power's generation facilities maintenance expenses (Docket No. E999/AA-06-1208 dated February 6, 2008). |
| Attachment No. 13 | Minnesota Power's transmission transformer inventory by size for 100 kV defined by low side transmission kV (Docket No. E999/AA-07-1130 dated August 31, 2009). <u>Please note this document contains Trade Secret Data.</u> |
| Attachment No. 14 | Minnesota Power's Report Addressing the Purchase Power Agreement with Manitoba Hydro (Docket No. E015/M-10-961; dated March 11, 2011). <u>Please note this document contains Trade Secret Data.</u> |
| Attachment No. 15 | Minnesota Power's Offsetting Revenues and/or Compensation Received by Investor-Owned Utilities (IOUs) (Docket No. E999/AA-10-884 dated April 6, 2012). <u>Please note this document contains Trade Secret Data.</u> |
| Attachment No. 16 | Handling of forced outages; the lessons learned, information sharing and a simple identification of forced outages with discussion on how such outages could have been avoided or alleviated. (Docket No. E999/AA-10-884 dated April 6, 2012). |

August 31, 2017

Mr. Wolf

Page 3

- Attachment No. 17 A comparison and reconciliation of the MISO accredited value of their generators using MISO accredited UCAP values and integrated resource plan capacity ratings (Docket No. E999/AA-10-884 dated April 6, 2012 and Docket No. E999/AA-09-961 dated August 31, 2009). Please note this document contains Trade Secret Data.
- Attachment No. 18 Congestion Cost Analysis (Docket No. E999/AA-11-792 dated August 16, 2013). Please note the access database is considered Trade Secret Data in its entirety and will be provided on cd separate from this filing.
- Attachment No. 19 Plant Outages Contingency Plans (Docket No. E999/AA-08-995 dated March 15, 2010).
- Attachment No. 20 Wind Curtailment Report for Oliver I and Oliver II (Docket No. E015/M-05-975 Dated December 20, 2005). Please note this document contains Trade Secret Data.
- Attachment No. 21 Wind Curtailment Report for Bison (Docket No. E015/M-11-234; Dated September 8, 2011 and Docket No. E015/M-11-626; Dated November 2, 2011). Please note this document contains Trade Secret Data.

Minnesota Power believes this filing comports with the Commission's Notice relating to Revised Procedures for Handling Trade Secret and Privileged Data, pursuant to Minn. Rule part 7829.0500. As required by the revised procedures, a statement providing the justification for excising the trade secret data is attached to this letter.

Sincerely,

/s/ Leann Oehlerking-Boes

Leann Oehlerking-Boes
Manager –
Energy Pricing & Billing

sr

Enc.

c: John Lindell (via U.S. Mail)
 Service List

STATEMENT REGARDING JUSTIFICATION FOR EXCISING
TRADE SECRET INFORMATION

Minnesota Power has excised material from the Annual Report Containing Fuel Information and Data (Report) because the format of the Report requires Minnesota Power to compile and provide information regarding its methods, techniques and process for obtaining and managing fuel supply resources for its generating facilities, including fuel supply, contract terms and conditions, as well as fuel cost projections. This is highly confidential information: Minnesota Power's competitors, as well as its potential suppliers, would gain a commercial advantage over Minnesota Power if this information was publicly available. As a result of public availability, Minnesota Power and its customers would suffer from corruption of Minnesota Power's negotiating position. Minnesota Power follows strict internal procedures to maintain the secrecy of this information in order to capitalize on economic value of the information to Minnesota Power.

Minnesota Power believes that this statement justifies why the information excised from the attached Report should remain a trade secret under Minn. Stat. §13.37. Minnesota Power respectfully requests the opportunity to provide additional justification in the event of a challenge to the trade secret designation provided herein.

Date prepared: August 31, 2017

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**MINNESOTA POWER
FUEL AND ENERGY SOURCE PROCUREMENT AND ENERGY DISPATCHING POLICIES ANNUAL
REPORT PURSUANT TO MINNESOTA RULE 7825.2800**

Fuel Source Procurement Policies

Summary of Fuel Contracts

Coal Contracts

- Kennecott Coal Sales LLC, an Oregon LLC (currently known as Cloud Peak Energy and formerly known as Rio Tinto Energy), Spring Creek Mine, Decker, Montana.
A 2002 Master Coal Purchase Agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides general terms and definitions governing purchases and sales of coal.

An agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

An agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED]. This agreement also provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

- Kennecott Coal Sales LLC, an Oregon LLC (currently known as Cloud Peak Energy and formerly known as Rio Tinto Energy), Antelope Mine, Campbell and Converse Counties, Wyoming.
A 2002 Master Coal Purchase Agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides general terms and definitions governing purchases and sales of coal.

An agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

An agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

An agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

- Arch Coal Sales, Black Thunder Mine, Wright, Wyoming
A 2010 Master Coal Purchase Agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides general terms and definitions governing purchases and sales of coal.

A 2015 Agreement provides for the supply of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal.

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A 2016 Agreement provides for the supply of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal.

A 2016 Agreement provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED]. This agreement also provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED]. In addition, this agreement also provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

A 2016 Agreement provides for the supply of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal.

A 2017 Agreement provides for the supply of coal for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal.

- Peabody CoalSales, LLC., St. Louis, Missouri, North Antelope Rochelle Mine, Campbell and Converse Counties, Wyoming

A 2014 Agreement provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually.

An amendment to a 2014 Agreement provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually.

An amendment to a 2014 Agreement provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal. In addition, this amendment provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually.

An amendment to a 2014 Agreement provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal.

An amendment to a 2014 Agreement provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal. In addition, this amendment provides for the supply of coal from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED].

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- Decker Coal Company (currently known as Lighthouse Resources, Inc.), Decker Mine, Decker, Montana

An Agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

An Amendment to an Agreement signed on [TRADE SECRET DATA HAS BEEN EXCISED] provides for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

Biomass Contracts

Currently Minnesota Power purchases wood fuel under purchase orders with 35 separate suppliers for use at the Hibbard Renewable Energy Center and the Rapids Energy Center with varying expiration dates. In addition, MP contracts with a Ties2 for ground railroad ties. The Ties2 contract provides biomass for purchases of a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons annually for the period of [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

Rail Contracts

- Burlington Northern Santa Fe (currently known as BNSF Railway)

Boswell, Taconite Harbor, Hibbard, and Rapids - A 2016 Agreement provides for the transportation of coal through [TRADE SECRET DATA HAS BEEN EXCISED] for a minimum of [TRADE SECRET DATA HAS BEEN EXCISED] tons per year and a maximum of [TRADE SECRET DATA HAS BEEN EXCISED] tons per year.

Trucking Contract

- Midwest Energy Resources Company

Hibbard Renewable Energy Center - A 2016 Agreement with Midwest Energy Resources Company provided for the transportation of not less than [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal annually from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

Supplemental Fuels

Minnesota Power uses natural gas for start-up and flame stabilization at the Boswell Station and for the unit at Blandin Paper. Minnesota Power will go out for bids for the natural gas on the Blandin and Boswell Stations. Minnesota Power also purchases natural gas for start-up, flame stabilization, as well as generation at the Hibbard Station. At the Laskin Station, gas is purchased from BP as part of a gas management service contract. This agreement provides services from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED]. This agreement was also updated to provide services from [TRADE SECRET DATA HAS BEEN EXCISED] through [TRADE SECRET DATA HAS BEEN EXCISED].

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Fuel Cost Minimization Activities

Minnesota Power's fuel procurement practices are aimed at strategically minimizing our customers' current energy costs while complying with current environmental regulations and, simultaneously, taking action to assure cost-effective compliance with future environmental requirements. Attaining these objectives requires that purchases and sales of energy, applicable coal and rail contract provisions, current and projected emissions, mine plans of our suppliers, requirements of customers, fuel delivery schedules, fuel inventory, fuel and rail costs, etc., be continuously evaluated. Balancing these parameters requires superimposing long- and short-term planning objectives on near-term operations. Descriptions of these activities have been summarized above.

In addition, Minnesota Power uses a multi-discipline fuels procurement and strategy team to achieve fuel cost minimization and environmental compliance objectives. The team meets regularly to coordinate all activities related to fuel procurement. Objectives include:

- Implement strategies for short- and long-term fuel procurement which provide a high-quality, reliable fuel supply to Minnesota Power facilities to achieve the lowest attainable electric rates.
- Optimize fuel costs and quality through developing, implementing and managing the short-term strategy for fuel scheduling and deliveries within operating and contract parameters.
- Environmental compliance planning efforts focus on the formulation, implementation and minimization of short- and long-term corporate strategies for fuel quality issues and the impact of fuel on plant performance and compliance with existing and emerging environmental regulations.

Energy Source Procurement and Dispatching Policies

Short Term Activities

The Midcontinent Independent System Operator (MISO) is a fully integrated regional transmission organization that operates a Day-Ahead Energy and Ancillary Services Market, a Real-Time Energy and Ancillary Services Market, and a Financial Transmission Rights (FTR) Market.

Minnesota Power's (MP) generation resources, load, and transmission assets are located within the MISO footprint and are part of the MISO market. The MISO markets are used to balance generation with load and to hedge congestion between generation and load. There are a variety of tools that MP uses to help with analysis and participation in the MISO market. Minnesota Power offers to sell energy and ancillary services sourced from their supply resources and bids to buy energy to serve load in the MISO market each day. MISO procures enough market ancillary service products to meet the needs of the entire footprint and MP is allocated their load ratio share of the costs to procure the needed ancillary services. If market clearing prices are above Minnesota Power's generator offer prices, MP generation will be selected to serve MP load. If market prices are below MP generator offers, other lower cost resources will be selected to serve MP load, and MP's generation will be backed down. MP also looks to buy energy in the short term bilateral market when there is an energy need and purchases can be made below expected MISO day-ahead costs.

Medium Term Activities

Minnesota Power uses a production cost model to determine their forward monthly energy position. Model inputs include forecasted customer loads, generator capabilities, contract energy purchases and sales, forward energy prices, planned generator outages, and forced and maintenance outage rates. Inputs are updated and the model is run at least monthly to determine MP's forward energy position.

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Planned generator outages are usually known about a year or more in advance. When a significant energy deficit is identified, MP monitors the wholesale market for least cost supply opportunities and enters into bilateral purchases to maintain volumetric position limits as outlined in MP's Power Marketing Risk Management Policy. If forward energy prices drop below forecasted spot market prices the entire short position could be covered with a bilateral purchase prior to the start of the outage. If lower cost energy is available in the areas that border the MISO north region, MP may choose to use bilateral purchases from those border areas to cover a generator outage.

Report of Independent Accountants



Report of Independent Accountants

To Management of ALLETE, Inc:

We have performed the procedures enumerated below, which were agreed to by ALLETE, Inc. and Minnesota Power, an operating division of ALLETE, Inc. (together the "Company"), solely to assist the specified parties in evaluating compliance with rule 7825.2820 of the Rules of the Minnesota Public Utilities Commission (the "MPUC") Governing Automatic Adjustment Charges. The Company is responsible for Section A of Minnesota Power's Annual Report of Automatic Adjustment Charges for the period July 1, 2016 through June 30, 2017 found in Attachment No. 3 (Section A) of the Company's Annual Reports Containing Fuel Information and Data (the "Annual Report") pursuant to MPUC Rules 7825.2800 – 7825.2840. Management is responsible for the Company's compliance with those requirements. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of these procedures is solely the responsibility of those parties specified in this report. Consequently, we make no representation regarding the sufficiency of the procedures described below either for the purpose for which this report has been requested or for any other purpose. The procedures performed on Section A of the Company's Annual Report are summarized as follows:

- 1) For the months of November 2016, February 2017 and April 2017, we agreed the cost of fuel issued for consumption at the Company's generating stations included on Line 1 of Attachment No. 3 (Section A) of the Company's Annual Report to the Company's fuel ledger and general ledger without exception. For the months of November 2016, February 2017 and April 2017, we agreed fuel purchases recorded in the Company's fuel ledger to supporting invoices for fuel purchases totaling \$10.9 million (100% coverage), \$12.4 million (100% coverage), and \$7.3 million (100% coverage), respectively, without exception.
- 2) For the months of November 2016, February 2017 and April 2017, we obtained the Minnesota Public Utilities Commission – Approved Base Costs of Power, Docket No. EO915/GR-08-415 and compared the base costs of power to the bases in use and found them to be in agreement for one large industrial and three retail customers.
- 3) We recalculated the billing adjustment charge (credit) per kWh charged customers for purchased power for the period July 1, 2016 through June 30, 2017 as set forth in Attachment No. 3 (pages 2 – 4) of the Automatic Retail Fuel Adjustments and Recovery report for each customer class listed and found them to be mathematically accurate.
- 4) For the months of November 2016, February 2017 and April 2017, on a test basis, we examined individual billings for one large industrial and three retail customers and recalculated the automatic adjustment of charges and credits by tracing these amounts to the individual customers' accounting records to validate that the calculated charge or credit was recorded and found them to be in agreement.
- 5) For the months of November 2016, February 2017 and April 2017 the Company asserted that there were no corrections to FCA charges or other billing errors, which we agreed to testing procedures performed.
- 6) For the months of November 2016, February 2017 and April 2017 we agreed the cost of energy purchased included on Line 2 of Attachment No. 3 (Section A) of the Company's Annual Report to the Company's fuel ledger without exception. For the months of November 2016, February 2017 and April 2017, we selected, purchase transactions by purchased energy type (i.e. from a specific



counterparty or MISO (Midcontinent Independent System Operator, Inc.) charge type) from the Company's fuel ledger representing aggregate purchases of \$7.7 million (73% coverage), \$10.2 million (72% coverage), and \$12.9 million (74% coverage), respectively. We agreed the selected purchase transaction amounts to supporting invoice and payment documentation, consisting of third party invoices, intercompany invoices, sales checkout reports, MISO Charge Types Excluding Asset Energy and Admin Charges Report, RE-Generation to Load LMP Difference Report or the MISO to MISO Report, noting no differences.

- 7) For purchase transactions selected in 6) above which were MISO Charges, (February 2017 and April 2017), we obtained the MISO Charge Types Excluding Asset Energy and Admin Charges Report and, selected, at a minimum, 16 MISO related charges for February 2017 and April 2017, respectively, and agreed them to the underlying invoices, noting no differences.
- 8) For the months of November 2016, February 2017 and April 2017, we agreed the total electric kilowatt hour sales on Line 6 of Attachment No. 3 (Section A) of the Company's Annual Report to the Company's billing register and general ledger, as adjusted for unbilled amounts, for each respective month noting no differences.
- 9) For the months November 2016, February 2017 and April 2017, we obtained schedules of the individual inter-system and interruptible power sales transactions comprising the total electric kilowatt hour sales on Line 7 of Attachment No. 3 (Section A) of the Company's Annual Report and tested the mathematical accuracy without exception. From the schedules, we selected individual inter-system and interruptible power sales transactions comprising 266.7 million kWh (81% coverage), 308.7 million kWh (87% coverage), and 315.8 million kWh (87% coverage) for the months of November 2016, February 2017 and April 2017, respectively, and agreed the individual transaction amounts to supporting documentation consisting of the MISO EP Daily Sales Output Report or Company invoices noting no exceptions.

We were not engaged to and did not conduct an examination, the objective of which would be the expression of an opinion on Section A of Minnesota Power's Annual Report of Automatic Adjustment Charges for the period July 1, 2016 through June 30, 2017 found in Attachment No. 3 of the Company's Annual Report. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the information and use of ALLETE, Inc., Minnesota Power and the MPUC, and is not intended to be and should not be used by anyone other than these specified parties.

PricewaterhouseCoopers LLP

August 31, 2017

Minnesota Power
Automatic Retail Fuel Adjustment Recovery
July 1, 2016 - June 30, 2017

Minnesota Power
Automatic Retail Fuel Adjustments Recovery
July 2016 - June 2017

A. Summary - Automatic Adjustment Charges:

Line No.	Revenue/Accounting Month Cost of Fuel	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017
1	Company's Generating Stations (A/C 151)	\$11,718,966	\$12,579,670	\$14,028,570	\$13,573,719	\$11,943,649	\$9,155,170	\$12,018,226	\$12,749,504	\$12,764,953	\$10,533,895	\$11,814,806	\$9,021,781	\$10,717,622	\$11,361,798
2	Plus: Purchased Energy	11,383,445	12,076,333	12,347,213	14,622,294	13,037,238	13,464,893	10,606,493	14,836,143	16,063,597	14,152,978	16,047,768	17,304,018	14,269,617	14,061,974
2	Less: MISO Schedules 16 &17 & 24	43,784	52,776	(126,401)	(38,932)	(10,441)	(4,530)	12,193	24,855	14,696	5,675	179,429	9,585	3,262	5,728
3	Less: Fuel Cost Recovered Through Inter-System Sales	8,130,459	10,189,840	10,346,659	10,829,058	10,615,786	4,527,802	7,432,881	9,082,249	10,529,690	8,397,517	9,713,344	8,659,214	9,251,197	9,765,152
4	Plus: Time of Generation and Solar Energy Adjustment	0	0	0	0	0	0	0	11,902	31,921	60,591	40,393	37,650	50,302	54,975
5	Total Monthly Cost of Fuel	\$14,928,168	\$14,413,387	\$16,155,525	\$17,405,887	\$14,375,542	\$18,096,791	\$15,179,645	\$18,490,445	\$18,316,085	\$16,344,272	\$18,010,195	\$17,694,649	\$15,783,082	\$15,707,868
6	2-Month Total Cost of Fuel	\$27,883,816	\$29,341,555	\$30,568,912	\$33,561,412	\$31,781,429	\$32,472,333	\$33,276,436	\$33,670,090	\$36,806,530	\$34,660,357	\$34,354,466	\$35,704,844	\$33,477,731	\$31,490,949
KWh Sales															
7	Total Sales of Electricity	1,167,519,446	1,174,183,410	1,224,301,489	1,229,414,322	1,170,432,137	1,135,334,932	1,099,629,690	1,170,017,694	1,286,457,871	1,164,070,173	1,283,530,588	1,187,323,562	1,208,046,433	1,188,658,409
8	Less: Inter-System Sales	424,074,217	457,925,021	454,920,523	452,667,616	397,587,849	337,450,764	330,015,837	350,751,311	415,804,459	354,087,965	414,971,449	364,195,094	398,000,720	394,800,862
9	Less: Solar Generation and Purchased kWh	0	0	0	0	0	0	0	498,844	845,854	1,413,540	1,726,401	1,566,817	1,810,777	1,844,056
10	Total Monthly kWh Sales	743,445,229	716,258,389	769,380,966	776,746,706	772,844,288	797,884,168	769,613,853	818,767,539	869,807,558	808,568,668	866,832,738	821,561,651	808,234,936	792,013,491
11	2-Month Total kWh Sales	1,453,182,568	1,459,703,618	1,485,639,355	1,546,127,672	1,549,590,994	1,570,728,456	1,567,498,021	1,588,381,392	1,688,575,097	1,678,376,226	1,675,401,406	1,688,394,389	1,629,796,587	1,600,248,427
Fuel Adjustment Charge - Fuel Clause 16 (¢/KWh)															
12	2-Month Average Cost of Fuel (¢/kWh)	1.919	2.010	2.058	2.171	2.051	2.067	2.123	2.120	2.180	2.065	2.051	2.115		
13	Base Cost of Fuel (¢/kWh)	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018		
14	Fuel Adjustment Charge (lines 10 - line 11) (¢/kWh)	0.901	0.992	1.040	1.153	1.033	1.049	1.105	1.102	1.162	1.047	1.033	1.097		
15	Applicable During Billing Month of:	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017		

2-Month Average Cost of Fuel by Energy Type (¢/kWh)													
	Billing Month:	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
16	Generation - Coal	0.807	0.966	1.073	1.099	1.000	0.793	0.836	1.036	0.993	0.889	0.835	0.725
17	Generation - Gas	0.014	0.017	0.013	0.007	0.006	0.002	0.001	0.001	0.000	0.000	0.000	0.000
18	Generation - BioFuel	0.014	0.020	0.014	0.014	0.013	0.000	0.001	0.004	0.005	0.003	0.000	0.000
19	Purchased Power - Coal	0.121	0.123	0.130	0.131	0.098	0.043	0.015	0.053	0.106	0.122	0.128	0.136
20	Purchased Power - Biomass	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	Purchased Power - Hydro	0.050	0.034	0.031	0.036	0.024	0.040	0.051	0.039	0.092	0.137	0.135	0.139
22	Purchased Power - Gas	0.000	0.001	0.006	0.015	0.012	0.001	0.000	0.001	0.001	0.000	0.000	0.000
23	Purchased Power - Wind	0.131	0.121	0.114	0.102	0.116	0.129	0.140	0.143	0.140	0.133	0.125	0.116
24	Purchased Power - Diesel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	Purchased Power - Unknown	0.782	0.729	0.677	0.767	0.783	1.059	1.079	0.844	0.842	0.782	0.828	0.999
26	Total Two-Month Average Cost	1.919	2.010	2.058	2.171	2.051	2.067	2.123	2.120	2.180	2.065	2.051	2.115

Minnesota Power
Automatic Retail Fuel Adjustments Recovery
July 2016 - June 2017

**B. Summary - Revenue Collected From Retail
Customers Through Fuel Adjustment Charges:**

Line No.		Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017
1	Total Monthly Cost of Fuel (line 5, section A)	\$16,155,525	\$17,405,887	\$14,375,542	\$18,096,791	\$15,179,645	\$18,490,445	\$18,316,085	\$16,344,272	\$18,010,195	\$17,694,649	\$15,783,082	\$15,707,868
2	Total Monthly KWH Sales (line 10, section A)	769,380,966	776,746,706	772,844,288	797,884,168	769,613,853	818,767,539	869,807,558	808,568,668	866,832,738	821,561,651	808,234,936	792,013,491
3	Actual Monthly Cost of Fuel (¢/kWh) (line 1/ line 2)	2.100	2.241	1.860	2.268	1.972	2.258	2.106	2.021	2.078	2.154	1.953	1.983
4	Retail kWh Sales Subject to FAC (line 5 + line 13+ line 20+ line 27+ line 34+ line 41+ line 48+ line 55)	624,111,125	632,394,048	646,004,334	643,012,781	637,981,768	661,349,842	713,958,927	674,123,000	723,570,850	693,797,462	684,043,755	668,388,119
Retail Fuel Clause No. 16													
KWh Sales													
5	Retail kWh Sales Subject to Fuel Clause No. 16	0	0	0	0	0	0	0	0	0	0	0	0
6	KWh Sales Under Competitive Rate Schedules	0	0	0	0	0	0	0	0	0	0	0	0
7	Total (line 5 + line 6)	0	0	0	0	0	0	0	0	0	0	0	0
Fuel Cost Recovery (¢/KWh)													
8	Base Cost of Fuel (¢/kWh) (line 13, section A)	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018	1.018
9	Fuel Adjustment Charge (¢/kWh) (line 14, section A)	0.901	0.992	1.040	1.153	1.033	1.049	1.105	1.102	1.162	1.047	1.033	1.097
Fuel Cost Recovery (Total \$)													
10	Base Cost of Fuel (line 7 x line 8)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Fuel Adjustment Charge (line 5 x line 9)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
12	Subtotal (line 10 + line 11)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Retail Fuel Clause -RESIDENTIAL													
KWh Sales													
13	Retail kWh Sales Subject to Fuel Clause	75,146,275	77,964,053	79,475,398	68,039,293	71,519,910	90,101,241	116,421,250	106,426,000	89,195,285	89,009,257	70,050,843	70,332,919
Fuel Cost Recovery (¢/KWh)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED ENERGY ADJUSTMENT June 1, 2011)													
14		1.07076	1.07076	1.07076	1.07076	1.07076	1.07076	1.07076	1.07076	1.07076	1.07076	1.07076	1.07076
15	Base Cost of Fuel (¢/kWh) (line 13, section A x line 14)	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090
16	Fuel Adjustment Charge (¢/kWh) (line 14, section A x line 14)	0.965	1.062	1.114	1.235	1.106	1.123	1.183	1.180	1.244	1.121	1.106	1.175
Fuel Cost Recovery (Total \$)													
17	Base Cost of Fuel (line 13 x line 15)	\$819,094	\$849,808	\$866,282	\$741,628	\$779,567	\$982,104	\$1,268,992	\$1,160,043	\$972,229	\$970,201	\$763,554	\$766,629
18	Fuel Adjustment Charge (line 13 x line 16)	\$725,162	\$827,978	\$885,356	\$840,285	\$791,010	\$1,011,837	\$1,377,263	\$1,255,827	\$1,109,589	\$997,794	\$774,762	\$826,412
19	Subtotal (line 17 + line 18)	\$1,544,256	\$1,677,786	\$1,751,638	\$1,581,914	\$1,570,577	\$1,993,940	\$2,646,255	\$2,415,870	\$2,081,818	\$1,967,995	\$1,538,317	\$1,593,041
Retail Fuel Clause -GENERAL SERVICE													
KWH SALES													
20	Retail kWh Sales Subject to Fuel Clause	55,733,012	57,082,773	58,976,185	51,286,011	50,205,870	54,636,554	63,905,572	61,868,000	54,940,462	54,958,615	48,120,048	51,310,139
FUEL COST RECOVERY (¢/KWH)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED ENERGY ADJUSTMENT June 1, 2011)													
21		1.07093	1.07093	1.07093	1.07093	1.07093	1.07093	1.07093	1.07093	1.07093	1.07093	1.07093	1.07093
22	Base Cost of Fuel (¢/kWh) (line 13, section A x line 21)	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090	1.090
23	Fuel Adjustment Charge (¢/kWh) (line 14, section A x line 21)	0.965	1.062	1.114	1.235	1.106	1.123	1.183	1.180	1.244	1.121	1.106	1.175
FUEL COST RECOVERY (\$)													
24	Base Cost of Fuel (line 20 x line 22)	\$607,490	\$622,202	\$642,840	\$559,018	\$547,244	\$595,538	\$696,571	\$674,361	\$598,851	\$599,049	\$524,509	\$559,281
25	Fuel Adjustment Charge (line 20 x line 23)	\$537,824	\$606,219	\$656,995	\$633,382	\$555,277	\$613,569	\$756,003	\$730,042	\$683,459	\$616,086	\$532,208	\$602,894
26	Subtotal (line 24 + line 25)	\$1,145,313	\$1,228,421	\$1,299,835	\$1,192,400	\$1,102,521	\$1,209,107	\$1,452,574	\$1,404,404	\$1,282,310	\$1,215,135	\$1,056,716	\$1,162,175

Minnesota Power
Automatic Retail Fuel Adjustments Recovery
July 2016 - June 2017

Retail Fuel Clause -LARGE LIGHT AND POWER													
KWH SALES													
27	Retail kWh Sales Subject to Fuel Clause	117,458,888	120,729,411	117,572,424	112,700,444	110,874,383	109,445,528	117,332,785	113,132,000	116,049,824	111,157,215	111,288,185	107,142,298
FUEL COST RECOVERY (¢/KWH)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED													
28	ENERGY ADJUSTMENT Nov 2, 2009)	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424	1.00424
29	Base Cost of Fuel (¢/kWh) (line 13, section A x line 28)	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022	1.022
30	Fuel Adjustment Charge (¢/kWh) (line 14, section A x line 28)	0.905	0.996	1.044	1.158	1.037	1.053	1.110	1.107	1.167	1.051	1.037	1.102
FUEL COST RECOVERY (\$)													
31	Base Cost of Fuel (line 27 x line 29)	\$1,200,430	\$1,233,855	\$1,201,590	\$1,151,799	\$1,133,136	\$1,118,533	\$1,199,141	\$1,156,209	\$1,186,029	\$1,136,027	\$1,137,365	\$1,094,994
32	Fuel Adjustment Charge (line 27 x line 30)	\$1,063,003	\$1,202,465	\$1,227,456	\$1,305,071	\$1,149,767	\$1,152,461	\$1,302,394	\$1,252,371	\$1,354,301	\$1,168,262	\$1,154,058	\$1,180,708
33	Subtotal (line 31 + line 32)	\$2,263,433	\$2,436,320	\$2,429,046	\$2,456,870	\$2,282,904	\$2,270,995	\$2,501,535	\$2,408,580	\$2,540,331	\$2,304,289	\$2,291,424	\$2,275,702
Retail Fuel Clause -LARGE POWER													
KWH SALES													
34	Retail kWh Sales Subject to Fuel Clause	373,302,008	374,237,770	387,165,670	408,244,674	402,501,933	403,951,142	412,899,909	389,411,000	460,555,980	435,943,052	452,228,874	437,210,604
FUEL COST RECOVERY (¢/KWH)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED													
35	ENERGY ADJUSTMENT Nov 2, 2009)	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769	0.97769
36	Base Cost of Fuel (¢/kWh) (line 13, section A x line 35)	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
37	Fuel Adjustment Charge (¢/kWh) (line 14, section A x line 35)	0.881	0.970	1.017	1.127	1.010	1.026	1.080	1.077	1.136	1.024	1.010	1.073
FUEL COST RECOVERY (\$)													
38	Base Cost of Fuel (line 34 x line 36)	\$3,714,355	\$3,723,666	\$3,852,298	\$4,062,035	\$4,004,894	\$4,019,314	\$4,108,354	\$3,874,639	\$4,582,532	\$4,337,633	\$4,499,677	\$4,350,246
39	Fuel Adjustment Charge (line 34 x line 37)	\$3,288,791	\$3,630,106	\$3,937,475	\$4,600,917	\$4,065,270	\$4,144,539	\$4,459,319	\$4,193,956	\$5,231,916	\$4,464,057	\$4,567,512	\$4,691,270
40	Subtotal (line 38 + line 39)	\$7,003,146	\$7,353,772	\$7,789,773	\$8,662,952	\$8,070,164	\$8,163,853	\$8,567,673	\$8,068,596	\$9,814,448	\$8,801,690	\$9,067,189	\$9,041,515
Retail Fuel Clause -MUNICIPAL PUMPING													
	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	
KWH SALES													
41	Retail kWh Sales Subject to Fuel Clause	1,180,638	1,115,634	1,160,359	981,186	918,908	1,006,672	1,098,990	1,165,000	1,074,858	1,057,541	1,026,051	1,103,394
FUEL COST RECOVERY (¢/KWH)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED													
42	ENERGY ADJUSTMENT Nov 2, 2009)	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103	0.98103
43	Base Cost of Fuel (¢/kWh) (line 13, section A x line 42)	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999	0.999
44	Fuel Adjustment Charge (¢/kWh) (line 14, section A x line 42)	0.884	0.973	1.020	1.131	1.013	1.029	1.084	1.081	1.140	1.027	1.013	1.076
FUEL COST RECOVERY (\$)													
45	Base Cost of Fuel (line 41 x line 43)	\$11,795	\$11,145	\$11,592	\$9,802	\$9,180	\$10,057	\$10,979	\$11,638	\$10,738	\$10,565	\$10,250	\$11,023
46	Fuel Adjustment Charge (line 41 x line 44)	\$10,437	\$10,855	\$11,836	\$11,097	\$9,309	\$10,359	\$11,913	\$12,594	\$12,253	\$10,861	\$10,394	\$11,873
47	Subtotal (line 45 + line 46)	\$22,231	\$22,000	\$23,428	\$20,899	\$18,488	\$20,415	\$22,892	\$24,232	\$22,991	\$21,426	\$20,644	\$22,895

Minnesota Power
Automatic Retail Fuel Adjustments Recovery
July 2016 - June 2017

Retail Fuel Clause -LIGHTING

KWH SALES													
48	Retail kWh Sales Subject to Fuel Clause	1,290,304	1,264,407	1,654,298	1,761,173	1,960,764	2,208,705	2,300,421	2,121,000	1,754,441	1,671,782	1,329,754	1,288,765
FUEL COST RECOVERY (¢/KWH)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED ENERGY ADJUSTMENT Nov 2, 2009)													
49	Base Cost of Fuel (¢/kWh) (line 13, section A x line 49)	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029	0.74029
50	Fuel Adjustment Charge (¢/kWh) (line 14, section A x line 49)	0.667	0.734	0.770	0.854	0.765	0.777	0.818	0.816	0.860	0.775	0.765	0.812
FUEL COST RECOVERY (\$)													
52	Base Cost of Fuel (line 48 x line 50)	\$9,729	\$9,534	\$12,473	\$13,279	\$14,784	\$16,654	\$17,345	\$15,992	\$13,228	\$12,605	\$10,026	\$9,717
53	Fuel Adjustment Charge (line 48 x line 51)	\$8,606	\$9,281	\$12,738	\$15,040	\$15,000	\$17,162	\$18,817	\$17,307	\$15,088	\$12,956	\$10,173	\$10,465
54	Subtotal (line 52 + line 53)	\$18,335	\$18,814	\$25,212	\$28,320	\$29,784	\$33,815	\$36,163	\$33,300	\$28,317	\$25,562	\$20,199	\$20,182
Total Fuel Cost Recovery From Retail Sales:													
		Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017
61	Base Cost of Fuel (line 10+line 17+ line 24+ line 31+ line 38+ line 45+ line 52 + line 58)	\$6,362,893	\$6,450,210	\$6,587,076	\$6,537,560	\$6,488,805	\$6,742,199	\$7,301,382	\$6,892,884	\$7,363,607	\$7,066,080	\$6,945,382	\$6,791,889
62	Fuel Adjustment Charge (line 11+ line 18+ line 25+ line 32+ line 39+ line 46+ line 53 + line 59)	\$5,633,822	\$6,286,904	\$6,731,855	\$7,405,794	\$6,585,632	\$6,949,926	\$7,925,710	\$7,462,098	\$8,406,608	\$7,270,016	\$7,049,107	\$7,323,621
63	Total Fuel Cost Recovery (line 12+ line 19+ line 26+ line 33+ line 40+ line 47+ line 54 + line 60)	\$11,996,714	\$12,737,114	\$13,318,932	\$13,943,354	\$13,074,438	\$13,692,125	\$15,227,091	\$14,354,982	\$15,770,215	\$14,336,096	\$13,994,489	\$14,115,510

C. Summary - Over (Under) Recovery From
Automatic Adjustment Charges:

Line No.		Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17
1	Total Retail Fuel Cost Recovery (line 63, section B)	\$11,996,714	\$12,737,114	\$13,318,932	\$13,943,354	\$13,074,438	\$13,692,125	\$15,227,091	\$14,354,982	\$15,770,215	\$14,336,096	\$13,994,489	\$14,115,510
2	Retail kWh Sales Subject to FAC (line 4, section B)	624,111,125	632,394,048	646,004,334	643,012,781	637,981,768	661,349,842	713,958,927	674,123,000	723,570,850	693,797,462	684,043,755	668,388,119
3	KWh Sales Under Competitive Rates / (line 6, section B)	0	0	0	0	0	0	0	0	0	0	0	0
4	Subtotal (line 2 + line 3)	624,111,125	632,394,048	646,004,334	643,012,781	637,981,768	661,349,842	713,958,927	674,123,000	723,570,850	693,797,462	684,043,755	668,388,119
5	Actual Monthly Cost of Fuel (¢/kWh) (line 3, section B)	2.100	2.241	1.860	2.268	1.972	2.258	2.106	2.021	2.078	2.154	1.953	1.983
6	Actual Monthly Cost of Fuel for Retail kWh (line 4 x line 5)	\$13,106,334	\$14,171,951	\$12,015,681	\$14,583,530	\$12,581,000	\$14,933,279	\$15,035,975	\$13,624,026	\$15,035,802	\$14,944,397	\$13,359,375	\$13,254,136
7	Total Over (Under) Recovery - Monthly (line 1- line 6)	(\$1,109,619)	(\$1,434,837)	\$1,303,251	(\$640,176)	\$493,437	(\$1,241,154)	\$191,116	\$730,956	\$734,413	(\$608,301)	\$635,114	\$861,374
8	Cumulative Over (Under) Recovery (Based on line 7)	(\$1,109,619)	(\$2,544,456)	(\$1,241,205)	(\$1,881,381)	(\$1,387,943)	(\$2,629,097)	(\$2,437,981)	(\$1,707,025)	(\$972,613)	(\$1,580,914)	(\$945,800)	(\$84,426)

NOTES:

Fuel Adjustment Clause 16 is applicable to all retail schedules except Competitive Rates, Industrial Economy, Excess Energy, Replacement Firm Power Service, Interruptible Power and Incremental Production Service. KWH Sales under Competitive Rate Schedules are not subject to the Fuel Clause but the Competitive Rate does recover the base cost of fuel.

Beginning November 1, 2009, with final rates, the company began applying the Fuel Adjustment Clause based (Fuel and Purchased Energy Adjustment) on Class Cost Factors for each different rate class such as Residential, General Service, Large Light and Power, Large Power, Municipal Pumping and Lighting

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

**Minnesota Power's
Five-Year Projection of Fuel Costs
July 2017 - June 2022**

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

Attached is Minnesota Power's five-year projection of fuel costs by source of power, which is based on data, generated by the Electric Financial Forecast. Forecast data beyond 2017 is available on an annual basis only.

Minnesota Power has six sources of power:

- Steam Generation from Company owned plants,
- Purchased Power from Square Butte under a Power Purchase Agreement,
- Purchased Power from MISO wholesale market and from other power suppliers,
- Hydro Generation from Company owned plants (for which there is no energy cost)
- Wind Generation from Company owned plants, and from other power suppliers, and
- Solar Generation from Company owned plant (Camp Ripley) and Community Solar Garden program in fourth quarter 2017.

The major assumptions in determining the fuel cost projections over the next five-year period are:

1. With the *EnergyForward* strategy Minnesota Power's steam generation will decrease in order to seek a sustainable balance of energy generation that is dependable, affordable and environmentally sound to best serve its customers as stated in the previous two integrated resource plans filed in 2013 and 2015. Per the approved 2013 Integrated Resource Plan in 2015 Minnesota Power ceased coal operation from its Taconite Harbor Unit 3 generator (75 MW) and converted its Laskin Energy Center to natural gas which is planned to run significantly less than its previous baseload operation as it serves as a peaking resource for customer power supply. Per the approved 2015 Integrated Resource Plan in fall of 2016 Taconite Harbor units 1 and 2 were idled (150 MW), and are utilized for reliability of the bulk electric system as market conditions require through 2020, and will cease coal-fired operation post 2020.
2. Total Steam generation costs attributed to coal are expected to **[TRADE SECRET DATA HAS BEEN EXCISED]** for the period of 2017 to 2022.
3. Starting in June 2015 purchased generation from Square Butte declined to reflect MP's decreased share of the units total output of approximately 22 percent. After 2022, Minnesota Power's share of the output will continue to be reduced per the North Dakota Wind Project and decrease to zero by end of 2025.
4. Minnesota Power continues to use wholesale market purchases and bilateral contracts to meet its energy requirements.

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

5. Minnesota Power has about 107 MW of hydroelectric capability for its native load of customers. There is no fuel cost associated with this energy source. Hydro generation is projected to **[TRADE SECRET DATA HAS BEEN EXCISED]** from 2017 to 2022.
6. Minnesota Power's load is expected to increase as additional large industrial customers begin or expand operation in our service territory.
7. Minnesota Power has developed a robust, portfolio-based solar strategy consisting of three pillars of focus: the customer, community and utility to meet and integrate solar power supply. This strategy was submitted on June 1, 2017, as part of the Company's Solar Energy Standard (SES) Report. Minnesota Power will add approximately 33 MW of solar powered generation to its portfolio to comply with the 2020 SES requirements. The 2015 Integrated Resource Plan includes Minnesota Power's strategy to comply with the SES. This filing contains the assumed solar generation from this strategy for the years 2017-2021. This includes the 10 MW Camp Ripley solar project that started generating electricity in fourth quarter of 2016 and generates approximately 17,000 MWh annually. Also included is a 1 MW Community Solar Garden project with approximately 1,600 MWh annually that is expected to start generating electricity in fourth quarter of 2017.

PUBLIC DOCUMENT

[illegible]

[TRADE SECRET DATA HAS BEEN EXCISED]

JUL 17
AUG
SEPT
OCT
NOV
DEC 17
JAN 18
FEB
MAR
APR
MAY
JUN 18
TOTAL

Avg Cost per Mwh

JUL 18
AUG
SEPT
OCT
NOV
DEC 18
JAN 19
FEB
MAR
APR
MAY
JUN 19
TOTAL

Avg Cost per MWh

JUL 19 - JUN 20

Avg Cost per MWh

JUL 20 - JUN 21

Avg Cost per MWh

JUL 21 - JUN 22

Avg Cost per MWh

**Minnesota Power's
Notice of Report Availability,
Certificate of Service, and Service Lists**

Docket Nos. E015/GR09-1151 and E015/GR16-664



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Notice of Reports Availability

To: All Interveners in Minnesota Power
Retail Rate Proceedings
Docket Nos. E015/GR-09-1151 and E015/GR-16-664

The Minnesota Public Utilities Commission requires Minnesota Power and other Minnesota public utilities to file various annual reports concerning utility operations with the Commission as specified in Minnesota Rules 7825.2800 to 7825.2840. The subject matter of the report filed includes the following:

- a) Procurement policies for selecting fuel and energy purchased
- b) Independent auditor's report with regard to monthly fuel adjustments
- c) Charges made under automatic fuel adjustment clauses
- d) Five-year projection of fuel costs
- e) MISO Compliance Report and Cost Impacts
- f) List of Network Resources
- g) Matrix of Reporting Requirements for MISO Day 2 Cost and ASM Orders
- h) MISO Day 2/ASM monthly charges and allocations
- i) ASM Annual and Daily Charges Summary
- j) ARRs information and process
- k) Generation maintenance expenses
- l) Transformer inventory
- m) Report Addressing the Purchase Power Agreement with Manitoba Hydro
- n) Offsetting Revenues and/or Compensation Received by Investor-Owned Utilities
- o) Annual Identification of Forced Outages and Lessons Learned
- p) Comparison and Reconciliation of the MISO Accredited Value of Generators Using MISO Accredited UCAP Values and Integrated Resource Plan Capacity Ratings
- q) Congestion Analysis
- r) Plant Outages Contingency Plans
- s) Oliver County I and II Wind Curtailment Reporting
- t) Bison Curtailment Reporting

Minnesota Rule 7825.2840 requires Minnesota Power to provide this notice of availability of such reports to all Interveners in the previous two general rate cases. A copy of the above report is available for public inspection at the MPUC offices, 121 East 7th Place, Suite 350, St. Paul, MN 55101-2147, on the Minnesota Department of Commerce edockets website (<https://www.edockets.state.mn.us/EFiling>), or upon written request to the following:

Minnesota Power
Leann Oehlerking-Boes
Manager - Energy Pricing & Billing
30 West Superior Street
Duluth, MN 55802

Please note that certain information contained in these reports is considered trade secret and is unavailable to the public.

Certificate of Service

It is hereby certified that the foregoing Notice of Report Availability, along with a copy of the report, was delivered to the Minnesota Department of Commerce and the Office of the Attorney General, and the interveners in Minnesota Power's previous two general rate cases.

Minnesota Power

By:

/s/ Leann Oehlerking-Boes

Leann Oehlerking-Boes
Manager – Energy Pricing & Billing

Dated: August 31, 2017

[illegible]

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Larry L.	Schedin	Larry@LLSResources.com	LLS Resources, LLC	332 Minnesota St, Ste W1390 St. Paul, MN 55101	Electronic Service	No	OFF_SL_16-664_Official CC Service List
Robert H.	Schulte	rhs@schulteassociates.com	Schulte Associates LLC	1742 Patriot Rd Northfield, MN 55057	Electronic Service	No	OFF_SL_16-664_Official CC Service List
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Britt	See Benes	britt@ci.aurora.mn.us	City of Aurora	16 W 2nd Ave N PO Box 160 Aurora, MN 55705	Electronic Service	No	OFF_SL_16-664_Official CC Service List
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Brett	Skyles	Brett.Skyles@co.itasca.mn.us	Itasca County	123 NE Fourth Street Grand Rapids, MN 557442600	Electronic Service	No	OFF_SL_16-664_Official CC Service List
Corbin	Smyth	csmyth@d.umn.edu	UMD Student Life	1208 Kirby Dr Duluth, MN 55812	Electronic Service	No	OFF_SL_16-664_Official CC Service List
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Kodi	Verhalen	kverhalen@briggs.com	Briggs & Morgan	2200 IDS Center 80 South Eighth Street Minneapolis, Minnesota 55402	Electronic Service	Yes	OFF_SL_16-664_Official CC Service List
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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_16-664_Official CC Service List
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**Minnesota Power Compliance Report on
MISO Operations and Cost Impacts to Minnesota Power
Docket No. E015/PA-01-539**

Background

On April 26, 2002, the Commission approved Minnesota Power's petition to transfer functional control of certain transmission facilities to the Midcontinent Independent System Operator, Inc. (MISO). In compliance to the Order (Docket No. E-015/PA-01-539), Minnesota Power is required to report the following information as part of its AAA report:

- Section 2, Item C, Part 3 (a):
The Schedule 10 administrative charges paid to the MISO under MISO tariff.

Note: The information related to MISO Schedule 10 is no longer required to be reported as part of the AAA process per Commission order dated July 21, 2017 in Docket No. E-999/AA-15-611

- Section 2, Item C, Part 3 (b):
Any amount of MISO administrative charge deferred by the MISO for later recovery.
- Section 2, Item C, Part 5 (c):
Each instance where the MISO directed MP to curtail MP's own generation, for reliability reasons, that resulted in an interruption of firm retail electric service to MP's retail customers in Minnesota.
- Section 2, Item C, Part 5 (d):
Each instance where the MISO directed the curtailment of a delivery of a firm purchased power supply that subsequently resulted in an interruption of firm retail electric service to MP's retail customers in Minnesota.
- Section 2, Item C, Part 8 (b):
Changes to MISO tariffs that may ultimately affect the rates of retail customers in Minnesota, and on MP's efforts to minimize MISO transmission service costs.
- Section 2, Item C, Part 8 (c):
An annual analysis of how the transfer of operational control to the MISO has affected MP's overall transmission costs and revenues and its overall energy costs for retail customers, including –
 - i. an analysis of how MISO membership has affected MP's ability to use its own generating sources when they are the least-cost power source; and
 - ii. MP's ability to access low-cost power on the wholesale market for its retail customers.
- Section 2, Item C, Part 8 (d):
Each instance where the MISO directed MP to redispatch MP's own generation for reliability reasons, including an explanation of financial impact on rates, if any, and the reason for the redispatch, if known.

**1. Section 2, Item C, Part 3(b):
MISO administrative charges deferred by MISO for later recovery**

MISO deferred \$2,500,000 per month for the ten month period March through December, 2003 for a total of \$25,000,000 (Dockets ER02-111-002 and ER02-652-001), to be recovered monthly from Transmission Customers over a five-year period beginning Feb.1, 2008.

**2. Section 2, Item C, Part 5 (c):
Each instance where MISO directed MP to curtail MP's own generation, for reliability reasons, that resulted in an interruption of firm retail electric service to MP's retail customers in Minnesota**

There was no occurrence of said conditions during this reporting period.

**3. Section 2, Item C, Part 5(d):
Each instance where MISO directed the curtailment of a delivery of a firm purchased power supply that subsequently resulted in an interruption of firm retail electric service to MP's retail customers in Minnesota**

There was no occurrence of said conditions during this reporting period.

**4. Section 2, Item C, Part 8 (b):
Changes to MISO tariffs that may ultimately affect the rates of retail customers in Minnesota, and on MP's efforts to minimize MISO transmission service costs**

Minnesota Power continues to support ongoing efforts to minimize MISO transmission service costs. Minnesota Power representatives participate in the MISO Transmission Owners Committee and the Transmission Owners Tariff Working Group, which make decisions on certain rate and revenue distribution changes pursuant to the MISO Transmission Owners Agreement. These committees also monitor the MISO budget development process, as well as review year to date cost updates. Minnesota Power also has representatives closely monitoring the Market Sub-Committee and OATT Business Practices efforts. Minnesota Power knows of no tariff changes that may ultimately affect the rates of retail customers in Minnesota.

5. Section 2, Item C, Part 8 (c):

Annual analysis of how the transfer of operational control to the MISO has affected MP's overall transmission costs and revenues and its overall energy costs for retail customers, including

- i. an analysis of how MISO membership has affected MP's ability to use its own generating sources when they are the least-cost power source; and**
- ii. MP's ability to access low-cost power on the wholesale market for its retail customers**

Prior to becoming a MISO member, Minnesota Power paid fees to MAPP (Regional Reliability and Regional Transmission), for use of the transmission systems under MAPP Schedule F Tariff. Currently, the majority of transmission transactions now take place under the MISO Tariff. MISO transmission charges include an administration fee (Schedule 10, similar to the fee collected by MAPP), network integration service, and point-to-point service charges. Minnesota Power also receives revenue from MISO for other MISO entities' utilization of the Minnesota Power transmission facilities.

Minnesota Power participates in the MISO Day-Ahead, Real-Time, and Ancillary Services Market. Minnesota Power's generation is dispatched in response to MISO market price signals. This has allowed Minnesota Power to use its generation resources to meet customer needs when Minnesota Power generation is the lowest cost resource, and to reduce its generation and purchase energy in the wholesale market when market energy is the lowest cost resource. As a result, the MISO market structure has allowed Minnesota Power to continue to make extensive use of the wholesale power market to secure low cost energy for its customers.

Other benefits of the MISO Market include increased purchase options, more transparent pricing, and the ability to purchase only the amount of energy needed each hour rather than buying energy blocks provided by a traditional bilateral market. All have provided savings for our retail customers. The benefits of MISO have more than offset the additional costs incurred to implement the market. In addition, the MISO market allows Minnesota Power and other MISO members' access to an expansive footprint consisting of a diverse set of generation and transmission resources, which, when coupled with appropriate rules and an independent market monitoring function, fosters a robust wholesale energy market.

6. Section 2, Item C, Part 8 (d):

Each instance where MISO directed MP to redispatch MP's owned generation for reliability reasons, including an explanation of financial impact on rates, if any, and the reason for the redispatch, if known.

There was no occurrence of said conditions during this reporting period.

Minnesota Power
Network Resources Designated to Serve Native Load
Docket No. E015/M-05-277, dated December 20, 2006

Steam Generation /1	MW /2
Boswell Energy Center	
Unit No. 1	67.5
Unit No. 2	67.6
Unit No. 3	363.5
Unit No. 4	474.0
Taconite Harbor Energy Center	
Unit No. 1	70.6
Unit No. 2	69.6
Unit No. 3	-
Laskin Energy Center	
Unit No. 1	49.0
Unit No. 2	46.5
Hibbard Energy Center	
Unit No. 3/4	58.1
Hydro Generation	MW /2
Thomson	74.3
Blanchard	12.6
Fond du Lac	12.9
Other Hydro	11.6
Wind Generation	MW /4
Taconite Ridge	3.6
Bison	108.4
Long Term Purchase	MW /2
Square Butte /3	100.8
Oliver County 1	9.5
Oliver County 2	9.5

Notes: /1 Steam Generation is also provided by MP Non-Regulated Units: Rapids Energy Center (28.3 MW). This unit is not included in MISO's definition of "Network Resources" because it is generation behind the meter at the customers' site.

/2 All quantities relate to MISO Planning Year 2017-2018 as these quantities are currently in effect. Values are comprised from the MISO Planning Year 2017-2018 List of GVTC Test Results as found in the Planning Year 2017-2018 unit list of capacity.

/3 Minnesota Power's share of Square Butte.

/4 All quantities relate to MISO Planning Year 2017-2018 as these quantities are currently in effect. Values are comprised from the MISO Planning Year 2017-2018 List of Capacity Credit Results as found in the Planning Year 2017-2018 unit list of capacity.

Minnesota Power Additional Reporting Requirements:

Accounting Treatment for MISO Day 2/ASM Costs
Reporting Requirement ASM Cost Recovery
Listing of Dockets

Docket Nos. E015/M-05-277, E015/M-08-528, E999/AA-15-611

Accounting Treatment for MISO Day 2/ASM Costs (Docket: E015/M-05-277)

	Reporting Requirement	Requirement Satisfied in Reporting Document
A.	<p>Provide additional information regarding plans with respect to acquiring fuel and purchase energy:</p> <p>1) Overview of plans for acquiring fuel & purchased energy and actions to minimize or lower fuel costs, including:</p> <ul style="list-style-type: none"> Planned actions to minimize or lower fuel costs, including financial instruments and hedging Plans to cover fuel and energy risk during planned unit outages Plans for optimization of congestion cost hedging through FTR's <p>2) Provide list of network resources designated to serve native load.</p>	<p>Annual AAA Report, Attachment No. 1</p> <p>Annual AAA Report, Attachment No. 7</p>
B.	<p>Provide Annual Fuel Adjustment Clause (FAC) Forecast for next 12 months including:</p> <ul style="list-style-type: none"> Fuel and energy costs MISO Day 2 Costs & Revenues Major changes affecting stability of forecast due to changes in utility cost inputs Projected variance in fuel/purchased power due to increased volatility in markets An explanation of deviations between forecast and actual costs in previous year 	<p>Annual monthly FAC Forecast submitted after final budget is approved in December in the December fuel filing prepared the following January.</p> <p>Explanations of major changes and deviations between forecast and actual costs for previous year will be included in the annual FAC report to customers, which will also be submitted to the DOC (and MPUC) by the beginning of March each year.</p>
C.	<p>Prepare a summary AAA filing stating key factors affecting costs including RSG & RNU along with the FAC Forecast. The FAC Forecast shall be shared with customer representatives who sign a protective agreement.</p>	<p>Annual monthly FAC Forecast submitted after final budget is approved in December.</p> <p>Annual FAC report to Key Account Customers will be finalized as soon after the end of each calendar year as possible, typically the beginning of March, and provided to customers who sign confidentiality agreements.</p>
D.	<p>Meet with customer representatives to discuss FAC forecast and new proposals in MISO Day 2 Market.</p>	<p>As requested by interested parties who have signed a confidentiality agreement</p>
E.	<p>Monthly FAC forecasts will be revised when forecast is expected to exceed the original budget by more than 10%</p>	<p>Monthly FAC Report</p>
F.	<p>When the FAC forecast deviates from actual costs by 15% or more, MP will explain and quantify the difference, including an explanation of the extent to which the costs can be controlled.</p>	<p>Monthly FAC Report</p>
G.	<p>Provide monthly and year-to-date MISO Day 2 costs by charge type category</p> <p>Revised format in 2008 with clear allocations of MISO Day 2 costs and revenues between retail and wholesale customers.</p>	<p>Monthly FAC Report</p> <p>Annually in AAA filing for 12 months of filing period and 1 summary for a total of 13 pages, Attachment No. 9</p>
H.	<p>Supplement monthly FAC reports with any significant events affecting costs</p>	<p>Monthly FAC Report</p>
I.	<p>Summary of the ARR process and information</p>	<p>Annual AAA Filing, Attachment No. 11</p>
J.	<p>Generation Maintenance Expenses with a comparison to the maintenance budget filed in the utility's most recent rate case</p>	<p>Annual AAA Filing, Attachment No. 12</p>

The Department of Commerce - Division of Energy Resources Recommendations for Reporting Requirements for ASM Cost Recovery (Docket: E015/M-08-528)

	Reporting Requirement	Requirement Satisfied in Reporting Document
A.	<p>Not later than February 6, 2010, the utilities shall file a request to validate recovery to date and continue to recover ASM charges (credits and costs) including:</p> <ul style="list-style-type: none"> • Analysis of the costs and benefits of participation in ASM • Address the potential for double recovery of such costs <p>Upon request from any party, the utility shall submit their request for recovery with supporting analysis within 30 days of the request.</p>	Annual ASM Cost Benefit Filing completed and sent February 6, 2010
B.	<p>The utilities shall also provide quarterly reports addressing the costs and benefits resulting from their participation in ASM, beginning May 15, 2009. These reports will be submitted within 45 days after the end of the applicable calendar year.</p>	<p>Quarterly Filings sent May 15, 2009, August 15, 2009 and November 15, 2009</p> <p>Annual AAA Filing, Attachment No. 10</p>
C.	<p>The Department of Commerce - Division of Energy Resources recommends that the following be included in their final ASM Report:</p> <ul style="list-style-type: none"> • A list of whether and when MISO charged each utility for deployment failure in 2009 • The amount of any such charge • The cause for deployment failure or deployment that was late • Why the utility should be allowed to recover any such deployment charges <p>Minnesota Power to follow up in reply comments regarding the following:</p> <p>CRDFC -</p> <ul style="list-style-type: none"> • what the causes were for the penalties • why they should be recovered from ratepayers • how MP intends to address in the future <p>Regarding Excessive/Deficient -</p> <ul style="list-style-type: none"> • explain the causes for the charge • why it should be recovered from ratepayers <p>The Department of Commerce - Division of Energy Resources recommends that the utility address whether the current Purchase Power Agreements (PPA) provide for compensation to the utility when the generation under the PPA does not show up due to an outage or other problem</p> <p>If so, the utility should indicate whether that compensation is given back to ratepayers via the FAC</p> <p>If not, utilities should:</p> <ul style="list-style-type: none"> • Explain why its appropriate for ratepayers to pay those penalties 	Response comments filed July 28, 2010

	Reporting Requirement	Requirement Satisfied in Reporting Document
D.	<p>The Department of Commerce- Division of Energy Resources recommends that ASM Cost Recovery Analysis be reviewed in future AAA Filings in the formats used by Xcel and Minnesota Power including the written narratives;</p> <p>Format suggested:</p> <ul style="list-style-type: none"> • Minnesota Power's February 5, 2010 Attachment 1 for annual basis • Xcel's February 5, 2010 Attachment A for daily activity of ASM and overall net savings created by ASM plus the addition of year end totals • Written narrative consistent with Xcel and Minnesota Power's 4th quarter ASM Report <p>January 2010 - June 2010 on AAA report filed September 1, 2010</p> <p>July 2010 - June 2011 on AAA report filed September 1, 2011</p>	Annual AAA Filing, Attachment No. 10

Listing of Docket which impact the FAC (Docket No. E999/AA-15-611)

MN Docket No.	Order Dated
E015/M-05-277	December 20, 2006
E015/M-05-975	December 20, 2005
E015/M-08-528	August 23, 2010
E015/M-10-961	March 11, 2011
E015/M-11-234	September 8, 2011
E015/M-11-626	November 2, 2011
E015/GR-09-1151	December 10, 2012
E015/PA-01-539	April 26, 2002
E999/AA-04-1279	December 7, 2005
E999/AA-06-1208	February 7, 2008
E999/AA-07-1130	August 31, 2009
E999/AA-08-995	March 15, 2010
E999/AA-09-961	April 6, 2012
E999/AA-10-884	April 6, 2012
E999/AA-11-792	August 16, 2013
E999/AA-12-757	June 2, 2016
E999/AA-13-599	June 2, 2016
E999/AA-14-579	June 2, 2016
E999/GR-16-709	December 30, 2016
E999/M-15-773	December 12, 2016
E999/M-15-825	April 21, 2017
E999/AA-15-611	July 21, 2017

**Minnesota Power's
Monthly MISO Day 2 Charges and Allocation
Docket No. E999/AA-07-1130**

Description of the following categories shown in Attachment 9:

- 1) **FAC Retail** – Sales MWh subject to the retail FAC allocation. Includes residential, commercial, industrial, seasonal firm loads that are allocated the retail fuel adjustment clause.
- 2) **FAC Resale** – Sales MWh subject to the resale FAC allocation. Includes municipal customers; for example; City of Nashwauk, City of Proctor, etc. that are allocated the resale fuel adjustment clause.
- 3) **MISO Non-Liquidation** – Asset based sales MWh from generation resources to MISO in the Day-Ahead or Real- Time markets.
- 4) **MISO – Liquidation** – Non- asset based MWh sales to MISO, the source of which was a purchase from another entity that was intended to serve customer load but was not needed because generation levels were higher than expected or loads were lower than expected.
- 5) **Others – Liquidation** – Non-asset based sales MWh to other entities (not MISO), the source of which was a purchase from another entity that was intended to serve customer load but was not needed because generation levels were higher than expected or loads were lower than expected.
- 6) **Others – Non-Liquidation** – Asset based sales MWh from generation resources to other entities (not MISO) and is not under a longer term contract. This group also includes retail non-firm sales that are not allocated fuel adjustment clause costs such as Large Power Interruptible and Large Power Incremental Production Service Sales.
- 7) **Contract Sales** – Asset based sales MWh related to longer term contracts.

Day Ahead and Real-Time Energy costs assigned for categories 3-7 above:

Minnesota Power's Energy Pricing system assigns purchases and generation based on cost not category type. Minnesota Power assigns the highest cost generation or purchases to non-FAC sales first to help ensure that the FAC receives the lowest cost generation or purchases. Certain transactions do not follow this methodology. Output from our renewable resource generators and renewable energy contract purchases are dedicated to load to help meet our renewable mandate. Minnesota Power then determines the source of the FAC MWh by a separate analysis. A similar analysis is not done for non-FAC sales because there has not been a need to report the sources of non-FAC sales. The company does not have a system in place and has not seen the need to identify the sources of non-FAC sales. We are unable to identify what portion of Day Ahead and Real Time Energy was assigned to the other non-FAC categories.

As indicated as a footnote to the spreadsheet in our filing, Day Ahead Asset Energy, Real Time Asset Energy, Day Ahead Non-Asset Energy and Real Time Non-Asset Energy are not shown to be allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, and Contract Sales as these amounts are not tracked separately by Minnesota Power's systems as discussed above.

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	July 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	2,539,715.88 (1,974,564.31)										-				
Day Ahead Non-Asset Energy	55500-0027															
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(76,133.34)										-				
Excessive Energy Amount	55500-0066	63,058.55										-				
Non-Excessive Energy Amount	55500-0069	(141,229.10)										-				
Real Time Non-Asset Energy	55500-0043	145,842.21										-				
Subtotal		556,689.89		624,111	1,908,498.33			140,456	418,938.66			2,327,436.98	36,490			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	998,152.74			585,819.59		-		128,594.54		-	714,414.13		16,620.29		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	572,354.22			337,917.93		-		74,177.11		-	412,095.04		9,021.44		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	51,075.98			29,976.68		-		6,580.25		-	36,556.93		850.47		-
Real Time Distribution of Losses	55500-0041	(590,886.27)			-		(348,859.25)		-		(76,578.86)	(425,438.11)		-		(9,313.54)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		1,030,696.67		624,111	953,714.20	624,111	(348,859.25)	140,456	209,351.90	140,456	(76,578.86)	737,627.99	36,490	26,492.19	36,490	(9,313.54)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		624,111	-	624,111	-	140,456	-	140,456	-	-	36,490	-	36,490	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	126,940.72			74,945.80		-		16,451.52		-	91,397.32		2,000.84		-
Real Time Market Administration (Schedule 17)	55500-0036	9,506.04			5,612.37		-		1,231.98		-	6,844.35		149.83		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	5,369.86			3,170.37		-		695.93		-	3,866.30		84.64		-
Subtotal		141,816.62		624,111	83,728.53	624,111	-	140,456	18,379.43	140,456	-	102,107.97	36,490	2,235.31	36,490	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	July 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		(74,262.72)		-		(43,585.07)		-		(9,567.45)	(53,152.52)		-		(1,236.55)
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		118,464.71		69,527.39		-		15,262.11		-	84,789.49		1,972.56		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		500,434.71		295,456.65		-		64,856.34		-	360,312.99		7,887.84		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(137,413.20)		-		(81,128.75)		-		(17,808.75)	(98,937.50)		-		(2,165.90)
Financial Transmission Rights Annual Transaction Amount	55500-0059		222,562.34		131,400.81		-		28,844.08		-	160,244.88		3,508.02		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		13,639.76		8,052.91		-		1,767.71		-	9,820.63		214.99		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(54,564.72)		-		(32,215.01)		-		(7,071.59)	(39,286.60)		-		(860.05)
Financial Transmission Rights Hourly Allocation	55500-0032		(148,666.11)		-		(87,772.47)		-		(19,267.13)	(107,039.60)		-		(2,343.27)
Financial Transmission Rights Monthly Allocation	55500-0033		(21,105.40)		-		(12,460.63)		-		(2,735.26)	(15,195.89)		-		(332.66)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		14,704.09		8,681.29		-		1,905.65		-	10,586.94		231.77		-
FTR Guarantee Uplift Amount	55500-0055		(14,704.09)		-		(8,681.29)		-		(1,905.65)	(10,586.94)		-		(231.77)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		14,826.19		8,753.38		-		1,921.47		-	10,674.86		233.69		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			433,915.56	624,111	521,872.44	624,111	(265,843.23)	140,456	114,557.36	140,456	(58,355.83)	312,230.74	36,490	14,048.87	36,490	(7,170.21)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		19,455.87		11,486.75		-		2,521.48		-	14,008.23		306.66		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		437.91		258.54		-		56.75		-	315.30		6.90		-
Real Time Price Volatility Make Whole Payment	55500-0057		(86,871.04)		-		(51,288.66)		-		(11,258.49)	(62,547.15)		-		(1,369.26)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		33,604.73		19,840.23		-		4,355.17		-	24,195.41		529.68		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(34,233.50)		-		(20,211.46)		-		(4,436.66)	(24,648.12)		-		(539.59)
Subtotal			(67,606.03)	624,111	31,585.52	624,111	(71,500.12)	140,456	6,933.41	140,456	(15,695.15)	(48,676.34)	36,490	843.24	36,490	(1,908.85)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		17,588.91		10,384.49		-		2,279.52		-	12,664.02		277.24		-
Real Time Net Inadvertent Distribution	55500-0044		(119,847.07)		-		(70,757.71)		-		(15,532.18)	(86,289.89)		-		(1,889.03)
Real Time Revenue Neutrality Uplift Amount	55500-0045		172,540.62		101,867.98		-		22,361.26		-	124,229.25		2,719.58		-
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		0.05		0.03		-		0.01		-	0.04		0.00		-
Day Ahead Ramp Capability Amount	55500-0079		(2,071.52)		-		(1,223.03)		-		(268.47)	(1,491.49)		-		(32.65)
Real Time Ramp Capability Amount	55500-0080		306.42		180.91		-		39.71		-	220.62		4.83		-
Subtotal			68,517.41	624,111	112,433.41	624,111	(71,980.74)	140,456	24,680.51	140,456	(15,800.65)	49,332.54	36,490	3,001.65	36,490	(1,921.68)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	July 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		624,111	-	624,111	-	140,456	-	140,456	-	-	36,490	-	36,490	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(49,208.44)			-		(29,052.66)		-		(6,377.41)	(35,430.08)		-		(775.62)
Day Ahead Spinning Reserve Amount	55500-0063	(45,593.01)			-		(26,918.11)		-		(5,908.85)	(32,826.97)		-		(718.64)
Day Ahead Supplemental Reserve Amount	55500-0064	(1,034.99)			-		(611.06)		-		(134.13)	(745.19)		-		(16.31)
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	1,376.21			812.51		-		178.36		-	990.87		21.69		-
Real Time Regulation Amount	55500-0070	4,629.59			2,733.31		-		599.99		-	3,333.30		72.97		-
Regulation Reserve Cost Distribution Amount	55500-0071	22,176.76			13,093.16		-		2,874.11		-	15,967.27		349.55		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	9,448.44			5,578.36		-		1,224.52		-	6,802.88		148.93		-
Real Time Spinning Reserve Amount	55500-0072	1,459.20			861.51		-		189.11		-	1,050.62		23.00		-
Spinning Reserve Cost Distribution Amount	55500-0073	42,409.85			25,038.78		-		5,496.32		-	30,535.09		668.46		-
Real Time Supplemental Reserve Amount	55500-0074	80.90			47.76		-		10.48		-	58.25		1.28		-
Supplemental Reserve Cost Distribution Amount	55500-0075	29,240.68			17,263.70		-		3,789.59		-	21,053.29		460.89		-
Subtotal		14,985.19		624,111	65,429.09	-	(56,581.83)	140,456	14,362.48	-	(12,420.40)	10,789.34	-	1,746.77	-	(1,510.57)
Grand Total		2,179,015.31		624,111	3,677,261.52	624,111	(814,765.17)	140,456	807,203.75	140,456	(178,850.89)	3,490,849.21	36,490	48,368.04	36,490	(21,824.84)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	July 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		2,539,715.88																
Day Ahead Non-Asset Energy	55500-0027		(1,974,564.31)																
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(76,133.34)																
Excessive Energy Amount	55500-0066		63,058.55																
Non-Excessive Energy Amount	55500-0069		(141,229.10)																
Real Time Non-Asset Energy	55500-0043		145,842.21																
Subtotal			556,689.89	54,435				-				138,506				230,304			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		998,152.74																
Day Ahead Financial Bilateral Transaction Loss	55500-0022		572,354.22										63,086.57		-		204,031.75		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		51,075.98										34,243.19		-		116,994.55		-
Real Time Distribution of Losses	55500-0041		(590,886.27)										3,228.17		-		10,440.41		-
Real Time Financial Bilateral Transaction Loss	55500-0038		-										-		(35,351.94)		-		(120,782.68)
Subtotal			1,030,696.67	54,435	-	54,435	-	-	-	-	-	138,506	100,557.94	138,506	(35,351.94)	230,304	331,466.71	230,304	(120,782.68)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030		-																
Real Time Virtual Energy	55500-0049		-																
Subtotal			-	54,435	-	54,435	-	-	-	-	-	138,506	-	138,506	-	230,304	-	230,304	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020		126,940.72										7,594.69		-		25,947.87		-
Real Time Market Administration (Schedule 17)	55500-0036		9,506.04										568.73		-		1,943.12		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		5,369.86										321.27		-		1,097.65		-
Subtotal			141,816.62	54,435	-	54,435	-	-	-	-	-	138,506	8,484.70	138,506	-	230,304	28,988.64	230,304	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	July 2016		MISO - Liquidation		Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																		
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050	(74,262.72)										-	(4,693.65)		-		(15,179.99)	
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050	118,464.71										7,487.36	-		24,215.29		-	
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	500,434.71										29,940.34	-		102,293.53		-	
Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-	-		-		-	
Auction Revenue Rights Transaction Amount	55500-0058	(137,413.20)										-	(8,221.25)		-		(28,088.54)	
Financial Transmission Rights Annual Transaction Amount	55500-0059	222,562.34										13,315.61	-		45,493.82		-	
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	13,639.76										816.05	-		2,788.09		-	
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(54,564.72)										-	(3,264.53)		-		(11,153.54)	
Financial Transmission Rights Hourly Allocation	55500-0032	(148,666.11)										-	(8,894.50)		-		(30,388.74)	
Financial Transmission Rights Monthly Allocation	55500-0033	(21,105.40)										-	(1,262.71)		-		(4,314.14)	
Financial Transmission Rights Yearly Allocation	55500-0035	-										-	-		-		-	
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	14,704.09										879.73	-		3,005.65		-	
FTR Guarantee Uplift Amount	55500-0055	(14,704.09)										-	(879.73)		-		(3,005.65)	
Financial Transmission Rights Monthly Transaction Amount	55500-0056	14,826.19										887.03	-		3,030.61		-	
Financial Transmission Rights Transaction	55500-0034	-										-	-		-		-	
Subtotal			433,915.56	54,435	-	54,435	-	-	-	-	138,506	53,326.12	138,506	(27,216.36)	230,304	180,827.01	230,304	(92,130.61)
RSG & Make Whole Payments																		
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	19,455.87										1,164.02	-		3,976.96		-	
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	437.91										26.20	-		89.51		-	
Real Time Price Volatility Make Whole Payment	55500-0057	(86,871.04)										-	(5,197.38)		-		(17,757.25)	
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	33,604.73										2,010.53	-		6,869.12		-	
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(34,233.50)										-	(2,048.14)		-		(6,997.65)	
Subtotal			(67,606.03)	54,435	-	54,435	-	-	-	-	138,506	3,200.74	138,506	(7,245.52)	230,304	10,935.60	230,304	(24,754.90)
RNU & Misc Charges																		
Real Time Miscellaneous	55500-0042	17,588.91										1,052.32	-		3,595.34		-	
Real Time Net Inadvertent Distribution	55500-0044	(119,847.07)										-	(7,170.29)		-		(24,497.86)	
Real Time Revenue Neutrality Uplift Amount	55500-0045	172,540.62										10,322.88	-		35,268.92		-	
Real Time Uninstructed Deviation	55500-0048	-										-	-		-		-	
Demand Response Allocation Uplift Amount	55500-0077	0.05										0.00	-		0.01		-	
Day Ahead Ramp Capability Amount	55500-0079	(2,071.52)										-	(123.94)		-		(423.44)	
Real Time Ramp Capability Amount	55500-0080	306.42										18.33	-		62.64		-	
Subtotal			68,517.41	54,435	-	54,435	-	-	-	-	138,506	11,393.53	138,506	(7,294.23)	230,304	38,926.90	230,304	(24,921.30)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	July 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-	
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-	
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-	
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-	
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-	
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-	
Subtotal			-	54,435	-	54,435	-	-	-	-	-	138,506	-	138,506	-	230,304	-	230,304	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062	(49,208.44)										-	(2,944.08)			-		(10,058.67)	
Day Ahead Spinning Reserve Amount	55500-0063	(45,593.01)										-	(2,727.77)			-		(9,319.64)	
Day Ahead Supplemental Reserve Amount	55500-0064	(1,034.99)										-	(61.92)			-		(211.56)	
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-	-			-		-	
Net Regulation Adjustment Amount	55500-0068	1,376.21										82.34	-			281.31		-	
Real Time Regulation Amount	55500-0070	4,629.59										276.98	-			946.33		-	
Regulation Reserve Cost Distribution Amount	55500-0071	22,176.76										1,326.81	-			4,533.14		-	
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	9,448.44										565.29	-			1,931.35		-	
Real Time Spinning Reserve Amount	55500-0072	1,459.20										87.30	-			298.27		-	
Spinning Reserve Cost Distribution Amount	55500-0073	42,409.85										2,537.32	-			8,668.97		-	
Real Time Supplemental Reserve Amount	55500-0074	80.90										4.84	-			16.54		-	
Supplemental Reserve Cost Distribution Amount	55500-0075	29,240.68										1,749.43	-			5,977.07		-	
Subtotal			14,985.19	-	-	-	-	-	-	-	-	6,630.31	-	(5,733.77)	-	22,652.98	-	(19,589.86)	
Grand Total			2,179,015.31	54,435	-	54,435	-	-	-	-	-	138,506	183,593.35	138,506	(82,841.82)	230,304	613,797.83	230,304	(282,179.35)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	August 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	4,094,247.78										-				
Day Ahead Non-Asset Energy	55500-0027	(1,728,020.61)										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(286,255.90)										-				
Excessive Energy Amount	55500-0066	166,915.26										-				
Non-Excessive Energy Amount	55500-0069	212,591.28										-				
Real Time Non-Asset Energy	55500-0043	(104,678.41)										-				
Subtotal		2,354,799.40	632,394	2,897,025.50				144,353	679,549.19			3,576,574.69	21,233			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	1,286,790.58			754,067.85		-		176,880.11		-	930,947.97		11,361.94		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	533,307.15			311,024.73		-		72,956.42		-	383,981.15		4,951.09		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	27,493.19			16,111.19		-		3,779.17		-	19,890.36		242.76		-
Real Time Distribution of Losses	55500-0041	(609,286.87)			-		(355,336.10)		-		(83,350.44)	(438,686.55)		-		(5,656.46)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		1,238,304.06	632,394	1,081,203.78	632,394	(355,336.10)		144,353	253,615.70	144,353	(83,350.44)	896,132.93	21,233	16,555.78	21,233	(5,656.46)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-	632,394	-	632,394	-		144,353	-	144,353	-	-	21,233	-	21,233	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	99,767.05			58,184.14		-		13,648.13		-	71,832.28		926.21		-
Real Time Market Administration (Schedule 17)	55500-0036	8,001.05			4,666.21		-		1,094.54		-	5,760.76		74.28		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,430.54			2,583.89		-		606.10		-	3,189.99		41.13		-
Subtotal		112,198.64	632,394	65,434.25	632,394	-		144,353	15,348.77	144,353	-	80,783.02	21,233	1,041.62	21,233	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	August 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		639,334.22		374,654.11		-		87,881.83		-	462,535.94		5,645.11		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		243,690.56		142,804.29		-		33,497.30		-	176,301.60		2,151.71		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		219,014.27		127,729.12		-		29,961.15		-	157,690.27		2,033.27		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(137,413.20)		-		(80,139.38)		-		(18,798.13)	(98,937.50)		-		(1,275.71)
Financial Transmission Rights Annual Transaction Amount	55500-0059		222,562.34		129,798.36		-		30,446.53		-	160,244.88		2,066.21		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		13,639.76		7,954.71		-		1,865.92		-	9,820.63		126.63		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(52,229.39)		-		(30,460.18)		-		(7,144.98)	(37,605.16)		-		(484.88)
Financial Transmission Rights Hourly Allocation	55500-0032		(386,530.31)		-		(225,424.48)		-		(52,877.35)	(278,301.82)		-		(3,588.45)
Financial Transmission Rights Monthly Allocation	55500-0033		(6,973.14)		-		(4,066.74)		-		(953.93)	(5,020.66)		-		(64.74)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		(13,796.30)		-		(8,046.00)		-		(1,887.33)	(9,933.34)		-		(128.08)
FTR Guarantee Uplift Amount	55500-0055		13,796.30		8,046.00		-		1,887.33		-	9,933.34		128.08		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056		6,152.01		3,587.85		-		841.59		-	4,429.45		57.11		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			761,247.12	632,394	794,574.44	632,394	(348,136.77)	144,353	186,381.66	144,353	(81,661.71)	551,157.62	21,233	12,208.12	21,233	(5,541.86)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		16,262.23		9,484.13		-		2,224.67		-	11,708.81		150.97		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(7,202.19)		-		(4,200.32)		-		(985.26)	(5,185.58)		-		(66.86)
Real Time Price Volatility Make Whole Payment	55500-0057		(34,179.47)		-		(19,933.47)		-		(4,675.75)	(24,609.22)		-		(317.31)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		53,192.84		31,022.06		-		7,276.78		-	38,298.84		493.83		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(15,581.04)		-		(9,086.86)		-		(2,131.49)	(11,218.35)		-		(144.65)
Subtotal			12,492.37	632,394	40,506.20	632,394	(33,220.65)	144,353	9,501.45	144,353	(7,792.50)	8,994.51	21,233	644.80	21,233	(528.83)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		29,121.60		16,983.72		-		3,983.83		-	20,967.55		270.36		-
Real Time Net Inadvertent Distribution	55500-0044		(220,748.29)		-		(128,740.40)		-		(30,198.37)	(158,938.77)		-		(2,049.37)
Real Time Revenue Neutrality Uplift Amount	55500-0045		357,849.70		208,697.95		-		48,953.84		-	257,651.78		3,322.18		-
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(1,488.93)		-		(868.34)		-		(203.69)	(1,072.03)		-		(13.82)
Real Time Ramp Capability Amount	55500-0080		(233.50)		-		(136.18)		-		(31.94)	(168.12)		-		(2.17)
Subtotal			164,500.58	632,394	225,681.66	632,394	(129,744.92)	144,353	52,937.67	144,353	(30,433.99)	118,440.42	21,233	3,592.54	21,233	(2,065.36)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	August 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		632,394	-	632,394	-	144,353	-	144,353	-	-	21,233	-	21,233	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(24,927.09)			-		(14,537.48)		-		(3,410.03)	(17,947.50)		-		(231.42)
Day Ahead Spinning Reserve Amount	55500-0063	(44,242.60)			-		(25,802.28)		-		(6,052.39)	(31,854.67)		-		(410.74)
Day Ahead Supplemental Reserve Amount	55500-0064	212.94			124.19		-		29.13		-	153.32		1.98		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	197.37			115.11		-		27.00		-	142.11		1.83		-
Net Regulation Adjustment Amount	55500-0068	17.66			10.30		-		2.42		-	12.72		0.16		-
Real Time Regulation Amount	55500-0070	(9,054.77)			-		(5,280.74)		-		(1,238.69)	(6,519.43)		-		(84.06)
Regulation Reserve Cost Distribution Amount	55500-0071	22,094.28			12,885.38		-		3,022.50		-	15,907.88		205.12		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	9,957.45			5,807.18		-		1,362.18		-	7,169.36		92.44		-
Real Time Spinning Reserve Amount	55500-0072	1,500.61			875.16		-		205.28		-	1,080.44		13.93		-
Spinning Reserve Cost Distribution Amount	55500-0073	30,160.75			17,589.75		-		4,125.99		-	21,715.74		280.00		-
Real Time Supplemental Reserve Amount	55500-0074	(66.63)			-		(38.86)		-		(9.11)	(47.97)		-		(0.62)
Supplemental Reserve Cost Distribution Amount	55500-0075	20,009.11			11,669.31		-		2,737.25		-	14,406.56		185.76		-
Subtotal		5,859.08		632,394	49,076.38	-	(45,659.36)	144,353	11,511.74	-	(10,710.22)	4,218.54	-	781.23	-	(726.83)
Grand Total		4,649,401.25		632,394	5,153,502.20	632,394	(912,097.81)	144,353	1,208,846.20	144,353	(213,948.87)	5,236,301.72	21,233	34,824.10	21,233	(14,519.34)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	August 2016				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue				
Day Ahead and Real Time Energy																						
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		4,094,247.78																			
Day Ahead Non-Asset Energy	55500-0027		(1,728,020.61)																			
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(286,255.90)																			
Excessive Energy Amount	55500-0066		166,915.26																			
Non-Excessive Energy Amount	55500-0069		212,591.28																			
Real Time Non-Asset Energy	55500-0043		(104,678.41)																			
Subtotal			2,354,799.40	55,380			-				140,795				235,260							
Day Ahead and Real Time Energy Loss																						
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		1,286,790.58									75,340.96		-		269,139.72		-				
Day Ahead Financial Bilateral Transaction Loss	55500-0022		533,307.15									32,830.63		-		111,544.29		-				
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		27,493.19									1,609.71		-		5,750.36		-				
Real Time Distribution of Losses	55500-0041		(609,286.87)									-		(37,507.98)		-		(127,435.89)				
Real Time Financial Bilateral Transaction Loss	55500-0038		-									-		-		-		-				
Subtotal			1,238,304.06	55,380	-	55,380	-	-	-	-	140,795	109,781.31	140,795	(37,507.98)	235,260	386,434.37	235,260	(127,435.89)				
Virtual Energy																						
Day Ahead Virtual Energy	55500-0030		-																			
Real Time Virtual Energy	55500-0049		-																			
Subtotal			-	55,380	-	55,380	-	-	-	-	140,795	-	140,795	-	235,260	-	235,260	-				
Schedule 16 & 17 1/																						
Day Ahead Market Administration (Schedule 17)	55500-0020		99,767.05									6,141.70		-		20,866.86		-				
Real Time Market Administration (Schedule 17)	55500-0036		8,001.05									492.55		-		1,673.47		-				
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		4,430.54									272.75		-		926.67		-				
Subtotal			112,198.64	55,380	-	55,380	-	-	-	-	140,795	6,907.00	140,795	-	235,260	23,467.00	235,260	-				

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	August 2016		MISO - Liquidation		Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																		
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		639,334.22									37,432.71		-		133,720.46		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		243,690.56									14,267.96		-		50,969.30		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		219,014.27									13,482.62		-		45,808.11		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-									-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(137,413.20)									-		(8,459.22)		-		(28,740.77)
Financial Transmission Rights Annual Transaction Amount	55500-0059		222,562.34									13,701.04		-		46,550.21		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		13,639.76									839.67		-		2,852.83		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(52,229.39)									-		(3,215.27)		-		(10,924.08)
Financial Transmission Rights Hourly Allocation	55500-0032		(386,530.31)									-		(23,794.98)		-		(80,845.06)
Financial Transmission Rights Monthly Allocation	55500-0033		(6,973.14)									-		(429.27)		-		(1,458.47)
Financial Transmission Rights Yearly Allocation	55500-0035		-									-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		(13,796.30)									-		(849.31)		-		(2,885.58)
FTR Guarantee Uplift Amount	55500-0055		13,796.30									849.31		-		2,885.58		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056		6,152.01									378.72		-		1,286.73		-
Financial Transmission Rights Transaction	55500-0034		-									-		-		-		-
Subtotal			761,247.12	55,380	-	55,380	-	-	-	-	140,795	80,952.02	140,795	(36,748.04)	235,260	284,073.21	235,260	(124,853.96)
RSG & Make Whole Payments																		
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		16,262.23									1,001.11		-		3,401.34		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(7,202.19)									-		(443.37)		-		(1,506.38)
Real Time Price Volatility Make Whole Payment	55500-0057		(34,179.47)									-		(2,104.10)		-		(7,148.83)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		53,192.84									3,274.58		-		11,125.59		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(15,581.04)									-		(959.18)		-		(3,258.86)
Subtotal			12,492.37	55,380	-	55,380	-	-	-	-	140,795	4,275.69	140,795	(3,506.65)	235,260	14,526.93	235,260	(11,914.08)
RNU & Misc Charges																		
Real Time Miscellaneous	55500-0042		29,121.60									1,792.74		-		6,090.95		-
Real Time Net Inadvertent Distribution	55500-0044		(220,748.29)									-		(13,589.37)		-		(46,170.79)
Real Time Revenue Neutrality Uplift Amount	55500-0045		357,849.70									22,029.39		-		74,846.34		-
Real Time Uninstructed Deviation	55500-0048		-									-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-									-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(1,488.93)									-		(91.66)		-		(311.42)
Real Time Ramp Capability Amount	55500-0080		(233.50)									-		(14.37)		-		(48.84)
Subtotal			164,500.58	55,380	-	55,380	-	-	-	-	140,795	23,822.13	140,795	(13,695.40)	235,260	80,937.29	235,260	(46,531.04)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	August 2016				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue				
Grandfathered Charge Types																						
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-				
Subtotal			-	55,380	-	55,380	-	-	-	-	-	140,795	-	140,795	-	235,260	-	235,260	-			
ASM Charge Types (12 Other)																						
Day Ahead Regulation Amount	55500-0062	(24,927.09)										-		(1,534.52)		-		(5,213.65)				
Day Ahead Spinning Reserve Amount	55500-0063	(44,242.60)										-		(2,723.59)		-		(9,253.60)				
Day Ahead Supplemental Reserve Amount	55500-0064	212.94										13.11		-		44.54		-				
Contingency Reserve Deployment Failure Charge Amount	55500-0065	197.37										12.15		-		41.28		-				
Net Regulation Adjustment Amount	55500-0068	17.66										1.09		-		3.69		-				
Real Time Regulation Amount	55500-0070	(9,054.77)										-		(557.42)		-		(1,893.86)				
Regulation Reserve Cost Distribution Amount	55500-0071	22,094.28										1,360.13		-		4,621.15		-				
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	9,957.45										612.99		-		2,082.66		-				
Real Time Spinning Reserve Amount	55500-0072	1,500.61										92.38		-		313.86		-				
Spinning Reserve Cost Distribution Amount	55500-0073	30,160.75										1,856.71		-		6,308.30		-				
Real Time Supplemental Reserve Amount	55500-0074	(66.63)										-		(4.10)		-		(13.94)				
Supplemental Reserve Cost Distribution Amount	55500-0075	20,009.11										1,231.77		-		4,185.02		-				
Subtotal			5,859.08	55,380	-	-	-	-	-	-	-	5,180.32	-	(4,819.64)	-	17,600.50	-	(16,375.04)				
Grand Total			4,649,401.25	55,380	-	55,380	-	-	-	-	-	140,795	230,918.47	140,795	(96,277.70)	235,260	807,039.29	235,260	(327,110.00)			

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	September 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	1,433,633.90										-				
Day Ahead Non-Asset Energy	55500-0027	(863,703.25)										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(592,586.53)										-				
Excessive Energy Amount	55500-0066	64,933.53										-				
Non-Excessive Energy Amount	55500-0069	57,550.75										-				
Real Time Non-Asset Energy	55500-0043	(86,344.66)										-				
Subtotal		13,483.73		646,004	1,696,062.74			126,840	323,059.57			2,019,122.31	23,290			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	1,063,381.47			629,561.81		-		119,916.53		-	749,478.34		20,619.89		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	505,590.86			297,287.43		-		56,626.18		-	353,913.60		10,169.96		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	(31,041.28)			-		(18,377.61)		-		(3,500.50)	(21,878.10)		-		(601.92)
Real Time Distribution of Losses	55500-0041	(116,381.60)			-		(68,432.38)		-		(13,034.74)	(81,467.12)		-		(2,341.02)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		1,421,549.45		646,004	926,849.23	646,004	(86,809.99)	126,840	176,542.71	126,840	(16,535.24)	1,000,046.72	23,290	30,789.85	23,290	(2,942.93)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		646,004	-	646,004	-	126,840	-	126,840	-	-	23,290	-	23,290	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	143,928.82			84,630.15		-		16,120.03		-	100,750.17		2,895.13		-
Real Time Market Administration (Schedule 17)	55500-0036	11,733.99			6,899.59		-		1,314.21		-	8,213.79		236.03		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,032.40			2,371.05		-		451.63		-	2,822.68		81.11		-
Subtotal		159,695.21		646,004	93,900.78	646,004	-	126,840	17,885.86	126,840	-	111,786.65	23,290	3,212.27	23,290	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	September 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
Congestion, FTRs & ARRs				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		504,772.33		298,844.20		-		56,922.70		-	355,766.90		9,787.97		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		193,652.22		114,649.39		-		21,837.98		-	136,487.37		3,755.08		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		659,965.98		388,060.00		-		73,916.19		-	461,976.19		13,275.22		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(231,950.32)		-		(136,386.79)		-		(25,978.44)	(162,365.22)		-		(4,665.68)
Financial Transmission Rights Annual Transaction Amount	55500-0059		310,035.54		182,300.90		-		34,723.98		-	217,024.88		6,236.36		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		16,702.15		9,820.86		-		1,870.64		-	11,691.51		335.96		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(48,889.22)		-		(28,746.86)		-		(5,475.59)	(34,222.45)		-		(983.41)
Financial Transmission Rights Hourly Allocation	55500-0032		(25,292.31)		-		(14,871.88)		-		(2,832.74)	(17,704.62)		-		(508.75)
Financial Transmission Rights Monthly Allocation	55500-0033		(24,922.21)		-		(14,654.26)		-		(2,791.29)	(17,445.55)		-		(501.31)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		4,619.53		2,716.28		-		517.39		-	3,233.67		92.92		-
FTR Guarantee Uplift Amount	55500-0055		(4,619.53)		-		(2,716.28)		-		(517.39)	(3,233.67)		-		(92.92)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		-		-		-		-		-	-		-		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			1,354,074.16	646,004	996,391.63	646,004	(197,376.07)	126,840	189,788.88	126,840	(37,595.44)	951,209.00	23,290	33,483.52	23,290	(6,752.07)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		33,274.79		19,565.58		-		3,726.78		-	23,292.35		669.32		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		1,566.50		921.10		-		175.45		-	1,096.55		31.51		-
Real Time Price Volatility Make Whole Payment	55500-0057		(35,502.11)		-		(20,875.24)		-		(3,976.24)	(24,851.48)		-		(714.12)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		125,402.04		73,736.40		-		14,045.03		-	87,781.43		2,522.46		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(16,437.27)		-		(9,665.11)		-		(1,840.97)	(11,506.09)		-		(330.64)
Subtotal			108,303.95	646,004	94,223.08	646,004	(30,540.36)	126,840	17,947.25	126,840	(5,817.21)	75,812.77	23,290	3,223.29	23,290	(1,044.76)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		18,871.37		11,096.37		-		2,113.59		-	13,209.96		379.60		-
Real Time Net Inadvertent Distribution	55500-0044		100,786.55		59,262.49		-		11,288.09		-	70,550.59		2,027.32		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		(92,689.81)		-		(54,501.61)		-		(10,381.26)	(64,882.87)		-		(1,864.46)
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(481.62)		-		(283.19)		-		(53.94)	(337.13)		-		(9.69)
Real Time Ramp Capability Amount	55500-0080		(89.88)		-		(52.85)		-		(10.07)	(62.92)		-		(1.81)
Subtotal			26,396.61	646,004	70,358.86	646,004	(54,837.65)	126,840	13,401.69	126,840	(10,445.27)	18,477.63	23,290	2,406.92	23,290	(1,875.95)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	September 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		646,004	-	646,004	-	126,840	-	126,840	-	-	23,290	-	23,290	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(30,331.74)			-		(17,835.06)		-		(3,397.15)	(21,232.22)		-		(610.12)
Day Ahead Spinning Reserve Amount	55500-0063	(15,702.34)			-		(9,232.98)		-		(1,758.66)	(10,991.64)		-		(315.85)
Day Ahead Supplemental Reserve Amount	55500-0064	4.69			2.76		-		0.53		-	3.28		0.09		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	218.21			128.31		-		24.44		-	152.75		4.39		-
Real Time Regulation Amount	55500-0070	4,527.55			2,662.20		-		507.09		-	3,169.29		91.07		-
Regulation Reserve Cost Distribution Amount	55500-0071	21,250.77			12,495.45		-		2,380.09		-	14,875.54		427.46		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	10,909.60			6,414.84		-		1,221.88		-	7,636.72		219.45		-
Real Time Spinning Reserve Amount	55500-0072	(3,710.46)			-		(2,181.75)		-		(415.57)	(2,597.32)		-		(74.64)
Spinning Reserve Cost Distribution Amount	55500-0073	26,174.00			15,390.31		-		2,931.49		-	18,321.80		526.49		-
Real Time Supplemental Reserve Amount	55500-0074	(2.45)			-		(1.44)		-		(0.27)	(1.72)		-		(0.05)
Supplemental Reserve Cost Distribution Amount	55500-0075	15,011.16			8,826.56		-		1,681.25		-	10,507.81		301.95		-
Subtotal		28,348.99		646,004	45,920.44	-	(29,251.23)	126,840	8,746.75	-	(5,571.66)	19,844.29	-	1,570.90	-	(1,000.66)
Grand Total		3,111,852.10		646,004	3,923,706.76	646,004	(398,815.29)	126,840	747,372.72	126,840	(75,964.82)	4,196,299.37	23,290	74,686.76	23,290	(13,616.38)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines
Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE
DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	September 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		1,433,633.90																
Day Ahead Non-Asset Energy	55500-0027		(863,703.25)																
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(592,586.53)																
Excessive Energy Amount	55500-0066		64,933.53																
Non-Excessive Energy Amount	55500-0069		57,550.75																
Real Time Non-Asset Energy	55500-0043		(86,344.66)																
Subtotal			13,483.73	74,982				-				131,307				168,008			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		1,063,381.47																
Day Ahead Financial Bilateral Transaction Loss	55500-0022		505,590.86										116,251.87		-		177,031.36		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		(31,041.28)																
Real Time Distribution of Losses	55500-0041		(116,381.60)										-		(3,393.52)		-		(5,167.74)
Real Time Financial Bilateral Transaction Loss	55500-0038		-										-		(13,198.30)		-		(19,375.17)
Subtotal			1,421,549.45	74,982	-	74,982	-	-	-	-	-	131,307	173,588.59	131,307	(16,591.82)	168,008	261,201.95	168,008	(24,542.91)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030		-																
Real Time Virtual Energy	55500-0049		-																
Subtotal			-	74,982	-	74,982	-	-	-	-	-	131,307	-	131,307	-	168,008	-	168,008	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020		143,928.82										16,322.30		-		23,961.22		-
Real Time Market Administration (Schedule 17)	55500-0036		11,733.99										1,330.70		-		1,953.47		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		4,032.40										457.30		-		671.31		-
Subtotal			159,695.21	74,982	-	74,982	-	-	-	-	-	131,307	18,110.29	131,307	-	168,008	26,586.00	168,008	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	September 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																			
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		504,772.33										55,183.14		-		84,034.32		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		193,652.22										21,170.61		-		32,239.15		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		659,965.98										74,843.68		-		109,870.90		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-										-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(231,950.32)										-		(26,304.41)		-		(38,615.01)
Financial Transmission Rights Annual Transaction Amount	55500-0059		310,035.54										35,159.69		-		51,614.60		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		16,702.15										1,894.11		-		2,780.57		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(48,889.22)										-		(5,544.30)		-		(8,139.06)
Financial Transmission Rights Hourly Allocation	55500-0032		(25,292.31)										-		(2,868.28)		-		(4,210.65)
Financial Transmission Rights Monthly Allocation	55500-0033		(24,922.21)										-		(2,826.31)		-		(4,149.04)
Financial Transmission Rights Yearly Allocation	55500-0035		-										-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		4,619.53										523.88		-		769.06		-
FTR Guarantee Uplift Amount	55500-0055		(4,619.53)										-		(523.88)		-		(769.06)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		-										-		-		-		-
Financial Transmission Rights Transaction	55500-0034		-										-		-		-		-
Subtotal			1,354,074.16	74,982	-	74,982	-	-	-	-	-	131,307	188,775.12	131,307	(38,067.19)	168,008	281,308.59	168,008	(55,882.82)
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		33,274.79										3,773.54		-		5,539.58		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		1,566.50										177.65		-		260.79		-
Real Time Price Volatility Make Whole Payment	55500-0057		(35,502.11)										-		(4,026.13)		-		(5,910.38)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		125,402.04										14,221.26		-		20,876.89		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(16,437.27)										-		(1,864.07)		-		(2,736.47)
Subtotal			108,303.95	74,982	-	74,982	-	-	-	-	-	131,307	18,172.45	131,307	(5,890.20)	168,008	26,677.25	168,008	(8,646.85)
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042		18,871.37										2,140.11		-		3,141.70		-
Real Time Net Inadvertent Distribution	55500-0044		100,786.55										11,429.74		-		16,778.91		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		(92,689.81)										-		(10,511.52)		-		(15,430.97)
Real Time Uninstructed Deviation	55500-0048		-										-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-										-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(481.62)										-		(54.62)		-		(80.18)
Real Time Ramp Capability Amount	55500-0080		(89.88)										-		(10.19)		-		(14.96)
Subtotal			26,396.61	74,982	-	74,982	-	-	-	-	-	131,307	13,569.85	131,307	(10,576.33)	168,008	19,920.61	168,008	(15,526.11)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	September 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-	
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-	
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-	
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-	
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-	
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-	
Subtotal			-	74,982	-	74,982	-	-	-	-	-	131,307	-	131,307	-	168,008	-	168,008	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062	(30,331.74)										-	(3,439.78)			-		(5,049.62)	
Day Ahead Spinning Reserve Amount	55500-0063	(15,702.34)										-	(1,780.73)			-		(2,614.12)	
Day Ahead Supplemental Reserve Amount	55500-0064	4.69										0.53	-			0.78		-	
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-	-			-		-	
Net Regulation Adjustment Amount	55500-0068	218.21										24.75	-			36.33		-	
Real Time Regulation Amount	55500-0070	4,527.55										513.45	-			753.74		-	
Regulation Reserve Cost Distribution Amount	55500-0071	21,250.77										2,409.95	-			3,537.82		-	
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	10,909.60										1,237.21	-			1,816.23		-	
Real Time Spinning Reserve Amount	55500-0072	(3,710.46)										-	(420.79)			-		(617.72)	
Spinning Reserve Cost Distribution Amount	55500-0073	26,174.00										2,968.27	-			4,357.44		-	
Real Time Supplemental Reserve Amount	55500-0074	(2.45)										-	(0.28)			-		(0.41)	
Supplemental Reserve Cost Distribution Amount	55500-0075	15,011.16										1,702.35	-			2,499.05		-	
Subtotal			28,348.99	-	-	-	-	-	-	-	-	8,856.50	-	(5,641.58)	-	13,001.39	-	(8,281.86)	
Grand Total			3,111,852.10	74,982	-	74,982	-	-	-	-	-	131,307	421,072.80	131,307	(76,767.12)	168,008	628,695.79	168,008	(112,880.55)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	October 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	5,690,180.49										-				
Day Ahead Non-Asset Energy	55500-0027	(864,988.32)										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(946,024.00)										-				
Excessive Energy Amount	55500-0066	48,043.90										-				
Non-Excessive Energy Amount	55500-0069	(35,519.49)										-				
Real Time Non-Asset Energy	55500-0043	(177,948.50)										-				
Subtotal		3,713,744.07		643,013	4,404,198.47			130,031	902,064.75			5,306,263.21	1,073			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	838,375.11			505,301.04		-		103,495.39		-	608,796.43		741.75		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	382,041.39			231,478.88		-		47,411.34		-	278,890.21		328.08		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	(40,589.98)			-		(24,464.18)		-		(5,010.73)	(29,474.91)		-		(35.91)
Real Time Distribution of Losses	55500-0041	(248,717.00)			-		(150,697.63)		-		(30,865.78)	(181,563.41)		-		(213.59)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		931,109.53		643,013	736,779.91	643,013	(175,161.81)	130,031	150,906.73	130,031	(35,876.51)	676,648.32	1,073	1,069.82	1,073	(249.50)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		643,013	-	643,013	-	130,031	-	130,031	-	-	1,073	-	1,073	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	109,150.42			66,134.24		-		13,545.57		-	79,679.81		93.73		-
Real Time Market Administration (Schedule 17)	55500-0036	9,287.82			5,627.49		-		1,152.62		-	6,780.11		7.98		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	1,636.59			991.61		-		203.10		-	1,194.71		1.41		-
Subtotal		120,074.83		643,013	72,753.34	643,013	-	130,031	14,901.29	130,031	-	87,654.63	1,073	103.11	1,073	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	October 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
Congestion, FTRs & ARRs				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		482,263.54		290,667.34		-		59,534.27		-	350,201.61		426.68		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		56,059.47		33,787.87		-		6,920.41		-	40,708.28		49.60		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		357,623.66		216,684.18		-		44,381.10		-	261,065.27		307.11		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(231,950.32)		-		(140,538.70)		-		(28,785.03)	(169,323.73)		-		(199.19)
Financial Transmission Rights Annual Transaction Amount	55500-0059		310,035.54		187,850.53		-		38,475.41		-	226,325.94		266.24		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		16,702.15		10,119.83		-		2,072.74		-	12,192.57		14.34		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(49,039.24)		-		(29,712.88)		-		(6,085.77)	(35,798.65)		-		(42.11)
Financial Transmission Rights Hourly Allocation	55500-0032		(174,296.75)		-		(105,606.40)		-		(21,630.23)	(127,236.63)		-		(149.68)
Financial Transmission Rights Monthly Allocation	55500-0033		(17,136.93)		-		(10,383.27)		-		(2,126.69)	(12,509.96)		-		(14.72)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		(12,685.60)		-		(7,686.21)		-		(1,574.28)	(9,260.49)		-		(10.89)
FTR Guarantee Uplift Amount	55500-0055		12,062.06		7,308.40		-		1,496.90		-	8,805.30		10.36		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056		-		-		-		-		-	-		-		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			749,637.58	643,013	746,418.15	643,013	(293,927.45)	130,031	152,880.83	130,031	(60,202.01)	545,169.53	1,073	1,074.33	1,073	(416.59)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		30,497.83		18,478.64		-		3,784.78		-	22,263.42		26.19		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(166.35)		-		(100.79)		-		(20.64)	(121.44)		-		(0.14)
Real Time Price Volatility Make Whole Payment	55500-0057		(16,117.98)		-		(9,765.88)		-		(2,000.24)	(11,766.13)		-		(13.84)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		9,946.06		6,026.32		-		1,234.31		-	7,260.62		8.54		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		-		-		-		-		-	-		-		-
Subtotal			24,159.56	643,013	24,504.95	643,013	(9,866.68)	130,031	5,019.09	130,031	(2,020.89)	17,636.48	1,073	34.73	1,073	(13.98)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		26,270.45		15,917.27		-		3,260.16		-	19,177.43		22.56		-
Real Time Net Inadvertent Distribution	55500-0044		97,178.86		58,880.67		-		12,059.90		-	70,940.57		83.45		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		154,719.97		93,744.83		-		19,200.75		-	112,945.58		132.87		-
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		(0.05)		-		(0.03)		-		(0.01)	(0.04)		-		(0.00)
Day Ahead Ramp Capability Amount	55500-0079		(20.85)		-		(12.63)		-		(2.59)	(15.22)		-		(0.02)
Real Time Ramp Capability Amount	55500-0080		21.91		13.28		-		2.72		-	15.99		0.02		-
Subtotal			278,170.29	643,013	168,556.04	643,013	(12.66)	130,031	34,523.53	130,031	(2.59)	203,064.31	1,073	238.90	1,073	(0.02)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	October 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		643,013	-	643,013	-	130,031	-	130,031	-	-	1,073	-	1,073	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	2,370.18			1,436.09		-		294.14		-	1,730.23		2.04		-
Day Ahead Spinning Reserve Amount	55500-0063	(23,816.36)			-		(14,430.33)		-		(2,955.61)	(17,385.94)		-		(20.45)
Day Ahead Supplemental Reserve Amount	55500-0064	-			-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(373.93)			-		(226.56)		-		(46.40)	(272.97)		-		(0.32)
Real Time Regulation Amount	55500-0070	(1,112.72)			-		(674.20)		-		(138.09)	(812.29)		-		(0.96)
Regulation Reserve Cost Distribution Amount	55500-0071	32,772.93			19,857.12		-		4,067.12		-	23,924.24		28.14		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	5,369.48			3,253.37		-		666.35		-	3,919.72		4.61		-
Real Time Spinning Reserve Amount	55500-0072	(74.38)			-		(45.07)		-		(9.23)	(54.30)		-		(0.06)
Spinning Reserve Cost Distribution Amount	55500-0073	42,896.03			25,990.70		-		5,323.40		-	31,314.10		36.84		-
Real Time Supplemental Reserve Amount	55500-0074	-			-		-		-		-	-		-		-
Supplemental Reserve Cost Distribution Amount	55500-0075	16,114.27			9,763.64		-		1,999.78		-	11,763.42		13.84		-
Subtotal		74,145.50		643,013	60,300.92	-	(15,376.16)	130,031	12,350.79	-	(3,149.33)	54,126.22	-	85.47	-	(21.79)
Grand Total		5,891,041.36		643,013	6,213,511.79	643,013	(494,344.75)	130,031	1,272,646.99	130,031	(101,251.33)	6,890,562.69	1,073	2,606.36	1,073	(701.88)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	October 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		5,690,180.49																
Day Ahead Non-Asset Energy	55500-0027		(864,988.32)																
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(946,024.00)																
Excessive Energy Amount	55500-0066		48,043.90																
Non-Excessive Energy Amount	55500-0069		(35,519.49)																
Real Time Non-Asset Energy	55500-0043		(177,948.50)																
Subtotal			3,713,744.07	55,107				-				157,311				148,800			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		838,375.11										108,777.45		-		120,059.50		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022		382,041.39										48,112.87		-		54,710.23		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		(40,589.98)										-		(5,266.47)		-		(5,812.69)
Real Time Distribution of Losses	55500-0041		(248,717.00)										-		(31,322.49)		-		(35,617.51)
Real Time Financial Bilateral Transaction Loss	55500-0038		-										-		-		-		-
Subtotal			931,109.53	55,107	-	55,107	-	-	-	-	-	157,311	156,890.31	157,311	(36,588.96)	148,800	174,769.73	148,800	(41,430.20)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030		-																
Real Time Virtual Energy	55500-0049		-																
Subtotal			-	55,107	-	55,107	-	-	-	-	-	157,311	-	157,311	-	148,800	-	148,800	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020		109,150.42										13,746.00		-		15,630.88		-
Real Time Market Administration (Schedule 17)	55500-0036		9,287.82										1,169.67		-		1,330.06		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		1,636.59										206.11		-		234.37		-
Subtotal			120,074.83	55,107	-	55,107	-	-	-	-	-	157,311	15,121.78	157,311	-	148,800	17,195.31	148,800	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	October 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																			
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		482,263.54									62,572.70		-		69,062.54		-	
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		56,059.47									7,273.60		-		8,028.00		-	
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		357,623.66									45,037.79		-		51,213.49		-	
Real Time Financial Bilateral Transaction Congestion	55500-0037		-									-		-		-		-	
Auction Revenue Rights Transaction Amount	55500-0058		(231,950.32)									-		(29,210.96)		-		(33,216.44)	
Financial Transmission Rights Annual Transaction Amount	55500-0059		310,035.54									39,044.72		-		44,398.63		-	
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		16,702.15									2,103.41		-		2,391.83		-	
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(49,039.24)									-		(6,175.82)		-		(7,022.66)	
Financial Transmission Rights Hourly Allocation	55500-0032		(174,296.75)									-		(21,950.28)		-		(24,960.16)	
Financial Transmission Rights Monthly Allocation	55500-0033		(17,136.93)									-		(2,158.16)		-		(2,454.09)	
Financial Transmission Rights Yearly Allocation	55500-0035		-									-		-		-		-	
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		(12,685.60)									-		(1,597.58)		-		(1,816.64)	
FTR Guarantee Uplift Amount	55500-0055		12,062.06									1,519.05		-		1,727.35		-	
Financial Transmission Rights Monthly Transaction Amount	55500-0056		-									-		-		-		-	
Financial Transmission Rights Transaction	55500-0034		-									-		-		-		-	
Subtotal			749,637.58	55,107	-	55,107	-	-	-	-	-	157,311	157,551.26	157,311	(61,092.80)	148,800	176,821.84	148,800	(69,470.00)
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		30,497.83									3,840.78		-		4,367.44		-	
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(166.35)									-		(20.95)		-		(23.82)	
Real Time Price Volatility Make Whole Payment	55500-0057		(16,117.98)									-		(2,029.84)		-		(2,308.18)	
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		9,946.06									1,252.57		-		1,424.33		-	
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		-									-		-		-		-	
Subtotal			24,159.56	55,107	-	55,107	-	-	-	-	-	157,311	5,093.35	157,311	(2,050.79)	148,800	5,791.77	148,800	(2,332.00)
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042		26,270.45									3,308.40		-		3,762.06		-	
Real Time Net Inadvertent Distribution	55500-0044		97,178.86									12,238.34		-		13,916.50		-	
Real Time Revenue Neutrality Uplift Amount	55500-0045		154,719.97									19,484.86		-		22,156.67		-	
Real Time Uninstructed Deviation	55500-0048		-									-		-		-		-	
Demand Response Allocation Uplift Amount	55500-0077		(0.05)									-		(0.01)		-		(0.01)	
Day Ahead Ramp Capability Amount	55500-0079		(20.85)									-		(2.63)		-		(2.99)	
Real Time Ramp Capability Amount	55500-0080		21.91									2.76		-		3.14		-	
Subtotal			278,170.29	55,107	-	55,107	-	-	-	-	-	157,311	35,034.36	157,311	(2.63)	148,800	39,838.37	148,800	(2.99)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	October 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	55,107	-	55,107	-	-	-	-	-	157,311	-	157,311	-	148,800	-	148,800	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		2,370.18										298.49		-		339.42		-
Day Ahead Spinning Reserve Amount	55500-0063		(23,816.36)										-		(2,999.34)		-		(3,410.62)
Day Ahead Supplemental Reserve Amount	55500-0064		-										-		-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(373.93)										-		(47.09)		-		(53.55)
Real Time Regulation Amount	55500-0070		(1,112.72)										-		(140.13)		-		(159.35)
Regulation Reserve Cost Distribution Amount	55500-0071		32,772.93										4,127.30		-		4,693.25		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		5,369.48										676.21		-		768.94		-
Real Time Spinning Reserve Amount	55500-0072		(74.38)										-		(9.37)		-		(10.65)
Spinning Reserve Cost Distribution Amount	55500-0073		42,896.03										5,402.17		-		6,142.93		-
Real Time Supplemental Reserve Amount	55500-0074		-										-		-		-		-
Supplemental Reserve Cost Distribution Amount	55500-0075		16,114.27										2,029.37		-		2,307.64		-
Subtotal			74,145.50	-	-	-	-	-	-	-	-	-	12,533.54	-	(3,195.93)	-	14,252.17	-	(3,634.17)
Grand Total			5,891,041.36	55,107	-	55,107	-	-	-	-	-	157,311	382,224.60	157,311	(102,931.10)	148,800	428,669.19	148,800	(116,869.36)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	November 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	3,171,082.47	(855,937.60)									-				
Day Ahead Non-Asset Energy	55500-0027															
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(141,419.21)										-				
Excessive Energy Amount	55500-0066															
Non-Excessive Energy Amount	55500-0069	12,658.15										-				
Real Time Non-Asset Energy	55500-0043															
Subtotal		2,186,619.17		637,982	2,579,630.38			131,632	528,358.03			3,107,988.41	(18,626)			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	756,571.10			477,713.19		-		97,844.87		-	575,558.06		-		(13,662.24)
Day Ahead Financial Bilateral Transaction Loss	55500-0022															
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	(32,860.15)			-		(20,748.51)		-		(4,249.70)	(24,998.21)		5,926.28		-
Real Time Distribution of Losses	55500-0041															
Real Time Financial Bilateral Transaction Loss	55500-0038	(191,878.09)			-		(121,036.70)		-		(24,790.65)	(145,827.35)		34,604.96		-
Subtotal		809,132.93		637,982	652,634.07	637,982	(141,785.21)	131,632	133,672.04	131,632	(29,040.34)	615,480.55	(18,626)	40,531.25	(18,626)	(18,707.03)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		637,982	-	637,982	-	131,632	-	131,632	-	-	(18,626)	-	(18,626)	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	124,538.61			78,558.96		-		16,090.39		-	94,649.34		-		(2,265.68)
Real Time Market Administration (Schedule 17)	55500-0036															
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,659.83			2,939.42		-		602.05		-	3,541.47		-		(84.77)
Subtotal		138,397.54		637,982	87,301.17	637,982	-	131,632	17,880.96	131,632	-	105,182.13	(18,626)	-	(18,626)	(2,517.80)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	November 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
Congestion, FTRs & ARRs				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		(37,511.35)		-		(23,685.37)		-		(4,851.22)	(28,536.59)		6,765.12		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(38,456.25)		-		(24,282.00)		-		(4,973.42)	(29,255.42)		6,935.53		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	493,567.96			311,342.67		-		63,768.98		-	375,111.65		-		(8,979.26)
Real Time Financial Bilateral Transaction Congestion	55500-0037	-			-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(231,950.32)			-		(146,314.26)		-		(29,967.98)	(176,282.24)		41,831.94		-
Financial Transmission Rights Annual Transaction Amount	55500-0059	310,035.54			195,570.42		-		40,056.59		-	235,627.01		-		(5,640.34)
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	16,702.15			10,535.72		-		2,157.92		-	12,693.63		-		(303.85)
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(49,039.24)			-		(30,933.95)		-		(6,335.87)	(37,269.82)		8,844.16		-
Financial Transmission Rights Hourly Allocation	55500-0032	(218,409.63)			-		(137,772.79)		-		(28,218.52)	(165,991.32)		39,389.89		-
Financial Transmission Rights Monthly Allocation	55500-0033	(33,452.33)			-		(21,101.73)		-		(4,322.04)	(25,423.77)		6,033.08		-
Financial Transmission Rights Yearly Allocation	55500-0035	-			-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	12,616.23			7,958.32		-		1,630.02		-	9,588.33		-		(229.52)
FTR Guarantee Uplift Amount	55500-0055	(12,616.23)			-		(7,958.32)		-		(1,630.02)	(9,588.33)		2,275.32		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056	67,846.05			42,797.29		-		8,765.71		-	51,563.00		-		(1,234.29)
Financial Transmission Rights Transaction	55500-0034	-			-		-		-		-	-		-		-
Subtotal			279,332.58	637,982	568,204.41	637,982	(392,048.42)	131,632	116,379.22	131,632	(80,299.07)	212,236.13	(18,626)	112,075.06	(18,626)	(16,387.27)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	14,442.61			9,110.40		-		1,865.99		-	10,976.38		-		(262.75)
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(74.73)			-		(47.14)		-		(9.66)	(56.79)		13.48		-
Real Time Price Volatility Make Whole Payment	55500-0057	(17,733.84)			-		(11,186.51)		-		(2,291.21)	(13,477.72)		3,198.27		-
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	39,468.04			24,896.44		-		5,099.27		-	29,995.71		-		(718.02)
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-			-		-		-		-	-		-		-
Subtotal			36,102.08	637,982	34,006.84	637,982	(11,233.65)	131,632	6,965.26	131,632	(2,300.87)	27,437.58	(18,626)	3,211.75	(18,626)	(980.77)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042	23,354.25			14,731.86		-		3,017.37		-	17,749.23		-		(424.87)
Real Time Net Inadvertent Distribution	55500-0044	24,831.77			15,663.88		-		3,208.26		-	18,872.15		-		(451.75)
Real Time Revenue Neutrality Uplift Amount	55500-0045	140,528.34			88,645.28		-		18,156.26		-	106,801.54		-		(2,556.57)
Real Time Uninstructed Deviation	55500-0048	-			-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-			-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(1,822.38)			-		(1,149.56)		-		(235.45)	(1,385.01)		328.66		-
Real Time Ramp Capability Amount	55500-0080	491.64			310.13		-		63.52		-	373.65		-		(8.94)
Subtotal			187,383.62	637,982	119,351.14	637,982	(1,149.56)	131,632	24,445.42	131,632	(235.45)	142,411.55	(18,626)	328.66	(18,626)	(3,442.14)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	November 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		637,982	-	637,982	-	131,632	-	131,632	-	-	(18,626)	-	(18,626)	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(3,181.72)			-		(2,007.03)		-		(411.08)	(2,418.11)		573.82		-
Day Ahead Spinning Reserve Amount	55500-0063	(24,540.67)			-		(15,480.25)		-		(3,170.65)	(18,650.91)		4,425.88		-
Day Ahead Supplemental Reserve Amount	55500-0064	(587.28)			-		(370.46)		-		(75.88)	(446.33)		105.92		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(47.58)			-		(30.01)		-		(6.15)	(36.16)		8.58		-
Real Time Regulation Amount	55500-0070	(72.49)			-		(45.73)		-		(9.37)	(55.09)		13.07		-
Regulation Reserve Cost Distribution Amount	55500-0071	29,991.65			18,918.73		-		3,874.92		-	22,793.65		-		(545.62)
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,059.78			2,560.91		-		524.52		-	3,085.43		-		(73.86)
Real Time Spinning Reserve Amount	55500-0072	(1,080.20)			-		(681.39)		-		(139.56)	(820.95)		194.81		-
Spinning Reserve Cost Distribution Amount	55500-0073	30,865.11			19,469.71		-		3,987.77		-	23,457.48		-		(561.52)
Real Time Supplemental Reserve Amount	55500-0074	574.76			362.56		-		74.26		-	436.82		-		(10.46)
Supplemental Reserve Cost Distribution Amount	55500-0075	11,111.29			7,009.00		-		1,435.58		-	8,444.58		-		(202.14)
Subtotal		47,092.65		637,982	48,320.91	-	(18,614.87)	131,632	9,897.05	-	(3,812.68)	35,790.41	-	5,322.08	-	(1,393.60)
Grand Total		3,684,060.57		637,982	4,089,448.92	637,982	(564,831.71)	131,632	837,597.97	131,632	(115,688.42)	4,246,526.76	(18,626)	161,468.80	(18,626)	(43,428.62)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)

2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE

3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity

NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	November 2016				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue				
Day Ahead and Real Time Energy																						
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		3,171,082.47																			
Day Ahead Non-Asset Energy	55500-0027		(855,937.60)																			
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(141,419.21)																			
Excessive Energy Amount	55500-0066		53,833.81																			
Non-Excessive Energy Amount	55500-0069		12,658.15																			
Real Time Non-Asset Energy	55500-0043		(53,598.44)																			
Subtotal			2,186,619.17	82,635			-				121,907				144,100							
Day Ahead and Real Time Energy Loss																						
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		756,571.10																			
Day Ahead Financial Bilateral Transaction Loss	55500-0022		277,300.06									89,416.81		-		105,258.47		-				
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		(32,860.15)																			
Real Time Distribution of Losses	55500-0041		(191,878.09)																			
Real Time Financial Bilateral Transaction Loss	55500-0038		-																			
Subtotal			809,132.93	82,635	-	82,635	-	-	-	-	121,907	122,434.06	121,907	(63,177.07)	144,100	143,838.03	144,100	(31,266.86)				
Virtual Energy																						
Day Ahead Virtual Energy	55500-0030		-																			
Real Time Virtual Energy	55500-0049		-																			
Subtotal			-	82,635	-	82,635	-	-	-	-	121,907	-	121,907	-	144,100	-	144,100	-				
Schedule 16 & 17 1/																						
Day Ahead Market Administration (Schedule 17)	55500-0020		124,538.61									14,828.42		-		17,326.52		-				
Real Time Market Administration (Schedule 17)	55500-0036		9,199.10									1,095.31		-		1,279.83		-				
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		4,659.83									554.83		-		648.30		-				
Subtotal			138,397.54	82,635	-	82,635	-	-	-	-	121,907	16,478.56	121,907	-	144,100	19,254.65	144,100	-				

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	November 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																			
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		(37,511.35)										-		(10,521.09)		-		(5,218.79)
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(38,456.25)										-		(10,786.11)		-		(5,350.25)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		493,567.96										58,767.59		-		68,667.98		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-										-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(231,950.32)										-		(65,229.77)		-		(32,270.25)
Financial Transmission Rights Annual Transaction Amount	55500-0059		310,035.54										36,914.96		-		43,133.91		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		16,702.15										1,988.67		-		2,323.70		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(49,039.24)										-		(13,790.96)		-		(6,822.62)
Financial Transmission Rights Hourly Allocation	55500-0032		(218,409.63)										-		(61,421.82)		-		(30,386.39)
Financial Transmission Rights Monthly Allocation	55500-0033		(33,452.33)										-		(9,407.57)		-		(4,654.08)
Financial Transmission Rights Yearly Allocation	55500-0035		-										-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		12,616.23										1,502.18		-		1,755.24		-
FTR Guarantee Uplift Amount	55500-0055		(12,616.23)										-		(3,547.97)		-		(1,755.24)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		67,846.05										8,078.22		-		9,439.13		-
Financial Transmission Rights Transaction	55500-0034		-										-		-		-		-
Subtotal			279,332.58	82,635	-	82,635	-	-	-	-	-	121,907	107,251.62	121,907	(174,705.29)	144,100	125,319.95	144,100	(86,457.62)
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		14,442.61										1,719.64		-		2,009.34		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(74.73)										-		(21.02)		-		(10.40)
Real Time Price Volatility Make Whole Payment	55500-0057		(17,733.84)										-		(4,987.16)		-		(2,467.23)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		39,468.04										4,699.34		-		5,491.02		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		-										-		-		-		-
Subtotal			36,102.08	82,635	-	82,635	-	-	-	-	-	121,907	6,418.97	121,907	(5,008.18)	144,100	7,500.36	144,100	(2,477.63)
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042		23,354.25										2,780.72		-		3,249.18		-
Real Time Net Inadvertent Distribution	55500-0044		24,831.77										2,956.64		-		3,454.74		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		140,528.34										16,732.27		-		19,551.10		-
Real Time Uninstructed Deviation	55500-0048		-										-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-										-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(1,822.38)										-		(512.50)		-		(253.54)
Real Time Ramp Capability Amount	55500-0080		491.64										58.54		-		68.40		-
Subtotal			187,383.62	82,635	-	82,635	-	-	-	-	-	121,907	22,528.17	121,907	(512.50)	144,100	26,323.41	144,100	(253.54)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	November 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	82,635	-	82,635	-	-	-	-	-	121,907	-	121,907	-	144,100	-	144,100	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(3,181.72)										-		(894.77)		-		(442.66)
Day Ahead Spinning Reserve Amount	55500-0063		(24,540.67)										-		(6,901.40)		-		(3,414.24)
Day Ahead Supplemental Reserve Amount	55500-0064		(587.28)										-		(165.16)		-		(81.71)
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(47.58)										-		(13.38)		-		(6.62)
Real Time Regulation Amount	55500-0070		(72.49)										-		(20.39)		-		(10.09)
Regulation Reserve Cost Distribution Amount	55500-0071		29,991.65										3,571.01		-		4,172.61		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		4,059.78										483.39		-		564.82		-
Real Time Spinning Reserve Amount	55500-0072		(1,080.20)										-		(303.78)		-		(150.28)
Spinning Reserve Cost Distribution Amount	55500-0073		30,865.11										3,675.01		-		4,294.13		-
Real Time Supplemental Reserve Amount	55500-0074		574.76										68.43		-		79.96		-
Supplemental Reserve Cost Distribution Amount	55500-0075		11,111.29										1,322.99		-		1,545.87		-
Subtotal			47,092.65	-	-	-	-	-	-	-	-	-	9,120.83	-	(8,298.87)	-	10,657.39	-	(4,105.59)
Grand Total			3,684,060.57	82,635	-	82,635	-	-	-	-	-	121,907	284,232.21	121,907	(251,701.91)	144,100	332,893.79	144,100	(124,561.24)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	December 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	4,394,758.40										-				
Day Ahead Non-Asset Energy	55500-0027	(1,921,889.93)										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(106,689.36)										-				
Excessive Energy Amount	55500-0066	26,580.55										-				
Non-Excessive Energy Amount	55500-0069	745,702.38										-				
Real Time Non-Asset Energy	55500-0043	(36,977.64)										-				
Subtotal		3,101,484.40		661,350	3,059,178.33			157,916	717,585.04			3,776,763.37	(20,687)			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	1,260,938.93			787,214.52		-		184,655.26		-	971,869.77		-		(19,336.83)
Day Ahead Financial Bilateral Transaction Loss	55500-0022	399,396.86			249,103.82		-		58,431.76		-	307,535.58		-		(6,182.94)
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	6,428.20			4,013.18		-		941.36		-	4,954.54		-		(98.58)
Real Time Distribution of Losses	55500-0041	(435,128.45)			-		(271,389.61)		-		(63,659.29)	(335,048.91)		84,276.76		-
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		1,231,635.54		661,350	1,040,331.52	661,350	(271,389.61)	157,916	244,028.38	157,916	(63,659.29)	949,310.99	(20,687)	84,276.76	(20,687)	(25,618.36)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		661,350	-	661,350	-	157,916	-	157,916	-	-	(20,687)	-	(20,687)	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	150,050.43			93,586.45		-		21,952.38		-	115,538.83		-		(2,322.89)
Real Time Market Administration (Schedule 17)	55500-0036	8,472.02			5,284.00		-		1,239.46		-	6,523.46		-		(131.15)
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,916.67			2,442.83		-		573.01		-	3,015.84		-		(60.63)
Subtotal		162,439.12		661,350	101,313.28	661,350	-	157,916	23,764.84	157,916	-	125,078.12	(20,687)	-	(20,687)	(2,514.67)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	December 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
Congestion, FTRs & ARRs				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		464,783.77		290,168.32		-		68,064.17		-	358,232.49		-		(7,127.58)
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(32,906.70)		-		(20,543.92)		-		(4,818.94)	(25,362.87)		6,373.45		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		767,435.98		478,649.82		-		112,275.88		-	590,925.70		-		(11,880.44)
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(91,619.70)		-		(57,143.21)		-		(13,403.96)	(70,547.17)		17,745.13		-
Financial Transmission Rights Annual Transaction Amount	55500-0059		96,417.00		60,135.28		-		14,105.81		-	74,241.09		-		(1,492.60)
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		12,894.56		8,042.34		-		1,886.47		-	9,928.81		-		(199.62)
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(79,294.30)		-		(49,455.85)		-		(11,600.76)	(61,056.61)		15,357.92		-
Financial Transmission Rights Hourly Allocation	55500-0032		(186,839.05)		-		(116,531.52)		-		(27,334.55)	(143,866.07)		36,187.45		-
Financial Transmission Rights Monthly Allocation	55500-0033		(22,463.51)		-		(14,010.49)		-		(3,286.41)	(17,296.90)		4,350.79		-
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		(3,244.74)		-		(2,023.74)		-		(474.71)	(2,498.45)		628.45		-
FTR Guarantee Uplift Amount	55500-0055		3,119.66		1,945.73		-		456.41		-	2,402.14		-		(48.29)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		32,935.45		20,541.84		-		4,818.46		-	25,360.30		-		(509.86)
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			961,218.42	661,350	859,483.33	661,350	(259,708.73)	157,916	201,607.20	157,916	(60,919.33)	740,462.46	(20,687)	80,643.19	(20,687)	(21,258.40)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		28,521.30		17,788.73		-		4,172.67		-	21,961.40		-		(441.53)
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(110.46)		-		(68.89)		-		(16.16)	(85.05)		21.39		-
Real Time Price Volatility Make Whole Payment	55500-0057		(13,489.18)		-		(8,413.20)		-		(1,973.47)	(10,386.67)		2,612.62		-
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		57,249.01		35,706.21		-		8,375.53		-	44,081.74		-		(886.25)
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		-		-		-		-		-	-		-		-
Subtotal			72,170.67	661,350	53,494.94	661,350	(8,482.10)	157,916	12,548.20	157,916	(1,989.63)	55,571.42	(20,687)	2,634.01	(20,687)	(1,327.78)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		22,680.19		14,145.63		-		3,318.11		-	17,463.75		-		(351.11)
Real Time Net Inadvertent Distribution	55500-0044		18,289.06		11,406.89		-		2,675.69		-	14,082.58		-		(283.13)
Real Time Revenue Neutrality Uplift Amount	55500-0045		75,081.60		46,828.39		-		10,984.44		-	57,812.83		-		(1,162.32)
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(3.11)		-		(1.94)		-		(0.45)	(2.39)		0.60		-
Real Time Ramp Capability Amount	55500-0080		13.92		8.68		-		2.04		-	10.72		-		(0.22)
Subtotal			116,061.66	661,350	72,389.60	661,350	(1.94)	157,916	16,980.28	157,916	(0.45)	89,367.48	(20,687)	0.60	(20,687)	(1,796.76)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	December 2016	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		661,350	-	661,350	-	157,916	-	157,916	-	-	(20,687)	-	(20,687)	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(5,917.64)			-		(3,690.83)		-		(865.75)	(4,556.58)		1,146.14		-
Day Ahead Spinning Reserve Amount	55500-0063	(10,377.22)			-		(6,472.27)		-		(1,518.19)	(7,990.46)		2,009.89		-
Day Ahead Supplemental Reserve Amount	55500-0064	137.03			85.47		-		20.05		-	105.51		-		(2.12)
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	64.04			39.94		-		9.37		-	49.31		-		(0.99)
Real Time Regulation Amount	55500-0070	(273.19)			-		(170.39)		-		(39.97)	(210.36)		52.91		-
Regulation Reserve Cost Distribution Amount	55500-0071	30,256.85			18,871.20		-		4,426.58		-	23,297.77		-		(468.40)
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	3,215.54			2,005.53		-		470.43		-	2,475.97		-		(49.78)
Real Time Spinning Reserve Amount	55500-0072	(8,352.04)			-		(5,209.17)		-		(1,221.90)	(6,431.07)		1,617.64		-
Spinning Reserve Cost Distribution Amount	55500-0073	29,939.48			18,673.25		-		4,380.15		-	23,053.40		-		(463.48)
Real Time Supplemental Reserve Amount	55500-0074	(134.11)			-		(83.64)		-		(19.62)	(103.26)		25.97		-
Supplemental Reserve Cost Distribution Amount	55500-0075	16,009.40			9,985.06		-		2,342.18		-	12,327.24		-		(247.84)
Subtotal		54,568.14		661,350	49,660.45	-	(15,626.30)	157,916	11,648.75	-	(3,665.43)	42,017.47	-	4,852.56	-	(1,232.61)
Grand Total		5,699,577.94		661,350	5,235,851.45	661,350	(555,208.69)	157,916	1,228,162.69	157,916	(130,234.14)	5,778,571.31	(20,687)	172,407.13	(20,687)	(53,748.59)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	December 2016				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue			
Day Ahead and Real Time Energy																						
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		4,394,758.40																			
Day Ahead Non-Asset Energy	55500-0027		(1,921,889.93)																			
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(106,689.36)																			
Excessive Energy Amount	55500-0066		26,580.55																			
Non-Excessive Energy Amount	55500-0069		745,702.38																			
Real Time Non-Asset Energy	55500-0043		(36,977.64)																			
Subtotal			3,101,484.40	76,600				(0)				127,497				167,343						
Day Ahead and Real Time Energy Loss																						
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		1,260,938.93																			
Day Ahead Financial Bilateral Transaction Loss	55500-0022		399,396.86										119,174.64		-		189,231.35		-			
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		6,428.20																			
Real Time Distribution of Losses	55500-0041		(435,128.45)																			
Real Time Financial Bilateral Transaction Loss	55500-0038		-										38,106.02		-		59,938.20		-			
Subtotal			1,231,635.54	76,600	-	76,600	-	(0)	-	(0)	-	127,497	157,888.21	127,497	(119,055.81)	167,343	250,134.23	167,343	(65,300.50)			
Virtual Energy																						
Day Ahead Virtual Energy	55500-0030		-																			
Real Time Virtual Energy	55500-0049		-																			
Subtotal			-	76,600	-	76,600	-	(0)	-	(0)	-	127,497	-	127,497	-	167,343	-	167,343	-			
Schedule 16 & 17 1/																						
Day Ahead Market Administration (Schedule 17)	55500-0020		150,050.43										14,316.15		-		22,518.33		-			
Real Time Market Administration (Schedule 17)	55500-0036		8,472.02										808.31		-		1,271.41		-			
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		3,916.67										373.69		-		587.78		-			
Subtotal			162,439.12	76,600	-	76,600	-	(0)	-	(0)	-	127,497	15,498.14	127,497	-	167,343	24,377.53	167,343	-			

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	December 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																			
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		464,783.77										43,927.93		-		69,750.93		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(32,906.70)										-		(8,978.92)		-		(4,938.37)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		767,435.98										73,220.24		-		115,170.48		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-										-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(91,619.70)										-		(25,068.13)		-		(13,749.53)
Financial Transmission Rights Annual Transaction Amount	55500-0059		96,417.00										9,199.04		-		14,469.47		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		12,894.56										1,230.26		-		1,935.11		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(79,294.30)										-		(21,695.77)		-		(11,899.84)
Financial Transmission Rights Hourly Allocation	55500-0032		(186,839.05)										-		(51,121.17)		-		(28,039.27)
Financial Transmission Rights Monthly Allocation	55500-0033		(22,463.51)										-		(6,146.26)		-		(3,371.14)
Financial Transmission Rights Yearly Allocation	55500-0035		-										-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		(3,244.74)										-		(887.80)		-		(486.94)
FTR Guarantee Uplift Amount	55500-0055		3,119.66										297.64		-		468.17		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056		32,935.45										3,142.34		-		4,942.68		-
Financial Transmission Rights Transaction	55500-0034		-										-		-		-		-
Subtotal			961,218.42	76,600	-	76,600	-	(0)	-	(0)	-	127,497	131,017.45	127,497	(113,898.04)	167,343	206,736.84	167,343	(62,485.09)
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		28,521.30										2,721.19		-		4,280.24		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(110.46)										-		(30.22)		-		(16.58)
Real Time Price Volatility Make Whole Payment	55500-0057		(13,489.18)										-		(3,690.78)		-		(2,024.35)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		57,249.01										5,462.07		-		8,591.46		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		-										-		-		-		-
Subtotal			72,170.67	76,600	-	76,600	-	(0)	-	(0)	-	127,497	8,183.25	127,497	(3,721.01)	167,343	12,871.70	167,343	(2,040.92)
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042		22,680.19										2,163.89		-		3,403.66		-
Real Time Net Inadvertent Distribution	55500-0044		18,289.06										1,744.94		-		2,744.67		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		75,081.60										7,163.45		-		11,267.63		-
Real Time Uninstructed Deviation	55500-0048		-										-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-										-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(3.11)										-		(0.85)		-		(0.47)
Real Time Ramp Capability Amount	55500-0080		13.92										1.33		-		2.09		-
Subtotal			116,061.66	76,600	-	76,600	-	(0)	-	(0)	-	127,497	11,073.61	127,497	(0.85)	167,343	17,418.05	167,343	(0.47)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	December 2016	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	76,600	-	76,600	-	(0)	-	(0)	-	127,497	-	127,497	-	167,343	-	167,343	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(5,917.64)										-		(1,619.13)		-		(888.07)
Day Ahead Spinning Reserve Amount	55500-0063		(10,377.22)										-		(2,839.32)		-		(1,557.33)
Day Ahead Supplemental Reserve Amount	55500-0064		137.03										13.07		-		20.56		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		64.04										6.11		-		9.61		-
Real Time Regulation Amount	55500-0070		(273.19)										-		(74.75)		-		(41.00)
Regulation Reserve Cost Distribution Amount	55500-0071		30,256.85										2,886.77		-		4,540.70		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		3,215.54										306.79		-		482.56		-
Real Time Spinning Reserve Amount	55500-0072		(8,352.04)										-		(2,285.21)		-		(1,253.41)
Spinning Reserve Cost Distribution Amount	55500-0073		29,939.48										2,856.49		-		4,493.07		-
Real Time Supplemental Reserve Amount	55500-0074		(134.11)										-		(36.69)		-		(20.13)
Supplemental Reserve Cost Distribution Amount	55500-0075		16,009.40										1,527.44		-		2,402.56		-
Subtotal			54,568.14	-	-	-	-	-	-	-	-	-	7,596.68	-	(6,855.10)	-	11,949.07	-	(3,759.93)
Grand Total			5,699,577.94	76,600	-	76,600	-	(0)	-	(0)	-	127,497	331,257.35	127,497	(243,530.80)	167,343	523,487.42	167,343	(133,586.90)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	January 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	1,719,942.17 (1,712,552.91)										-				
Day Ahead Non-Asset Energy	55500-0027											-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(229,533.99)										-				
Excessive Energy Amount	55500-0066	30,878.76										-				
Non-Excessive Energy Amount	55500-0069	402,431.28										-				
Real Time Non-Asset Energy	55500-0043	(46,882.39)										-				
Subtotal		164,282.92		713,959	1,690,224.91			156,694	371,024.98			2,061,249.89	51,853			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	1,340,372.33			851,323.12		-		186,875.81		-	1,038,198.93		61,912.21		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	242,705.72			153,244.39		-		33,639.01		-	186,883.40		11,793.51		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	(67,065.29)			-		(42,595.80)		-		(9,350.30)	(51,946.09)		-		(3,097.77)
Real Time Distribution of Losses	55500-0041	(374,753.32)			-		(236,619.25)		-		(51,940.81)	(288,560.06)		-		(18,209.94)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		1,141,259.44		713,959	1,004,567.52	713,959	(279,215.04)	156,694	220,514.82	156,694	(61,291.11)	884,576.19	51,853	73,705.71	51,853	(21,307.70)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		713,959	-	713,959	-	156,694	-	156,694	-	-	51,853	-	51,853	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	124,529.23			78,627.76		-		17,259.75		-	95,887.51		6,051.10		-
Real Time Market Administration (Schedule 17)	55500-0036	11,656.24			7,359.75		-		1,615.55		-	8,975.30		566.40		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,427.20			2,795.33		-		613.61		-	3,408.94		215.13		-
Subtotal		140,612.67		713,959	88,782.84	713,959	-	156,694	19,488.92	156,694	-	108,271.76	51,853	6,832.62	51,853	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	January 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		196,157.74		124,587.49		-		27,348.47		-	151,935.96		9,060.59		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(24,113.03)		-		(15,315.13)		-		(3,361.86)	(18,676.99)		-		(1,113.79)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		128,226.19		80,962.02		-		17,772.15		-	98,734.17		6,230.74		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(91,619.70)		-		(57,848.68)		-		(12,698.49)	(70,547.17)		-		(4,451.97)
Financial Transmission Rights Annual Transaction Amount	55500-0059		96,417.00		60,877.69		-		13,363.40		-	74,241.09		4,685.07		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		12,897.74		8,143.63		-		1,787.63		-	9,931.26		626.72		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(80,643.88)		-		(50,918.55)		-		(11,177.24)	(62,095.79)		-		(3,918.63)
Financial Transmission Rights Hourly Allocation	55500-0032		(47,729.44)		-		(30,136.37)		-		(6,615.30)	(36,751.67)		-		(2,319.26)
Financial Transmission Rights Monthly Allocation	55500-0033		(16,089.74)		-		(10,159.06)		-		(2,230.04)	(12,389.10)		-		(781.83)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		2,256.10		1,424.50		-		312.70		-	1,737.20		109.63		-
FTR Guarantee Uplift Amount	55500-0055		(2,161.45)		-		(1,364.74)		-		(299.58)	(1,664.32)		-		(105.03)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		46,406.48		29,301.05		-		6,431.94		-	35,732.99		2,254.97		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			220,004.01	713,959	305,296.38	713,959	(165,742.53)	156,694	67,016.28	156,694	(36,382.51)	170,187.63	51,853	22,967.73	51,853	(12,690.50)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		19,831.25		12,521.45		-		2,748.61		-	15,270.06		963.64		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(2,101.94)		-		(1,327.16)		-		(291.33)	(1,618.49)		-		(102.14)
Real Time Price Volatility Make Whole Payment	55500-0057		(337,494.33)		-		(213,093.92)		-		(46,776.71)	(259,870.63)		-		(16,399.45)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		44,261.72		27,946.85		-		6,134.67		-	34,081.52		2,150.76		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(170.23)		-		(107.48)		-		(23.59)	(131.08)		-		(8.27)
Subtotal			(275,673.53)	713,959	40,468.30	713,959	(214,528.57)	156,694	8,883.29	156,694	(47,091.64)	(212,268.62)	51,853	3,114.39	51,853	(16,509.86)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		21,861.74		13,803.50		-		3,030.04		-	16,833.54		1,062.30		-
Real Time Net Inadvertent Distribution	55500-0044		7,700.79		4,862.28		-		1,067.33		-	5,929.61		374.20		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		(14,300.49)		-		(9,029.33)		-		(1,982.05)	(11,011.38)		-		(694.89)
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(230.71)		-		(145.67)		-		(31.98)	(177.65)		-		(11.21)
Real Time Ramp Capability Amount	55500-0080		85.69		54.10		-		11.88		-	65.98		4.16		-
Subtotal			15,117.02	713,959	18,719.89	713,959	(9,175.00)	156,694	4,109.24	156,694	(2,014.02)	11,640.11	51,853	1,440.66	51,853	(706.10)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	January 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		713,959	-	713,959	-	156,694	-	156,694	-	-	51,853	-	51,853	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(9,433.10)			-		(5,956.06)		-		(1,307.43)	(7,263.49)		-		(458.37)
Day Ahead Spinning Reserve Amount	55500-0063	(30,323.11)			-		(19,146.01)		-		(4,202.78)	(23,348.79)		-		(1,473.45)
Day Ahead Supplemental Reserve Amount	55500-0064	-			-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(85.71)			-		(54.12)		-		(11.88)	(66.00)		-		(4.16)
Real Time Regulation Amount	55500-0070	957.77			604.74		-		132.75		-	737.48		46.54		-
Regulation Reserve Cost Distribution Amount	55500-0071	32,935.67			20,795.58		-		4,564.88		-	25,360.47		1,600.40		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	5,371.88			3,391.81		-		744.54		-	4,136.35		261.03		-
Real Time Spinning Reserve Amount	55500-0072	10,746.79			6,785.52		-		1,489.51		-	8,275.03		522.21		-
Spinning Reserve Cost Distribution Amount	55500-0073	24,639.39			15,557.31		-		3,415.02		-	18,972.33		1,197.27		-
Real Time Supplemental Reserve Amount	55500-0074	-			-		-		-		-	-		-		-
Supplemental Reserve Cost Distribution Amount	55500-0075	10,536.76			6,652.91		-		1,460.39		-	8,113.31		512.00		-
Subtotal		45,346.34		713,959	53,787.87	-	(25,156.19)	156,694	11,807.09	-	(5,522.09)	34,916.68	-	4,139.45	-	(1,935.99)
Grand Total		1,450,948.87		713,959	3,201,847.70	713,959	(693,817.33)	156,694	702,844.62	156,694	(152,301.36)	3,058,573.63	51,853	112,200.56	51,853	(53,150.15)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	January 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050		1,719,942.17																
Day Ahead Non-Asset Energy	55500-0027		(1,712,552.91)																
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050		(229,533.99)																
Excessive Energy Amount	55500-0066		30,878.76																
Non-Excessive Energy Amount	55500-0069		402,431.28																
Real Time Non-Asset Energy	55500-0043		(46,882.39)																
Subtotal			164,282.92	49,517				37,200				49,826				228,255			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050		1,340,372.33									59,491.29		-		180,769.90		-	
Day Ahead Financial Bilateral Transaction Loss	55500-0022		242,705.72									11,332.35		-		32,696.46		-	
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050		(67,065.29)									-		(2,976.64)		-		(9,044.79)	
Real Time Distribution of Losses	55500-0041		(374,753.32)									-		(17,497.88)		-		(50,485.44)	
Real Time Financial Bilateral Transaction Loss	55500-0038		-									-		-		-		-	
Subtotal			1,141,259.44	49,517	-	49,517	-	37,200	-	37,200	-	49,826	70,823.64	49,826	(20,474.52)	228,255	213,466.36	228,255	(59,530.23)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030		-																
Real Time Virtual Energy	55500-0049		-																
Subtotal			-	49,517	-	49,517	-	37,200	-	37,200	-	49,826	-	49,826	-	228,255	-	228,255	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020		124,529.23									5,814.49		-		16,776.14		-	
Real Time Market Administration (Schedule 17)	55500-0036		11,656.24									544.25		-		1,570.29		-	
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		4,427.20									206.71		-		596.42		-	
Subtotal			140,612.67	49,517	-	49,517	-	37,200	-	37,200	-	49,826	6,565.45	49,826	-	228,255	18,942.84	228,255	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	January 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																			
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		196,157.74										8,706.29		-		26,454.90		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(24,113.03)										-		(1,070.24)		-		(3,252.01)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		128,226.19										5,987.10		-		17,274.18		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-										-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(91,619.70)										-		(4,277.88)		-		(12,342.68)
Financial Transmission Rights Annual Transaction Amount	55500-0059		96,417.00										4,501.88		-		12,988.96		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		12,897.74										602.22		-		1,737.54		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(80,643.88)										-		(3,765.40)		-		(10,864.06)
Financial Transmission Rights Hourly Allocation	55500-0032		(47,729.44)										-		(2,228.57)		-		(6,429.94)
Financial Transmission Rights Monthly Allocation	55500-0033		(16,089.74)										-		(751.26)		-		(2,167.55)
Financial Transmission Rights Yearly Allocation	55500-0035		-										-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		2,256.10										105.34		-		303.93		-
FTR Guarantee Uplift Amount	55500-0055		(2,161.45)										-		(100.92)		-		(291.18)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		46,406.48										2,166.80		-		6,251.72		-
Financial Transmission Rights Transaction	55500-0034		-										-		-		-		-
Subtotal			220,004.01	49,517	-	49,517	-	37,200	-	37,200	-	49,826	22,069.63	49,826	(12,194.27)	228,255	65,011.23	228,255	(35,347.43)
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		19,831.25										925.96		-		2,671.60		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(2,101.94)										-		(98.14)		-		(283.17)
Real Time Price Volatility Make Whole Payment	55500-0057		(337,494.33)										-		(15,758.20)		-		(45,466.05)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		44,261.72										2,066.66		-		5,962.78		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		(170.23)										-		(7.95)		-		(22.93)
Subtotal			(275,673.53)	49,517	-	49,517	-	37,200	-	37,200	-	49,826	2,992.61	49,826	(15,864.29)	228,255	8,634.38	228,255	(45,772.14)
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042		21,861.74										1,020.76		-		2,945.14		-
Real Time Net Inadvertent Distribution	55500-0044		7,700.79										359.56		-		1,037.42		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		(14,300.49)										-		(667.71)		-		(1,926.51)
Real Time Uninstructed Deviation	55500-0048		-										-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-										-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(230.71)										-		(10.77)		-		(31.08)
Real Time Ramp Capability Amount	55500-0080		85.69										4.00		-		11.54		-
Subtotal			15,117.02	49,517	-	49,517	-	37,200	-	37,200	-	49,826	1,384.33	49,826	(678.49)	228,255	3,994.10	228,255	(1,957.59)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	January 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	49,517	-	49,517	-	37,200	-	37,200	-	49,826	-	49,826	-	228,255	-	228,255	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(9,433.10)										-		(440.45)		-		(1,270.79)
Day Ahead Spinning Reserve Amount	55500-0063		(30,323.11)										-		(1,415.84)		-		(4,085.02)
Day Ahead Supplemental Reserve Amount	55500-0064		-										-		-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(85.71)										-		(4.00)		-		(11.55)
Real Time Regulation Amount	55500-0070		957.77										44.72		-		129.03		-
Regulation Reserve Cost Distribution Amount	55500-0071		32,935.67										1,537.82		-		4,436.98		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		5,371.88										250.82		-		723.68		-
Real Time Spinning Reserve Amount	55500-0072		10,746.79										501.79		-		1,447.77		-
Spinning Reserve Cost Distribution Amount	55500-0073		24,639.39										1,150.46		-		3,319.33		-
Real Time Supplemental Reserve Amount	55500-0074		-										-		-		-		-
Supplemental Reserve Cost Distribution Amount	55500-0075		10,536.76										491.98		-		1,419.48		-
Subtotal			45,346.34	-	-	-	-	-	-	-	-	-	3,977.59	-	(1,860.29)	-	11,476.26	-	(5,367.36)
Grand Total			1,450,948.87	49,517	-	49,517	-	37,200	-	37,200	-	49,826	107,813.25	49,826	(51,071.85)	228,255	321,525.18	228,255	(147,974.77)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	February 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	2,295,160.75										-				
Day Ahead Non-Asset Energy	55500-0027	(922,496.20)										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	259,987.26										-				
Excessive Energy Amount	55500-0066	36,470.42										-				
Non-Excessive Energy Amount	55500-0069	107,494.30										-				
Real Time Non-Asset Energy	55500-0043	(337,659.50)										-				
Subtotal		1,438,957.03		674,123	2,003,167.83			135,860	410,287.39			2,413,455.22	30,314			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	4470-0000 or 55500-0000 or 55500-0050	946,437.69			617,581.97		-		126,492.69		-	744,074.67		28,655.16		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	291,869.64			191,378.92		-		39,198.09		-	230,577.02		8,399.30		-
Real Time Loss	4470-0000 or 55500-0000 or 55500-0050	(102,389.49)			-		(66,812.54)		-		(13,684.50)	(80,497.03)		-		(3,100.03)
Real Time Distribution of Losses	55500-0041	(308,842.16)			-		(202,507.80)		-		(41,477.50)	(243,985.31)		-		(8,887.72)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-	-		-		-
Subtotal		827,075.69		674,123	808,960.90	674,123	(269,320.34)	135,860	165,690.79	135,860	(55,162.00)	650,169.34	30,314	37,054.45	30,314	(11,987.76)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		674,123	-	674,123	-	135,860	-	135,860	-	-	30,314	-	30,314	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	108,303.03			71,014.30		-		14,545.10		-	85,559.39		3,116.70		-
Real Time Market Administration (Schedule 17)	55500-0036	7,258.68			4,759.52		-		974.84		-	5,734.36		208.89		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	5,253.87			3,444.96		-		705.59		-	4,150.56		151.19		-
Subtotal		120,815.58		674,123	79,218.78	674,123	-	135,860	16,225.53	135,860	-	95,444.31	30,314	3,476.78	30,314	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	February 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050		188,571.16		123,048.94		-		25,202.79		-	148,251.73		5,709.34		-
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050		(152,122.69)		-		(99,265.10)		-		(20,331.41)	(119,596.50)		-		(4,605.80)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		359,252.19		235,561.66		-		48,247.57		-	283,809.23		10,338.40		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(91,619.70)		-		(60,075.04)		-		(12,304.53)	(72,379.56)		-		(2,636.59)
Financial Transmission Rights Annual Transaction Amount	55500-0059		96,417.00		63,220.63		-		12,948.80		-	76,169.43		2,774.65		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		12,900.92		8,459.13		-		1,732.59		-	10,191.73		371.26		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(81,705.56)		-		(53,574.34)		-		(10,973.06)	(64,547.39)		-		(2,351.29)
Financial Transmission Rights Hourly Allocation	55500-0032		(12,074.04)		-		(7,916.95)		-		(1,621.54)	(9,538.49)		-		(347.46)
Financial Transmission Rights Monthly Allocation	55500-0033		(8,205.37)		-		(5,380.26)		-		(1,101.98)	(6,482.24)		-		(236.13)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		120.72		79.16		-		16.21		-	95.37		3.47		-
FTR Guarantee Uplift Amount	55500-0055		(435.40)		-		(285.49)		-		(58.47)	(343.97)		-		(12.53)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		90,077.56		59,063.86		-		12,097.42		-	71,161.27		2,592.21		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			401,176.79	674,123	489,433.37	674,123	(226,497.17)	135,860	100,245.39	135,860	(46,390.99)	316,790.60	30,314	21,789.33	30,314	(10,189.80)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		6,359.29		4,169.79		-		854.05		-	5,023.84		183.00		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		91.19		59.79		-		12.25		-	72.04		2.62		-
Real Time Price Volatility Make Whole Payment	55500-0057		(6,983.59)		-		(4,579.14)		-		(937.90)	(5,517.04)		-		(200.97)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		361.59		237.09		-		48.56		-	285.66		10.41		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		38.44		25.21		-		5.16		-	30.37		1.11		-
Subtotal			(133.08)	674,123	4,491.88	674,123	(4,579.14)	135,860	920.02	135,860	(937.90)	(105.13)	30,314	197.14	30,314	(200.97)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		137,157.78		89,934.36		-		18,420.29		-	108,354.65		3,947.07		-
Real Time Net Inadvertent Distribution	55500-0044		4,539.46		2,976.52		-		609.65		-	3,586.17		130.63		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		331,486.65		217,355.80		-		44,518.66		-	261,874.45		9,539.38		-
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(459.92)		-		(301.57)		-		(61.77)	(363.34)		-		(13.24)
Real Time Ramp Capability Amount	55500-0080		29.24		19.17		-		3.93		-	23.10		0.84		-
Subtotal			472,753.21	674,123	310,285.85	674,123	(301.57)	135,860	63,552.52	135,860	(61.77)	373,475.04	30,314	13,617.92	30,314	(13.24)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	February 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-		674,123	-	674,123	-	135,860	-	135,860	-	-	30,314	-	30,314	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(6,708.92)			-		(4,399.04)		-		(901.01)	(5,300.05)		-		(193.07)
Day Ahead Spinning Reserve Amount	55500-0063	(29,672.80)			-		(19,456.45)		-		(3,985.06)	(23,441.51)		-		(853.91)
Day Ahead Supplemental Reserve Amount	55500-0064	-			-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(486.22)			-		(318.81)		-		(65.30)	(384.11)		-		(13.99)
Real Time Regulation Amount	55500-0070	(689.05)			-		(451.81)		-		(92.54)	(544.35)		-		(19.83)
Regulation Reserve Cost Distribution Amount	55500-0071	27,890.89			18,288.06		-		3,745.75		-	22,033.80		802.63		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	6,332.82			4,152.43		-		850.50		-	5,002.93		182.24		-
Real Time Spinning Reserve Amount	55500-0072	(2,226.97)			-		(1,460.22)		-		(299.08)	(1,759.31)		-		(64.09)
Spinning Reserve Cost Distribution Amount	55500-0073	22,491.11			14,747.42		-		3,020.56		-	17,767.98		647.24		-
Real Time Supplemental Reserve Amount	55500-0074	-			-		-		-		-	-		-		-
Supplemental Reserve Cost Distribution Amount	55500-0075	6,308.25			4,136.32		-		847.20		-	4,983.52		181.54		-
Subtotal		23,239.11		674,123	41,324.23	-	(26,086.34)	135,860	8,464.00	-	(5,342.99)	18,358.90	-	1,813.65	-	(1,144.89)
Grand Total		3,283,884.33		674,123	3,736,882.83	674,123	(526,784.56)	135,860	765,385.64	135,860	(107,895.63)	3,867,588.27	30,314	77,949.27	30,314	(23,536.64)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	February 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy		4470-0000 or 55500-0000 or 55500-0050	2,295,160.75																
Day Ahead Non-Asset Energy		55500-0027	(922,496.20)																
Real Time Asset Energy		4470-0000 or 55500-0000 or 55500-0050	259,987.26																
Excessive Energy Amount		55500-0066	36,470.42																
Non-Excessive Energy Amount		55500-0069	107,494.30																
Real Time Non-Asset Energy		55500-0043	(337,659.50)																
Subtotal			1,438,957.03	32,833				33,600				46,831				211,923			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss		4470-0000 or 55500-0000 or 55500-0050	946,437.69										44,267.98		-		129,439.89		-
Day Ahead Financial Bilateral Transaction Loss		55500-0022	291,869.64										12,975.67		-		39,917.66		-
Real Time Loss		4470-0000 or 55500-0000 or 55500-0050	(102,389.49)										-		(4,789.09)		-		(14,003.33)
Real Time Distribution of Losses		55500-0041	(308,842.16)										-		(13,730.22)		-		(42,238.91)
Real Time Financial Bilateral Transaction Loss		55500-0038	-										-		-		-		-
Subtotal			827,075.69	32,833	-	32,833	-	33,600	-	33,600	-	46,831	57,243.66	46,831	(18,519.31)	211,923	169,357.54	211,923	(56,242.24)
Virtual Energy																			
Day Ahead Virtual Energy		55500-0030	-																
Real Time Virtual Energy		55500-0049	-																
Subtotal			-	32,833	-	32,833	-	33,600	-	33,600	-	46,831	-	46,831	-	211,923	-	211,923	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)		55500-0020	108,303.03										4,814.84		-		14,812.10		-
Real Time Market Administration (Schedule 17)		55500-0036	7,258.68										322.70		-		992.74		-
Financial Transmission Rights Market Administration (Schedule 16)		55500-0031	5,253.87										233.57		-		718.55		-
Subtotal			120,815.58	32,833	-	32,833	-	33,600	-	33,600	-	46,831	5,371.11	46,831	-	211,923	16,523.39	211,923	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	February 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	
Congestion, FTRs & ARRs																			
Day Ahead Congestion	4470-0000 or 55500-0000 or 55500-0050	188,571.16										8,820.09		-		25,790.00		-	
Real Time Congestion	4470-0000 or 55500-0000 or 55500-0050	(152,122.69)										-		(7,115.28)		-		(20,805.11)	
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	359,252.19										15,971.30		-		49,133.25		-	
Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-	
Auction Revenue Rights Transaction Amount	55500-0058	(91,619.70)										-		(4,073.14)		-		(12,530.40)	
Financial Transmission Rights Annual Transaction Amount	55500-0059	96,417.00										4,286.42		-		13,186.51		-	
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	12,900.92										573.54		-		1,764.40		-	
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(81,705.56)										-		(3,632.39)		-		(11,174.49)	
Financial Transmission Rights Hourly Allocation	55500-0032	(12,074.04)										-		(536.78)		-		(1,651.31)	
Financial Transmission Rights Monthly Allocation	55500-0033	(8,205.37)										-		(364.79)		-		(1,122.21)	
Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-	
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	120.72										5.37		-		16.51		-	
FTR Guarantee Uplift Amount	55500-0055	(435.40)										-		(19.36)		-		(59.55)	
Financial Transmission Rights Monthly Transaction Amount	55500-0056	90,077.56										4,004.59		-		12,319.49		-	
Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal		401,176.79	32,833	-	32,833	-	33,600	-	33,600	-	46,831	33,661.30	46,831	(15,741.73)	211,923	102,210.16	211,923	(47,343.07)	
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	6,359.29										282.72		-		869.73		-	
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	91.19										4.05		-		12.47		-	
Real Time Price Volatility Make Whole Payment	55500-0057	(6,983.59)										-		(310.47)		-		(955.11)	
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	361.59										16.08		-		49.45		-	
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	38.44										1.71		-		5.26		-	
Subtotal		(133.08)	32,833	-	32,833	-	33,600	-	33,600	-	46,831	304.55	46,831	(310.47)	211,923	936.91	211,923	(955.11)	
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042	137,157.78										6,097.63		-		18,758.43		-	
Real Time Net Inadvertent Distribution	55500-0044	4,539.46										201.81		-		620.84		-	
Real Time Revenue Neutrality Uplift Amount	55500-0045	331,486.65										14,736.93		-		45,335.89		-	
Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
Day Ahead Ramp Capability Amount	55500-0079	(459.92)										-		(20.45)		-		(62.90)	
Real Time Ramp Capability Amount	55500-0080	29.24										1.30		-		4.00		-	
Subtotal		472,753.21	32,833	-	32,833	-	33,600	-	33,600	-	46,831	21,037.68	46,831	(20.45)	211,923	64,719.16	211,923	(62.90)	

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	February 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	32,833	-	32,833	-	33,600	-	33,600	-	46,831	-	46,831	-	211,923	-	211,923	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(6,708.92)										-		(298.26)		-		(917.55)
Day Ahead Spinning Reserve Amount	55500-0063		(29,672.80)										-		(1,319.17)		-		(4,058.21)
Day Ahead Supplemental Reserve Amount	55500-0064		-										-		-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(486.22)										-		(21.62)		-		(66.50)
Real Time Regulation Amount	55500-0070		(689.05)										-		(30.63)		-		(94.24)
Regulation Reserve Cost Distribution Amount	55500-0071		27,890.89										1,239.95		-		3,814.51		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		6,332.82										281.54		-		866.11		-
Real Time Spinning Reserve Amount	55500-0072		(2,226.97)										-		(99.00)		-		(304.57)
Spinning Reserve Cost Distribution Amount	55500-0073		22,491.11										999.89		-		3,076.00		-
Real Time Supplemental Reserve Amount	55500-0074		-										-		-		-		-
Supplemental Reserve Cost Distribution Amount	55500-0075		6,308.25										280.45		-		862.75		-
Subtotal			23,239.11	-	-	-	-	-	-	-	-	-	2,801.82	-	(1,768.68)	-	8,619.37	-	(5,441.07)
Grand Total			3,283,884.33	32,833	-	32,833	-	33,600	-	33,600	-	46,831	120,420.12	46,831	(36,360.64)	211,923	362,366.54	211,923	(110,044.40)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	March 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	3,994,387.67 (1,867,438.46)										-				
Day Ahead Non-Asset Energy	55500-0027															
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(64,492.99) 27,618.56 (162,891.71) (151,496.84)										-				
Excessive Energy Amount	55500-0066															
Non-Excessive Energy Amount	55500-0069															
Real Time Non-Asset Energy	55500-0043															
Subtotal		1,775,686.23		723,571	2,310,842.62			144,988	473,305.11			2,784,147.73	34,507			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	954,532.72 341,537.44			625,071.79 223,946.10		-		128,026.75 45,868.48		-	753,098.55 269,814.58		29,071.75 10,260.80		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022															
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	27,363.07 (165,039.83) -			17,918.59 - -		-		3,670.07 - -		-	21,588.66 (130,381.47) -		833.38 - -		-
Real Time Distribution of Losses	55500-0041															
Real Time Financial Bilateral Transaction Loss	55500-0038															
Subtotal		1,158,393.40		723,571	866,936.49	723,571	(108,216.62)	144,988	177,565.30	144,988	(22,164.85)	914,120.32	34,507	40,165.93	34,507	(4,958.29)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		723,571	-	723,571	-	144,988	-	144,988	-	-	34,507	-	34,507	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	168,320.36 12,466.83 5,423.76			110,367.66 8,174.50 3,556.36		-		22,605.42 1,674.30 728.41		-	132,973.08 9,848.80 4,284.77		5,056.85 374.54 162.95		-
Real Time Market Administration (Schedule 17)	55500-0036															
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031															
Subtotal		186,210.95		723,571	122,098.52	723,571	-	144,988	25,008.13	144,988	-	147,106.65	34,507	5,594.33	34,507	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	March 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050		70,897.76		46,427.10		-		9,509.17		-	55,936.27		2,159.30		-
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050		(103,182.51)		-		(67,568.64)		-		(13,839.36)	(81,408.00)		-		(3,142.58)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021		230,952.27		151,435.40		-		31,016.89		-	182,452.29		6,938.50		-
Real Time Financial Bilateral Transaction Congestion	55500-0037		-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058		(55,129.21)		-		(36,148.22)		-		(7,403.85)	(43,552.08)		-		(1,656.25)
Financial Transmission Rights Annual Transaction Amount	55500-0059		146,543.25		96,088.41		-		19,680.76		-	115,769.17		4,402.60		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060		13,706.04		8,987.05		-		1,840.72		-	10,827.77		411.77		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061		(55,984.22)		-		(36,708.85)		-		(7,518.68)	(44,227.53)		-		(1,681.93)
Financial Transmission Rights Hourly Allocation	55500-0032		(102,319.91)		-		(67,091.16)		-		(13,741.56)	(80,832.73)		-		(3,074.00)
Financial Transmission Rights Monthly Allocation	55500-0033		(7,363.01)		-		(4,827.93)		-		(988.85)	(5,816.78)		-		(221.21)
Financial Transmission Rights Yearly Allocation	55500-0035		-		-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054		2,080.07		1,363.90		-		279.35		-	1,643.26		62.49		-
FTR Guarantee Uplift Amount	55500-0055		(2,080.07)		-		(1,363.90)		-		(279.35)	(1,643.26)		-		(62.49)
Financial Transmission Rights Monthly Transaction Amount	55500-0056		37,884.85		24,841.10		-		5,087.94		-	29,929.03		1,138.17		-
Financial Transmission Rights Transaction	55500-0034		-		-		-		-		-	-		-		-
Subtotal			176,005.31	723,571	329,142.96	723,571	(213,708.71)	144,988	67,414.82	144,988	(43,771.66)	139,077.42	34,507	15,112.83	34,507	(9,838.45)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028		20,492.52		13,436.95		-		2,752.15		-	16,189.09		615.66		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029		(111.10)		-		(72.85)		-		(14.92)	(87.77)		-		(3.34)
Real Time Price Volatility Make Whole Payment	55500-0057		(188,464.51)		-		(123,576.18)		-		(25,310.78)	(148,886.96)		-		(5,662.04)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046		45,683.76		29,954.84		-		6,135.33		-	36,090.17		1,372.48		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047		-		-		-		-		-	-		-		-
Subtotal			(122,399.33)	723,571	43,391.79	723,571	(123,649.03)	144,988	8,887.47	144,988	(25,325.70)	(96,695.47)	34,507	1,988.13	34,507	(5,665.37)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042		1,949.06		1,278.00		-		261.76		-	1,539.76		58.56		-
Real Time Net Inadvertent Distribution	55500-0044		54,558.41		35,773.95		-		7,327.19		-	43,101.14		1,639.10		-
Real Time Revenue Neutrality Uplift Amount	55500-0045		103,480.26		67,852.01		-		13,897.40		-	81,749.41		3,108.86		-
Real Time Uninstructed Deviation	55500-0048		-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077		-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079		(835.45)		-		(547.80)		-		(112.20)	(660.01)		-		(25.10)
Real Time Ramp Capability Amount	55500-0080		196.45		128.81		-		26.38		-	155.20		5.90		-
Subtotal			159,348.73	723,571	105,032.77	723,571	(547.80)	144,988	21,512.74	144,988	(112.20)	125,885.50	34,507	4,812.41	34,507	(25.10)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	March 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-									-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-									-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-									-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-									-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-									-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-									-				
Subtotal			-	723,571	-	723,571	-	144,988	-	144,988	-	-	34,507	-	34,507	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(3,841.47)			-		(2,518.85)		-		(515.91)	(3,034.76)		-		(115.41)
Day Ahead Spinning Reserve Amount	55500-0063	(27,133.58)			-		(17,791.49)		-		(3,644.04)	(21,435.53)		-		(815.17)
Day Ahead Supplemental Reserve Amount	55500-0064	-			-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(593.23)			-		(388.98)		-		(79.67)	(468.65)		-		(17.82)
Real Time Regulation Amount	55500-0070	(2,386.13)			-		(1,564.59)		-		(320.46)	(1,885.04)		-		(71.69)
Regulation Reserve Cost Distribution Amount	55500-0071	36,113.24			23,679.45		-		4,850.01		-	28,529.46		1,084.95		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	5,385.37			3,531.19		-		723.26		-	4,254.44		161.79		-
Real Time Spinning Reserve Amount	55500-0072	(3,754.40)			-		(2,461.76)		-		(504.22)	(2,965.98)		-		(112.79)
Spinning Reserve Cost Distribution Amount	55500-0073	37,516.55			24,599.60		-		5,038.47		-	29,638.07		1,127.11		-
Real Time Supplemental Reserve Amount	55500-0074	(2.80)			-		(1.84)		-		(0.38)	(2.21)		-		(0.08)
Supplemental Reserve Cost Distribution Amount	55500-0075	14,198.81			9,310.16		-		1,906.90		-	11,217.06		426.57		-
Subtotal		55,502.36		723,571	61,120.40	723,571	(24,727.50)	144,988	12,518.64	144,988	(5,064.67)	43,846.86	34,507	2,800.43	34,507	(1,132.97)
Grand Total		3,388,747.65		723,571	3,838,565.54	723,571	(470,849.66)	144,988	786,212.22	144,988	(96,439.09)	4,057,489.01	34,507	70,474.07	34,507	(21,620.19)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines
Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE
DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	March 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050		3,994,387.67 (1,867,438.46)																
Day Ahead Non-Asset Energy	55500-0027																		
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050		(64,492.99)																
Excessive Energy Amount	55500-0066		27,618.56																
Non-Excessive Energy Amount	55500-0069		(162,891.71)																
Real Time Non-Asset Energy	55500-0043		(151,496.84)																
Subtotal			1,775,686.23	60,784				37,150				51,365				232,892			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050		954,532.72										43,273.82		-		129,088.61		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022		341,537.44										15,273.39		-		46,188.66		-
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050		27,363.07 (165,039.83)										1,240.51 -		- (7,380.50)		3,700.51 -		- (22,319.57)
Real Time Distribution of Losses	55500-0041												-		-		-		-
Real Time Financial Bilateral Transaction Loss	55500-0038		-										-		-		-		-
Subtotal			1,158,393.40	60,784	-	60,784	-	37,150	-	37,150	-	51,365	59,787.72	51,365	(7,380.50)	232,892	178,977.78	232,892	(22,319.57)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030		-																
Real Time Virtual Energy	55500-0049		-																
Subtotal			-	60,784	-	60,784	-	37,150	-	37,150	-	51,365	-	51,365	-	232,892	-	232,892	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020		168,320.36										7,527.21		-		22,763.22		-
Real Time Market Administration (Schedule 17)	55500-0036		12,466.83										557.51		-		1,685.98		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031		5,423.76										242.55		-		733.50		-
Subtotal			186,210.95	60,784	-	60,784	-	37,150	-	37,150	-	51,365	8,327.27	51,365	-	232,892	25,182.70	232,892	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION	Account Number	March 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
		Congestion, FTRs & ARRs																
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	70,897.76										3,214.16		-		9,588.03		-
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(103,182.51)										-		(4,677.79)		-		(13,954.14)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	230,952.27										10,328.08		-		31,233.40		-
Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(55,129.21)										-		(2,465.35)		-		(7,455.54)
Financial Transmission Rights Annual Transaction Amount	55500-0059	146,543.25										6,553.35		-		19,818.14		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	13,706.04										612.93		-		1,853.57		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(55,984.22)										-		(2,503.59)		-		(7,571.17)
Financial Transmission Rights Hourly Allocation	55500-0032	(102,319.91)										-		(4,575.70)		-		(13,837.49)
Financial Transmission Rights Monthly Allocation	55500-0033	(7,363.01)										-		(329.27)		-		(995.75)
Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	2,080.07										93.02		-		281.30		-
FTR Guarantee Uplift Amount	55500-0055	(2,080.07)										-		(93.02)		-		(281.30)
Financial Transmission Rights Monthly Transaction Amount	55500-0056	37,884.85										1,694.19		-		5,123.45		-
Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-
Subtotal		176,005.31	60,784	-	60,784	-	37,150	-	37,150	-	51,365	22,495.72	51,365	(14,644.72)	232,892	67,897.91	232,892	(44,095.39)
RSG & Make Whole Payments																		
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	20,492.52										916.42		-		2,771.36		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(111.10)										-		(4.97)		-		(15.02)
Real Time Price Volatility Make Whole Payment	55500-0057	(188,464.51)										-		(8,428.04)		-		(25,487.47)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	45,683.76										2,042.96		-		6,178.16		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-
Subtotal		(122,399.33)	60,784	-	60,784	-	37,150	-	37,150	-	51,365	2,959.37	51,365	(8,433.01)	232,892	8,949.51	232,892	(25,502.49)
RNU & Misc Charges																		
Real Time Miscellaneous	55500-0042	1,949.06										87.16		-		263.59		-
Real Time Net Inadvertent Distribution	55500-0044	54,558.41										2,439.83		-		7,378.34		-
Real Time Revenue Neutrality Uplift Amount	55500-0045	103,480.26										4,627.59		-		13,994.41		-
Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(835.45)										-		(37.36)		-		(112.98)
Real Time Ramp Capability Amount	55500-0080	196.45										8.79		-		26.57		-
Subtotal		159,348.73	60,784	-	60,784	-	37,150	-	37,150	-	51,365	7,163.36	51,365	(37.36)	232,892	21,662.91	232,892	(112.98)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	March 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	60,784	-	60,784	-	37,150	-	37,150	-	51,365	-	51,365	-	232,892	-	232,892	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(3,841.47)										-		(171.79)		-		(519.51)
Day Ahead Spinning Reserve Amount	55500-0063		(27,133.58)										-		(1,213.40)		-		(3,669.48)
Day Ahead Supplemental Reserve Amount	55500-0064		-										-		-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(593.23)										-		(26.53)		-		(80.23)
Real Time Regulation Amount	55500-0070		(2,386.13)										-		(106.71)		-		(322.69)
Regulation Reserve Cost Distribution Amount	55500-0071		36,113.24										1,614.97		-		4,883.86		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		5,385.37										240.83		-		728.30		-
Real Time Spinning Reserve Amount	55500-0072		(3,754.40)										-		(167.89)		-		(507.74)
Spinning Reserve Cost Distribution Amount	55500-0073		37,516.55										1,677.72		-		5,073.64		-
Real Time Supplemental Reserve Amount	55500-0074		(2.80)										-		(0.13)		-		(0.38)
Supplemental Reserve Cost Distribution Amount	55500-0075		14,198.81										634.96		-		1,920.21		-
Subtotal			55,502.36	60,784	-	60,784	-	37,150	-	37,150	-	51,365	4,168.48	51,365	(1,686.45)	232,892	12,606.02	232,892	(5,100.02)
Grand Total			3,388,747.65	60,784	-	60,784	-	37,150	-	37,150	-	51,365	104,901.92	51,365	(32,182.04)	232,892	315,276.83	232,892	(97,130.46)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	April 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	6,495,957.60 (1,733,015.05)										-				
Day Ahead Non-Asset Energy	55500-0027											-				
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	232,483.81 42,546.49 (201,658.88) (117,860.10)										-				
Excessive Energy Amount	55500-0066											-				
Non-Excessive Energy Amount	55500-0069											-				
Real Time Non-Asset Energy	55500-0043											-				
Subtotal		4,718,453.87		693,797	4,635,383.49			129,331	882,930.19			5,518,313.68	25,912			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	614,453.72			407,174.55		-		77,557.06		-	484,731.61		14,925.76		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022															
		337,992.64			224,291.92		-		42,722.27		-	267,014.19		8,081.18		-
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	28,123.91 (121,337.27)			18,636.62		-		3,549.83		-	22,186.45		683.16		-
Real Time Distribution of Losses	55500-0041															
Real Time Financial Bilateral Transaction Loss	55500-0038															
		-			-		-		-		-	-		-		-
Subtotal		859,233.00		693,797	650,103.09	693,797	(80,519.41)	129,331	123,829.16	129,331	(15,337.03)	678,075.80	25,912	23,690.11	25,912	(2,901.09)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		693,797	-	693,797	-	129,331	-	129,331	-	-	25,912	-	25,912	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	122,735.66 9,748.40 4,105.30			81,447.38		-		15,513.79		-	96,961.17		2,934.53		-
Real Time Market Administration (Schedule 17)	55500-0036															
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031															
					2,724.28		-		518.91		-	3,243.19		98.16		-
Subtotal		136,589.36		693,797	90,640.70	693,797	-	129,331	17,264.90	129,331	-	107,905.59	25,912	3,265.76	25,912	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	April 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(196,711.26)			-		(130,352.89)		-		(24,829.12)	(155,182.02)		-		(4,778.34)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(92,917.46)			-		(61,572.78)		-		(11,728.15)	(73,300.93)		-		(2,257.07)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	157,488.28			104,509.22		-		19,906.52		-	124,415.74		3,765.44		-
Real Time Financial Bilateral Transaction Congestion	55500-0037	-			-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(55,129.21)			-		(36,583.74)		-		(6,968.33)	(43,552.08)		-		(1,318.10)
Financial Transmission Rights Annual Transaction Amount	55500-0059	146,543.25			97,246.10		-		18,523.07		-	115,769.17		3,503.75		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	13,702.75			9,093.14		-		1,732.03		-	10,825.17		327.62		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(55,277.60)			-		(36,682.22)		-		(6,987.09)	(43,669.30)		-		(1,321.65)
Financial Transmission Rights Hourly Allocation	55500-0032	(19,702.75)			-		(13,074.74)		-		(2,490.43)	(15,565.17)		-		(471.08)
Financial Transmission Rights Monthly Allocation	55500-0033	(5,189.74)			-		(3,443.91)		-		(655.98)	(4,099.89)		-		(124.08)
Financial Transmission Rights Yearly Allocation	55500-0035	-			-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(3,109.71)			-		(2,063.60)		-		(393.07)	(2,456.67)		-		(74.35)
FTR Guarantee Uplift Amount	55500-0055	3,109.71			2,063.60		-		393.07		-	2,456.67		74.35		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056	34,302.43			22,763.09		-		4,335.83		-	27,098.92		820.15		-
Financial Transmission Rights Transaction	55500-0034	-			-		-		-		-	-		-		-
Subtotal		(72,891.31)		693,797	235,675.16	693,797	(283,773.89)	129,331	44,890.51	129,331	(54,052.17)	(57,260.39)	25,912	8,491.32	25,912	(10,344.67)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	35,909.40			23,829.48		-		4,538.95		-	28,368.43		858.57		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(94.42)			-		(62.66)		-		(11.93)	(74.59)		-		(2.26)
Real Time Price Volatility Make Whole Payment	55500-0057	(5,026.58)			-		(3,335.64)		-		(635.36)	(3,971.00)		-		(120.18)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	81,515.22			54,093.50		-		10,303.52		-	64,397.02		1,948.98		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-			-		-		-		-	-		-		-
Subtotal		112,303.62		693,797	77,922.98	693,797	(3,398.30)	129,331	14,842.47	129,331	(647.29)	88,719.86	25,912	2,807.55	25,912	(122.44)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042	183,008.84			121,444.67		-		23,132.32		-	144,576.98		4,375.62		-
Real Time Net Inadvertent Distribution	55500-0044	18,899.89			12,541.97		-		2,388.95		-	14,930.91		451.88		-
Real Time Revenue Neutrality Uplift Amount	55500-0045	191,927.72			127,363.23		-		24,259.66		-	151,622.90		4,588.87		-
Real Time Uninstructed Deviation	55500-0048	-			-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-			-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(1,777.16)			-		(1,179.32)		-		(224.63)	(1,403.96)		-		(42.49)
Real Time Ramp Capability Amount	55500-0080	192.82			127.96		-		24.37		-	152.33		4.61		-
Subtotal		392,252.11		693,797	261,477.82	693,797	(1,179.32)	129,331	49,805.30	129,331	(224.63)	309,879.17	25,912	9,420.98	25,912	(42.49)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	April 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-										-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-										-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-										-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-										-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-										-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-										-				
Subtotal		-	-	693,797	-	693,797	-	129,331	-	129,331	-	-	25,912	-	25,912	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(4,155.40)			-		(2,757.52)		-		(525.24)	(3,282.77)		-		(99.35)
Day Ahead Spinning Reserve Amount	55500-0063	(28,978.25)			-		(19,229.97)		-		(3,662.85)	(22,892.82)		-		(692.85)
Day Ahead Supplemental Reserve Amount	55500-0064	-			-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(339.97)			-		(225.60)		-		(42.97)	(268.58)		-		(8.13)
Real Time Regulation Amount	55500-0070	290.97			193.09		-		36.78		-	229.87		6.96		-
Regulation Reserve Cost Distribution Amount	55500-0071	38,994.24			25,876.58		-		4,928.87		-	30,805.45		932.33		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,438.09			2,945.12		-		560.97		-	3,506.09		106.11		-
Real Time Spinning Reserve Amount	55500-0072	3,818.07			2,533.67		-		482.60		-	3,016.28		91.29		-
Spinning Reserve Cost Distribution Amount	55500-0073	57,347.04			38,055.50		-		7,248.67		-	45,304.16		1,371.13		-
Real Time Supplemental Reserve Amount	55500-0074	(12.37)			-		(8.21)		-		(1.56)	(9.77)		-		(0.30)
Supplemental Reserve Cost Distribution Amount	55500-0075	14,513.15			9,630.93		-		1,834.46		-	11,465.39		347.00		-
Subtotal		85,915.57		693,797	79,234.88	693,797	(22,221.30)	129,331	15,092.36	129,331	(4,232.63)	67,873.30	25,912	2,854.81	25,912	(800.63)
Grand Total		6,231,856.22		693,797	6,030,438.12	693,797	(391,092.23)	129,331	1,148,654.88	129,331	(74,493.76)	6,713,507.02	25,912	50,530.52	25,912	(14,211.32)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)

2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE

3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity

NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	April 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	6,495,957.60 (1,733,015.05)																	
Day Ahead Non-Asset Energy	55500-0027																		
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050																		
Excessive Energy Amount	55500-0066																		
Non-Excessive Energy Amount	55500-0069																		
Real Time Non-Asset Energy	55500-0043	232,483.81 42,546.49 (201,658.88) (117,860.10)																	
Subtotal			4,718,453.87	35,792				36,000					49,955				218,103		
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	614,453.72 337,992.64											28,775.37 15,579.70				86,020.98 47,317.57		
Day Ahead Financial Bilateral Transaction Loss	55500-0022																		
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050																		
Real Time Distribution of Losses	55500-0041																		
Real Time Financial Bilateral Transaction Loss	55500-0038																		
Subtotal			859,233.00	35,792	-	35,792	-	36,000	-	36,000	-	49,955	45,672.14	49,955	(5,593.02)	218,103	137,275.78	218,103	(16,986.72)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030	-																	
Real Time Virtual Energy	55500-0049	-																	
Subtotal			-	35,792	-	35,792	-	36,000	-	36,000	-	49,955	-	49,955	-	218,103	-	218,103	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020	122,735.66 9,748.40 4,105.30											5,657.48 449.35 189.23				17,182.48 1,364.74 574.73		
Real Time Market Administration (Schedule 17)	55500-0036																		
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031																		
Subtotal			136,589.36	35,792	-	35,792	-	36,000	-	36,000	-	49,955	6,296.06	49,955	-	218,103	19,121.95	218,103	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION	Account Number	April 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
		Congestion, FTRs & ARRs																
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(196,711.26)										-		(9,212.15)		-		(27,538.76)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(92,917.46)										-		(4,351.40)		-		(13,008.06)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	157,488.28										7,259.39		-		22,047.71		-
Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(55,129.21)										-		(2,541.17)		-		(7,717.86)
Financial Transmission Rights Annual Transaction Amount	55500-0059	146,543.25										6,754.88		-		20,515.45		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	13,702.75										631.63		-		1,918.33		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(55,277.60)										-		(2,548.01)		-		(7,738.64)
Financial Transmission Rights Hourly Allocation	55500-0032	(19,702.75)										-		(908.19)		-		(2,758.30)
Financial Transmission Rights Monthly Allocation	55500-0033	(5,189.74)										-		(239.22)		-		(726.54)
Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(3,109.71)										-		(143.34)		-		(435.35)
FTR Guarantee Uplift Amount	55500-0055	3,109.71										143.34		-		435.35		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056	34,302.43										1,581.16		-		4,802.20		-
Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-
Subtotal		(72,891.31)	35,792	-	35,792	-	36,000	-	36,000	-	49,955	16,370.40	49,955	(19,943.49)	218,103	49,719.03	218,103	(59,923.51)
RSG & Make Whole Payments																		
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	35,909.40										1,655.24		-		5,027.17		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(94.42)										-		(4.35)		-		(13.22)
Real Time Price Volatility Make Whole Payment	55500-0057	(5,026.58)										-		(231.70)		-		(703.70)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	81,515.22										3,757.43		-		11,411.79		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-
Subtotal		112,303.62	35,792	-	35,792	-	36,000	-	36,000	-	49,955	5,412.66	49,955	(236.05)	218,103	16,438.96	218,103	(716.92)
RNU & Misc Charges																		
Real Time Miscellaneous	55500-0042	183,008.84										8,435.76		-		25,620.48		-
Real Time Net Inadvertent Distribution	55500-0044	18,899.89										871.19		-		2,645.91		-
Real Time Revenue Neutrality Uplift Amount	55500-0045	191,927.72										8,846.87		-		26,869.09		-
Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(1,777.16)										-		(81.92)		-		(248.80)
Real Time Ramp Capability Amount	55500-0080	192.82										8.89		-		26.99		-
Subtotal		392,252.11	35,792	-	35,792	-	36,000	-	36,000	-	49,955	18,162.70	49,955	(81.92)	218,103	55,162.47	218,103	(248.80)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	April 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	35,792	-	35,792	-	36,000	-	36,000	-	49,955	-	49,955	-	218,103	-	218,103	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(4,155.40)										-		(191.54)		-		(581.74)
Day Ahead Spinning Reserve Amount	55500-0063		(28,978.25)										-		(1,335.75)		-		(4,056.84)
Day Ahead Supplemental Reserve Amount	55500-0064		-										-		-		-		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(339.97)										-		(15.67)		-		(47.59)
Real Time Regulation Amount	55500-0070		290.97										13.41		-		40.73		-
Regulation Reserve Cost Distribution Amount	55500-0071		38,994.24										1,797.43		-		5,459.03		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		4,438.09										204.57		-		621.31		-
Real Time Spinning Reserve Amount	55500-0072		3,818.07										175.99		-		534.51		-
Spinning Reserve Cost Distribution Amount	55500-0073		57,347.04										2,643.40		-		8,028.35		-
Real Time Supplemental Reserve Amount	55500-0074		(12.37)										-		(0.57)		-		(1.73)
Supplemental Reserve Cost Distribution Amount	55500-0075		14,513.15										668.98		-		2,031.78		-
Subtotal			85,915.57	35,792	-	35,792	-	36,000	-	36,000	-	49,955	5,503.79	49,955	(1,543.53)	218,103	16,715.72	218,103	(4,687.90)
Grand Total			6,231,856.22	35,792	-	35,792	-	36,000	-	36,000	-	49,955	97,417.76	49,955	(27,398.00)	218,103	294,433.90	218,103	(82,563.84)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	May 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,371,736.74 (3,323,424.37)										-				
Day Ahead Non-Asset Energy	55500-0027															
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	118,650.10 48,275.09 (40,512.27) 70,568.35										-				
Excessive Energy Amount	55500-0066															
Non-Excessive Energy Amount	55500-0069															
Real Time Non-Asset Energy	55500-0043															
Subtotal		2,245,293.64		684,044	2,567,756.39			126,002	483,342.38			3,051,098.76	51,450			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	805,300.39			523,376.98		-		98,518.02		-	621,895.00		34,814.02		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022															
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	84,152.77 (157,289.11)			54,692.17 -		-		10,295.00 -		-	64,987.17 (120,735.12)		3,638.02 -		-
Real Time Distribution of Losses	55500-0041															
Real Time Financial Bilateral Transaction Loss	55500-0038															
Subtotal		1,092,040.00		684,044	810,549.01	684,044	(101,608.77)	126,002	152,573.93	126,002	(19,126.36)	842,387.82	51,450	54,825.22	51,450	(7,156.14)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		684,044	-	684,044	-	126,002	-	126,002	-	-	51,450	-	51,450	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	131,376.47 11,650.79 3,089.90			84,869.20 7,526.41 1,996.08		-		15,975.38 1,416.74 375.73		-	100,844.58 8,943.15 2,371.81		5,977.20 530.07 140.58		-
Real Time Market Administration (Schedule 17)	55500-0036															
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031															
Subtotal		146,117.16		684,044	94,391.69	684,044	-	126,002	17,767.85	126,002	-	112,159.53	51,450	6,647.85	51,450	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION	Account Number	May 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs															
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(1,517,975.92)		-		(986,555.66)		-		(185,704.59)	(1,172,260.25)		-		(65,623.77)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	68,870.43		44,759.94		-		8,425.40		-	53,185.34		2,977.34		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	582,066.55		376,014.99		-		70,779.29		-	446,794.28		26,482.12		-
Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(55,129.21)		-		(35,613.47)		-		(6,703.71)	(42,317.18)		-		(2,508.20)
Financial Transmission Rights Annual Transaction Amount	55500-0059	146,543.25		94,666.94		-		17,819.66		-	112,486.60		6,667.24		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	13,699.46		8,849.85		-		1,665.85		-	10,515.71		623.28		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(54,666.92)		-		(35,314.83)		-		(6,647.50)	(41,962.33)		-		(2,487.17)
Financial Transmission Rights Hourly Allocation	55500-0032	89,874.51		58,058.93		-		10,928.74		-	68,987.67		4,089.00		-
Financial Transmission Rights Monthly Allocation	55500-0033	(13,272.14)		-		(8,573.80)		-		(1,613.89)	(10,187.69)		-		(603.84)
Financial Transmission Rights Yearly Allocation	55500-0035	(19,487.48)		-		(12,588.91)		-		(2,369.68)	(14,958.59)		-		(886.62)
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(46,787.61)		-		(30,224.80)		-		(5,689.37)	(35,914.17)		-		(2,128.68)
FTR Guarantee Uplift Amount	55500-0055	48,002.68		31,009.73		-		5,837.13		-	36,846.86		2,183.96		-
Financial Transmission Rights Monthly Transaction Amount	55500-0056	59,575.97		38,486.08		-		7,244.44		-	45,730.51		2,710.51		-
Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal		(698,686.43)	684,044	651,846.46	684,044	(1,108,871.47)	126,002	122,700.51	126,002	(208,728.75)	(543,053.24)	51,450	45,733.45	51,450	(74,238.27)
RSG & Make Whole Payments															
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	27,716.74		17,905.01		-		3,370.36		-	21,275.37		1,261.02		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(343.24)		-		(221.73)		-		(41.74)	(263.47)		-		(15.62)
Real Time Price Volatility Make Whole Payment	55500-0057	(25,605.58)		-		(16,541.20)		-		(3,113.64)	(19,654.84)		-		(1,164.97)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	44,607.37		28,816.36		-		5,424.26		-	34,240.62		2,029.49		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-
Subtotal		46,375.29	684,044	46,721.38	684,044	(16,762.94)	126,002	8,794.61	126,002	(3,155.38)	35,597.67	51,450	3,290.51	51,450	(1,180.59)
RNU & Misc Charges															
Real Time Miscellaneous	55500-0042	(318,741.84)		-		(205,907.23)		-		(38,759.01)	(244,666.24)		-		(14,501.71)
Real Time Net Inadvertent Distribution	55500-0044	(14,767.10)		-		(9,539.55)		-		(1,795.68)	(11,335.23)		-		(671.85)
Real Time Revenue Neutrality Uplift Amount	55500-0045	131,190.90		84,749.32		-		15,952.81		-	100,702.13		5,968.76		-
Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(12,726.63)		-		(8,221.40)		-		(1,547.56)	(9,768.96)		-		(579.02)
Real Time Ramp Capability Amount	55500-0080	3,670.84		2,371.36		-		446.37		-	2,817.74		167.01		-
Subtotal		(211,373.83)	684,044	87,120.68	684,044	(223,668.18)	126,002	16,399.19	126,002	(42,102.25)	(162,250.55)	51,450	6,135.77	51,450	(15,752.58)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	May 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-									-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-									-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-									-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-									-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-									-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-									-				
Subtotal			-	684,044	-	684,044	-	126,002	-	126,002	-	-	51,450	-	51,450	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062		(18,037.94)		-		(11,652.51)		-		(2,193.41)	(13,845.92)		-		(820.67)
Day Ahead Spinning Reserve Amount	55500-0063		(99,025.28)		-		(63,970.33)		-		(12,041.47)	(76,011.80)		-		(4,505.33)
Day Ahead Supplemental Reserve Amount	55500-0064		(2,836.98)		-		(1,832.69)		-		(344.98)	(2,177.67)		-		(129.07)
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-		-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068		(555.75)		-		(359.01)		-		(67.58)	(426.59)		-		(25.28)
Real Time Regulation Amount	55500-0070		2,603.13		1,681.62		-		316.54		-	1,998.16		118.43		-
Regulation Reserve Cost Distribution Amount	55500-0071		41,918.21		27,079.16		-		5,097.25		-	32,176.42		1,907.14		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		8,934.13		5,771.45		-		1,086.39		-	6,857.84		406.47		-
Real Time Spinning Reserve Amount	55500-0072		37,448.56		24,191.77		-		4,553.74		-	28,745.51		1,703.79		-
Spinning Reserve Cost Distribution Amount	55500-0073		69,070.95		44,619.83		-		8,399.03		-	53,018.86		3,142.50		-
Real Time Supplemental Reserve Amount	55500-0074		1,298.53		838.85		-		157.90		-	996.75		59.08		-
Supplemental Reserve Cost Distribution Amount	55500-0075		36,028.17		23,274.20		-		4,381.03		-	27,655.22		1,639.16		-
Subtotal			76,845.73	684,044	127,456.89	684,044	(77,814.54)	126,002	23,991.88	126,002	(14,647.44)	58,986.78	51,450	8,976.58	51,450	(5,480.35)
Grand Total			2,696,611.55	684,044	4,385,842.49	684,044	(1,528,725.89)	126,002	825,570.35	126,002	(287,760.17)	3,394,926.78	51,450	125,609.38	51,450	(103,807.93)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines
Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE
DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	May 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,371,736.74 (3,323,424.37)																	
Day Ahead Non-Asset Energy	55500-0027																		
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	118,650.10 48,275.09 (40,512.27) 70,568.35																	
Excessive Energy Amount	55500-0066																		
Non-Excessive Energy Amount	55500-0069																		
Real Time Non-Asset Energy	55500-0043																		
Subtotal		2,245,293.64	21,959					37,200				54,196				235,007			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	805,300.39 359,875.94											36,672.35 17,247.15			111,919.02 50,014.84			- -
Day Ahead Financial Bilateral Transaction Loss	55500-0022																		
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	84,152.77 (157,289.11) - -											3,832.21 - - -			11,695.38 - - -			- (21,859.73) - -
Real Time Distribution of Losses	55500-0041																		
Real Time Financial Bilateral Transaction Loss	55500-0038																		
Subtotal		1,092,040.00	21,959	-	21,959	-		37,200	-	37,200	-	54,196	57,751.71	54,196	(7,538.12)	235,007	173,629.24	235,007	(21,859.73)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030	-																	
Real Time Virtual Energy	55500-0049	-																	
Subtotal		-	21,959	-	21,959	-		37,200	-	37,200	-	54,196	-	54,196	-	235,007	-	235,007	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020	131,376.47											6,296.25			18,258.44			-
Real Time Market Administration (Schedule 17)	55500-0036	11,650.79											558.37			1,619.20			-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,089.90											148.08			429.43			-
Subtotal		146,117.16	21,959	-	21,959	-		37,200	-	37,200	-	54,196	7,002.70	54,196	-	235,007	20,307.07	235,007	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	May 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	
Congestion, FTRs & ARRs																			
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(1,517,975.92)										-		(69,126.67)		-		(210,965.22)	
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	68,870.43										3,136.27		-		9,571.47		-	
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	582,066.55										27,895.70		-		80,894.45		-	
Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-	
Auction Revenue Rights Transaction Amount	55500-0058	(55,129.21)										-		(2,642.08)		-		(7,661.75)	
Financial Transmission Rights Annual Transaction Amount	55500-0059	146,543.25										7,023.12		-		20,366.29		-	
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	13,699.46										656.55		-		1,903.92		-	
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(54,666.92)										-		(2,619.93)		-		(7,597.50)	
Financial Transmission Rights Hourly Allocation	55500-0032	89,874.51										4,307.26		-		12,490.58		-	
Financial Transmission Rights Monthly Allocation	55500-0033	(13,272.14)										-		(636.07)		-		(1,844.54)	
Financial Transmission Rights Yearly Allocation	55500-0035	(19,487.48)										-		(933.94)		-		(2,708.33)	
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(46,787.61)										-		(2,242.31)		-		(6,502.45)	
FTR Guarantee Uplift Amount	55500-0055	48,002.68										2,300.54		-		6,671.32		-	
Financial Transmission Rights Monthly Transaction Amount	55500-0056	59,575.97										2,855.19		-		8,279.75		-	
Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal			(698,686.43)	21,959	-	21,959	-	37,200	-	37,200	-	54,196	48,174.64	54,196	(78,201.01)	235,007	140,177.78	235,007	(237,279.79)
RSG & Make Whole Payments																			
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	27,716.74										1,328.33		-		3,852.02		-	
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(343.24)										-		(16.45)		-		(47.70)	
Real Time Price Volatility Make Whole Payment	55500-0057	(25,605.58)										-		(1,227.15)		-		(3,558.61)	
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	44,607.37										2,137.82		-		6,199.44		-	
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-	
Subtotal			46,375.29	21,959	-	21,959	-	37,200	-	37,200	-	54,196	3,466.15	54,196	(1,243.60)	235,007	10,051.46	235,007	(3,606.32)
RNU & Misc Charges																			
Real Time Miscellaneous	55500-0042	(318,741.84)										-		(15,275.79)		-		(44,298.11)	
Real Time Net Inadvertent Distribution	55500-0044	(14,767.10)										-		(707.72)		-		(2,052.30)	
Real Time Revenue Neutrality Uplift Amount	55500-0045	131,190.90										6,287.36		-		18,232.65		-	
Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
Day Ahead Ramp Capability Amount	55500-0079	(12,726.63)										-		(609.93)		-		(1,768.72)	
Real Time Ramp Capability Amount	55500-0080	3,670.84										175.93		-		510.17		-	
Subtotal			(211,373.83)	21,959	-	21,959	-	37,200	-	37,200	-	54,196	6,463.29	54,196	(16,593.43)	235,007	18,742.82	235,007	(48,119.13)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	May 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	21,959	-	21,959	-	37,200	-	37,200	-	54,196	-	54,196	-	235,007	-	235,007	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(18,037.94)										-		(864.47)		-		(2,506.88)
Day Ahead Spinning Reserve Amount	55500-0063		(99,025.28)										-		(4,745.81)		-		(13,762.34)
Day Ahead Supplemental Reserve Amount	55500-0064		(2,836.98)										-		(135.96)		-		(394.28)
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-		-		-		-
Net Regulation Adjustment Amount	55500-0068		(555.75)										-		(26.63)		-		(77.24)
Real Time Regulation Amount	55500-0070		2,603.13										124.76		-		361.78		-
Regulation Reserve Cost Distribution Amount	55500-0071		41,918.21										2,008.94		-		5,825.71		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		8,934.13										428.17		-		1,241.65		-
Real Time Spinning Reserve Amount	55500-0072		37,448.56										1,794.73		-		5,204.53		-
Spinning Reserve Cost Distribution Amount	55500-0073		69,070.95										3,310.24		-		9,599.34		-
Real Time Supplemental Reserve Amount	55500-0074		1,298.53										62.23		-		180.47		-
Supplemental Reserve Cost Distribution Amount	55500-0075		36,028.17										1,726.66		-		5,007.12		-
Subtotal			76,845.73	21,959	-	21,959	-	37,200	-	37,200	-	54,196	9,455.74	54,196	(5,772.88)	235,007	27,420.59	235,007	(16,740.73)
Grand Total			2,696,611.55	21,959	-	21,959	-	37,200	-	37,200	-	54,196	132,314.23	54,196	(109,349.05)	235,007	390,328.97	235,007	(327,605.69)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	June 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	2,479,852.70 (1,890,399.94)										-				
Day Ahead Non-Asset Energy	55500-0027															
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,657.27 73,991.29 381,416.22 14,396.38										-				
Excessive Energy Amount	55500-0066															
Non-Excessive Energy Amount	55500-0069															
Real Time Non-Asset Energy	55500-0043															
Subtotal		1,064,913.92		668,388	1,895,140.32			125,469	360,979.11			2,256,119.42	71,045			
Day Ahead and Real Time Energy Loss																
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	951,274.19			600,106.94		-		114,306.08		-	714,413.02		61,552.85		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022															
		393,501.34			247,905.84		-		47,220.16		-	295,126.01		25,684.89		-
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(38,842.40) (278,639.33)			-		(24,503.55) (175,542.78)		-		(4,667.34) (33,436.72)	(29,170.89) (208,979.50)		-		(2,513.32) (18,187.54)
Real Time Distribution of Losses	55500-0041															
Real Time Financial Bilateral Transaction Loss	55500-0038															
Subtotal		1,027,293.80		668,388	848,012.78	668,388	(200,046.32)	125,469	161,526.24	125,469	(38,104.06)	771,388.64	71,045	87,237.74	71,045	(20,700.86)
Virtual Energy																
Day Ahead Virtual Energy	55500-0030	-			-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-			-		-		-		-	-				
Subtotal		-		668,388	-	668,388	-	125,469	-	125,469	-	-	71,045	-	71,045	-
Schedule 16 & 17 1/																
Day Ahead Market Administration (Schedule 17)	55500-0020	133,345.21 9,916.04 3,890.30			84,007.48		-		16,001.43		-	100,008.91 7,437.03 2,917.73		8,703.80		-
Real Time Market Administration (Schedule 17)	55500-0036															
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031															
Subtotal		147,151.55		668,388	92,705.48	668,388	-	125,469	17,658.19	125,469	-	110,363.66	71,045	9,604.98	71,045	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	June 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	34,576.93			21,812.70		-		4,154.80		-	25,967.50		2,237.32		-
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	13,116.67			8,274.59		-		1,576.11		-	9,850.71		848.72		-
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	171,160.23			107,830.94		-		20,539.23		-	128,370.17		11,172.09		-
Real Time Financial Bilateral Transaction Congestion	55500-0037	-			-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(176,932.61)			-		(111,467.54)		-		(21,231.91)	(132,699.46)		-		(11,548.87)
Financial Transmission Rights Annual Transaction Amount	55500-0059	260,807.01			164,308.42		-		31,296.84		-	195,605.26		17,023.57		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	15,247.33			9,605.82		-		1,829.68		-	11,435.50		995.23		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(64,302.44)			-		(40,510.54)		-		(7,716.29)	(48,226.83)		-		(4,197.19)
Financial Transmission Rights Hourly Allocation	55500-0032	(297,334.36)			-		(187,320.65)		-		(35,680.12)	(223,000.77)		-		(19,407.81)
Financial Transmission Rights Monthly Allocation	55500-0033	(74,209.88)			-		(46,752.22)		-		(8,905.19)	(55,657.41)		-		(4,843.88)
Financial Transmission Rights Yearly Allocation	55500-0035	-			-		-		-		-	-		-		-
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	70,088.14			44,155.53		-		8,410.58		-	52,566.11		4,574.84		-
FTR Guarantee Uplift Amount	55500-0055	(70,028.35)			-		(44,117.86)		-		(8,403.40)	(52,521.26)		-		(4,570.94)
Financial Transmission Rights Monthly Transaction Amount	55500-0056	51,101.50			32,193.95		-		6,132.18		-	38,326.13		3,335.53		-
Financial Transmission Rights Transaction	55500-0034	-			-		-		-		-	-		-		-
Subtotal		(66,709.83)		668,388	388,181.94	668,388	(430,168.81)	125,469	73,939.42	125,469	(81,936.92)	(49,984.37)	71,045	40,187.32	71,045	(44,568.69)
RSG & Make Whole Payments																
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	15,237.91			9,599.88		-		1,828.55		-	11,428.43		994.62		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(3,397.46)			-		(2,140.40)		-		(407.70)	(2,548.10)		-		(221.76)
Real Time Price Volatility Make Whole Payment	55500-0057	(58,952.49)			-		(37,140.07)		-		(7,074.30)	(44,214.37)		-		(3,847.99)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	30,277.22			19,074.65		-		3,633.27		-	22,707.92		1,976.28		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-			-		-		-		-	-		-		-
Subtotal		(16,834.82)		668,388	28,674.53	668,388	(39,280.47)	125,469	5,461.82	125,469	(7,481.99)	(12,626.12)	71,045	2,970.89	71,045	(4,069.75)
RNU & Misc Charges																
Real Time Miscellaneous	55500-0042	41,316.58			26,029.45		-		4,957.99		-	30,987.44		2,696.84		-
Real Time Net Inadvertent Distribution	55500-0044	26,632.41			16,778.42		-		3,195.89		-	19,974.31		1,738.37		-
Real Time Revenue Neutrality Uplift Amount	55500-0045	109,073.29			68,716.17		-		13,088.79		-	81,804.97		7,119.51		-
Real Time Uninstructed Deviation	55500-0048	-			-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-			-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(3,998.82)			-		(2,519.26)		-		(479.86)	(2,999.12)		-		(261.01)
Real Time Ramp Capability Amount	55500-0080	451.19			284.25		-		54.14		-	338.39		29.45		-
Subtotal		173,474.65		668,388	111,808.29	668,388	(2,519.26)	125,469	21,296.82	125,469	(479.86)	130,105.99	71,045	11,584.17	71,045	(261.01)

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	June 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-									-				
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-									-				
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-									-				
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-									-				
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-									-				
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-									-				
Subtotal			-	668,388	-	668,388	-	125,469	-	125,469	-	-	71,045	-	71,045	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(5,847.17)			-		(3,683.72)		-		(701.66)	(4,385.38)		-		(381.66)
Day Ahead Spinning Reserve Amount	55500-0063	(59,622.13)			-		(37,561.94)		-		(7,154.66)	(44,716.60)		-		(3,891.70)
Day Ahead Supplemental Reserve Amount	55500-0064	640.61			403.58		-		76.87		-	480.46		41.81		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065	-			-		-		-		-	-		-		-
Net Regulation Adjustment Amount	55500-0068	(424.82)			-		(267.64)		-		(50.98)	(318.62)		-		(27.73)
Real Time Regulation Amount	55500-0070	(4,126.44)			-		(2,599.66)		-		(495.17)	(3,094.83)		-		(269.34)
Regulation Reserve Cost Distribution Amount	55500-0071	32,963.54			20,767.03		-		3,955.62		-	24,722.66		2,151.62		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	7,868.33			4,957.05		-		944.20		-	5,901.25		513.59		-
Real Time Spinning Reserve Amount	55500-0072	(5,728.00)			-		(3,608.64)		-		(687.36)	(4,296.00)		-		(373.88)
Spinning Reserve Cost Distribution Amount	55500-0073	36,419.72			22,944.42		-		4,370.37		-	27,314.79		2,377.21		-
Real Time Supplemental Reserve Amount	55500-0074	(298.18)			-		(187.85)		-		(35.78)	(223.64)		-		(19.46)
Supplemental Reserve Cost Distribution Amount	55500-0075	(424.73)			-		(267.58)		-		(50.97)	(318.55)		-		(27.72)
Subtotal		1,420.73		668,388	49,072.09	668,388	(48,177.03)	125,469	9,347.06	125,469	(9,176.58)	1,065.55	71,045	5,084.23	71,045	(4,991.50)
Grand Total		2,330,710.01		668,388	3,413,595.42	668,388	(720,191.89)	125,469	650,208.65	125,469	(137,179.41)	3,206,432.78	71,045	156,669.33	71,045	(74,591.81)

- 1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FPE)
2/ Accounts 55500-0051 through 55500-0053 are not recovered through the FPE
3/ Accounts 55500-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity
NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines
Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FPE
DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	June 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	2,479,852.70 (1,890,399.94)																	
Day Ahead Non-Asset Energy	55500-0027																		
Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,657.27 73,991.29 381,416.22 14,396.38																	
Excessive Energy Amount	55500-0066																		
Non-Excessive Energy Amount	55500-0069																		
Real Time Non-Asset Energy	55500-0043																		
Subtotal		1,064,913.92	20,859					36,000				55,060				213,681			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	951,274.19 393,501.34											47,704.00 19,906.01			127,604.31 52,784.43			-
Day Ahead Financial Bilateral Transaction Loss	55500-0022																		
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(38,842.40) (278,639.33)											-		(1,947.85) (14,095.50)	-			(5,210.34) (37,376.80)
Real Time Distribution of Losses	55500-0041																		
Real Time Financial Bilateral Transaction Loss	55500-0038																		
Subtotal		1,027,293.80	20,859	-	20,859	-		36,000	-	36,000	-	55,060	67,610.01	55,060	(16,043.35)	213,681	180,388.75	213,681	(42,587.13)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030	-																	
Real Time Virtual Energy	55500-0049	-																	
Subtotal		-	20,859	-	20,859	-		36,000	-	36,000	-	55,060	-	55,060	-	213,681	-	213,681	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020	133,345.21											6,745.52		-		17,886.98		-
Real Time Market Administration (Schedule 17)	55500-0036	9,916.04											501.62		-		1,330.14		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,890.30											196.80		-		521.85		-
Subtotal		147,151.55	20,859	-	20,859	-		36,000	-	36,000	-	55,060	7,443.94	55,060	-	213,681	19,738.97	213,681	-

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	June 2017				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue				
Congestion, FTRs & ARRs																						
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	34,576.93										1,733.95		-		4,638.16		-				
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	13,116.67										657.77		-		1,759.48		-				
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	171,160.23										8,658.47		-		22,959.50		-				
Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-				
Auction Revenue Rights Transaction Amount	55500-0058	(176,932.61)										-		(8,950.47)		-		(23,733.81)				
Financial Transmission Rights Annual Transaction Amount	55500-0059	260,807.01										13,193.42		-		34,984.76		-				
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	15,247.33										771.32		-		2,045.28		-				
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(64,302.44)										-		(3,252.86)		-		(8,625.56)				
Financial Transmission Rights Hourly Allocation	55500-0032	(297,334.36)										-		(15,041.22)		-		(39,884.55)				
Financial Transmission Rights Monthly Allocation	55500-0033	(74,209.88)										-		(3,754.05)		-		(9,954.54)				
Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-				
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	70,088.14										3,545.54		-		9,401.65		-				
FTR Guarantee Uplift Amount	55500-0055	(70,028.35)										-		(3,542.52)		-		(9,393.63)				
Financial Transmission Rights Monthly Transaction Amount	55500-0056	51,101.50										2,585.07		-		6,854.78		-				
Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-				
Subtotal		(66,709.83)	20,859	-	20,859	-	36,000	-	36,000	-	55,060	31,145.52	55,060	(34,541.12)	213,681	82,643.62	213,681	(91,592.10)				
RSG & Make Whole Payments																						
Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	15,237.91										770.84		-		2,044.02		-				
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(3,397.46)										-		(171.87)		-		(455.74)				
Real Time Price Volatility Make Whole Payment	55500-0057	(58,952.49)										-		(2,982.22)		-		(7,907.91)				
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	30,277.22										1,531.63		-		4,061.40		-				
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-				
Subtotal		(16,834.82)	20,859	-	20,859	-	36,000	-	36,000	-	55,060	2,302.47	55,060	(3,154.09)	213,681	6,105.42	213,681	(8,363.65)				
RNU & Misc Charges																						
Real Time Miscellaneous	55500-0042	41,316.58										2,090.08		-		5,542.22		-				
Real Time Net Inadvertent Distribution	55500-0044	26,632.41										1,347.25		-		3,572.48		-				
Real Time Revenue Neutrality Uplift Amount	55500-0045	109,073.29										5,517.68		-		14,631.14		-				
Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-				
Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-				
Day Ahead Ramp Capability Amount	55500-0079	(3,998.82)										-		(202.29)		-		(536.40)				
Real Time Ramp Capability Amount	55500-0080	451.19										22.82		-		60.52		-				
Subtotal		173,474.65	20,859	-	20,859	-	36,000	-	36,000	-	55,060	8,977.83	55,060	(202.29)	213,681	23,806.36	213,681	(536.40)				

MINNESOTA POWER

MISO MONTHLY ALLOCATION		Account Number	June 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023		-														-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024		-														-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025		-														-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026		-														-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040		-														-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039		-														-		-
Subtotal			-	20,859	-	20,859	-	36,000	-	36,000	-	55,060	-	55,060	-	213,681	-	213,681	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062		(5,847.17)										-	(295.79)			-		(784.34)
Day Ahead Spinning Reserve Amount	55500-0063		(59,622.13)										-	(3,016.10)			-		(7,997.74)
Day Ahead Supplemental Reserve Amount	55500-0064		640.61										32.41	-			85.93		-
Contingency Reserve Deployment Failure Charge Amount	55500-0065		-										-	-			-		-
Net Regulation Adjustment Amount	55500-0068		(424.82)										-	(21.49)			-		(56.99)
Real Time Regulation Amount	55500-0070		(4,126.44)										-	(208.74)			-		(553.52)
Regulation Reserve Cost Distribution Amount	55500-0071		32,963.54										1,667.52	-			4,421.74		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067		7,868.33										398.03	-			1,055.46		-
Real Time Spinning Reserve Amount	55500-0072		(5,728.00)										-	(289.76)			-		(768.36)
Spinning Reserve Cost Distribution Amount	55500-0073		36,419.72										1,842.36	-			4,885.36		-
Real Time Supplemental Reserve Amount	55500-0074		(298.18)										-	(15.08)			-		(40.00)
Supplemental Reserve Cost Distribution Amount	55500-0075		(424.73)										-	(21.49)			-		(56.97)
Subtotal			1,420.73	20,859	-	20,859	-	36,000	-	36,000	-	55,060	3,940.33	55,060	(3,868.45)	213,681	10,448.49	213,681	(10,257.91)
Grand Total			2,330,710.01	20,859	-	20,859	-	36,000	-	36,000	-	55,060	121,420.11	55,060	(57,809.31)	213,681	323,131.61	213,681	(153,337.20)

MINNESOTA POWER

MISO MONTHLY ALLOCATION

Day Ahead and Real Time Energy

	Account Number	July 2016 - June 2017	FPE Retail				FAC Resale				Subtotal FAC	MISO Non-Liquidation			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	43,680,656.54 (19,658,430.95)									-				
Day Ahead Non-Asset Energy	55500-0027										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050	(1,826,356.90)									-				
Excessive Energy Amount	55500-0066	683,146.21									-				
Non-Excessive Energy Amount	55500-0069	1,338,032.91									-				
Real Time Non-Asset Energy	55500-0043	(882,639.54)									-				
Subtotal		23,334,408.27	8,002,736	31,647,109			1,649,572	6,551,424			38,198,534	307,852			

Day Ahead and Real Time Energy Loss

Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	11,816,581.00		7,364,313		-		1,543,163		-	8,907,476.49		280,276		(32,999)
Day Ahead Financial Bilateral Transaction Loss	55500-0022	4,637,473.26		2,874,981		-		597,839		-	3,472,819.59		105,063		(11,228)
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(88,151.45)		141,348		(197,502)		28,816		(40,463)	(67,801.12)		12,174		(9,448)
Real Time Distribution of Losses	55500-0041	(3,598,179.30)		-		(2,220,766)		-		(475,763)	(2,696,529.34)		118,882		(77,825)
Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal		12,767,723.51	8,002,736	10,380,642.49	8,002,736	(2,418,268.48)	1,649,572	2,169,817.70	1,649,572	(516,226.09)	9,615,965.62	307,852	516,394.82	307,852	(131,499.66)
Virtual Energy															
Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal		-	8,002,736	-	8,002,736	-	1,649,572	-	1,649,572	-	-	307,852	-	307,852	-

Schedule 16 & 17 1/

Day Ahead Market Administration (Schedule 17)	55500-0020	1,542,986.01		966,374		-		199,709		-	1,166,082.39		37,756		(4,589)
Real Time Market Administration (Schedule 17)	55500-0036	118,897.00		74,429		-		15,325		-	89,753.65		3,028		(299)
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	50,236.22		31,467		-		6,541		-	38,007.98		1,230		(145)
Subtotal		1,712,119.23	8,002,736	1,072,269.35	8,002,736	-	1,649,572	221,574.67	1,649,572	-	1,293,844.02	307,852	42,014.64	307,852	(5,032.48)

MINNESOTA POWER

MISO MONTHLY ALLOCATION

Congestion, FTRs & ARRs

	Account Number	July 2016 - June 2017	FPE Retail				FAC Resale				Subtotal FAC Cost/(Revenue)	MISO Non-Liquidation			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	754,896.19		1,570,210		(1,184,179)		338,618		(224,952)	499,697.02		41,791		(78,766)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	250,155.43		413,803		(288,548)		87,519		(59,053)	153,722.07		25,064		(11,119)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	4,627,188.27		2,874,237		-		597,421		-	3,471,657.96		88,431		(20,860)
Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(1,587,856.70)		-		(979,388)		-		(202,053)	(1,181,440.90)		59,577		(32,426)
Financial Transmission Rights Annual Transaction Amount	55500-0059	2,364,919.06		1,463,464		-		300,285		-	1,763,749.40		51,134		(7,133)
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	172,434.77		107,665		-		22,210		-	129,874.91		4,048		(503)
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(725,636.73)		-		(455,234)		-		(94,734)	(549,968.47)		24,202		(18,328)
Financial Transmission Rights Hourly Allocation	55500-0032	(1,529,320.15)		58,059		(993,519)		10,929		(212,309)	(1,136,841.21)		79,666		(32,210)
Financial Transmission Rights Monthly Allocation	55500-0033	(250,383.40)		-		(155,814)		-		(31,712)	(187,525.85)		10,384		(7,724)
Financial Transmission Rights Yearly Allocation	55500-0035	(19,487.48)		-		(12,589)		-		(2,370)	(14,958.59)		-		(887)
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	26,860.92		66,379		(50,044)		13,072		(10,019)	19,387.76		5,704		(2,572)
FTR Guarantee Uplift Amount	55500-0055	(26,554.71)		50,373		(66,488)		10,071		(13,094)	(19,137.44)		4,672		(5,124)
Financial Transmission Rights Monthly Transaction Amount	55500-0056	441,108.49		282,329		-		57,677		-	340,006.45		13,142		(1,744)
Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal		4,498,323.96	8,002,736	6,886,520.69	8,002,736	(4,185,803.26)	1,649,572	1,437,802.08	1,649,572	(850,296.39)	3,288,223.12	307,852	407,815.08	307,852	(219,396.78)

RSG & Make Whole Payments

Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	268,001.74		167,377		-		34,389		-	201,765.81		6,030		(704)
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(11,506.29)		1,239		(8,242)		244		(1,799)	(8,557.40)		76		(412)
Real Time Price Volatility Make Whole Payment	55500-0057	(826,420.70)		-		(519,729)		-		(110,024)	(629,753.20)		5,811		(29,810)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	565,569.60		351,351		-		72,066		-	423,416.66		13,043		(1,604)
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(66,383.60)		25		(39,071)		5		(8,433)	(47,473.27)		1		(1,023)
Subtotal		(70,739.25)	8,002,736	519,992.38	8,002,736	(567,041.98)	1,649,572	106,704.34	1,649,572	(120,256.14)	(60,601.40)	307,852	24,960.45	307,852	(33,553.96)

RNU & Misc Charges

Real Time Miscellaneous	55500-0042	204,438.93		335,749		(205,907)		67,775		(38,759)	158,858.06		13,090		(15,278)
Real Time Net Inadvertent Distribution	55500-0044	(1,945.26)		218,147		(209,038)		43,821		(47,526)	5,404.14		6,445		(5,345)
Real Time Revenue Neutrality Uplift Amount	55500-0045	1,660,888.75		1,105,821		(63,531)		231,374		(12,363)	1,261,300.59		36,500		(6,278)
Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-		0		(0)		0		(0)	-		0		(0)
Day Ahead Ramp Capability Amount	55500-0079	(25,917.10)		-		(16,454)		-		(3,223)	(19,676.30)		329		(988)
Real Time Ramp Capability Amount	55500-0080	5,136.74		3,499		(189)		675		(42)	3,942.68		217		(13)
Subtotal		1,842,602.06	8,002,736	1,663,216.01	8,002,736	(495,118.60)	1,649,572	343,644.89	1,649,572	(101,913.14)	1,409,829.16	307,852	56,581.18	307,852	(27,902.43)

MINNESOTA POWER

MISO MONTHLY ALLOCATION

MINNESOTA POWER		Account Number	July 2016 - June 2017	FPE Retail				FAC Resale				Subtotal FAC	MISO Non-Liquidation			
MISO MONTHLY ALLOCATION				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-			-		-		-		-	-		-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-			-		-		-		-	-		-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-			-		-		-		-	-		-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-			-		-		-		-	-		-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-			-		-		-		-	-		-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-			-		-		-		-	-		-		-
Subtotal		-		8,002,736	-	8,002,736	-	1,649,572	-	1,649,572	-	-	307,852	-	307,852	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount	55500-0062	(159,220.45)			1,436		(98,091)		294		(20,606)	(116,966.62)		1,722		(3,686)
Day Ahead Spinning Reserve Amount	55500-0063	(439,027.35)			-		(275,492)		-		(56,055)	(331,547.64)		6,436		(13,698)
Day Ahead Supplemental Reserve Amount	55500-0064	(3,463.98)			616		(2,814)		127		(555)	(2,626.62)		150		(148)
Contingency Reserve Deployment Failure Charge Amount	55500-0065	197.37			115		-		27		-	142.11		2		-
Net Regulation Adjustment Amount	55500-0068	(1,231.09)			991		(1,871)		215		(371)	(1,036.03)		35		(98)
Real Time Regulation Amount	55500-0070	(4,705.78)			7,875		(10,787)		1,593		(2,334)	(3,653.29)		402		(446)
Regulation Reserve Cost Distribution Amount	55500-0071	369,359.03			232,607		-		47,788		-	280,394.61		9,489		(1,014)
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	81,290.91			50,369		-		10,380		-	60,748.97		2,097		(124)
Real Time Spinning Reserve Amount	55500-0072	30,046.78			35,248		(15,648)		6,920		(3,277)	23,242.96		4,167		(625)
Spinning Reserve Cost Distribution Amount	55500-0073	449,929.98			282,677		-		57,737		-	340,413.81		11,374		(1,025)
Real Time Supplemental Reserve Amount	55500-0074	1,437.65			1,249		(322)		243		(67)	1,103.24		86		(31)
Supplemental Reserve Cost Distribution Amount	55500-0075	188,656.32			117,522		(268)		24,416		(51)	141,618.84		4,069		(478)
Subtotal		513,269.39		8,002,736	730,704.53	8,002,736	(405,292.67)	1,649,572	149,738.60	1,649,572	(83,316.13)	391,834.34	307,852	40,028.15	307,852	(21,372.39)
Grand Total		44,597,707.16		8,002,736	52,900,454.75	8,002,736	(8,071,524.98)	1,649,572	10,980,706.67	1,649,572	(1,672,007.89)	54,137,628.54	307,852	1,087,794.32	307,852	(438,757.70)

1/ All Administration Charges reflected in the Retail column are now in the base cost of fuel (not recovered in the FAC)

2/ Accounts 5551-0051 through 5551-0053 are not recovered through the FAC

3/ Accounts 5551-0076 are not recovered through FPE for Resource Adequacy since it relates to capacity

NOTE:

DA and RT Asset Energy amounts have been reduced by the generation to load LMP differences (RE) which are then shown in the Day Ahead Loss, Real Time Loss, Day Ahead Congestion and Real Time Congestion lines

Other Asset Backed Sales includes liquidation sales which are not assessed MISO charges as all margins from liquidation sales are allocated to the FAC

DA and RT Asset Energy and DA and RT Non-Asset Energy is not allocated to MISO Non-Liquidation, MISO Liquidation, Others-Liquidation, Others-Non-Liquidation and Contract sales as these amounts are not tracked separately by Minnesota Power's systems

MINNESOTA POWER		Account Number	July 2016 - June 2017																
MISO MONTHLY ALLOCATION				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																			
Day Ahead Asset Energy	4470-0000 or 55500-0000 or 55500-0050	43,680,656.54 (19,658,430.95)																	
Day Ahead Non-Asset Energy	55500-0027																		
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050																		
Excessive Energy Amount	55500-0066																		
Non-Excessive Energy Amount	55500-0069																		
Real Time Non-Asset Energy	55500-0043	(1,826,356.90) 683,146.21 1,338,032.91 (882,639.54)																	
Subtotal		23,334,408.27	620,885					217,150				1,124,554				2,433,676			
Day Ahead and Real Time Energy Loss																			
Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	11,816,581.00			-		-		-		-		832,233		-		1,829,595		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	4,637,473.26			-		-		-		-		335,961		-		734,857		-
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(88,151.45)			-		-		-		-		11,835		(27,590)		36,489		(43,811)
Real Time Distribution of Losses	55500-0041	(3,598,179.30)			-		-		-		-		-		(356,232)		-		(586,474)
Real Time Financial Bilateral Transaction Loss	55500-0038	-			-		-		-		-		-		-		-		-
Subtotal		12,767,723.51	620,885	-	620,885	-		217,150	-	217,150	-	1,124,554	1,180,029.30	1,124,554	(383,822.39)	2,433,676	2,600,940.47	2,433,676	(630,284.65)
Virtual Energy																			
Day Ahead Virtual Energy	55500-0030	-																	
Real Time Virtual Energy	55500-0049	-																	
Subtotal		-	620,885	-	620,885	-		217,150	-	217,150	-	1,124,554	-	1,124,554	-	2,433,676	-	2,433,676	-
Schedule 16 & 17 1/																			
Day Ahead Market Administration (Schedule 17)	55500-0020	1,542,986.01			-		-		-		-		109,805		-		233,931		-
Real Time Market Administration (Schedule 17)	55500-0036	118,897.00			-		-		-		-		8,399		-		18,014		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	50,236.22			-		-		-		-		3,403		-		7,741		-
Subtotal		1,712,119.23	620,885	-	620,885	-		217,150	-	217,150	-	1,124,554	121,607.00	1,124,554	-	2,433,676	259,686.05	2,433,676	

MINNESOTA POWER

MISO MONTHLY ALLOCATION

Congestion, FTRs & ARRs

	Account Number	July 2016 - June 2017	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	754,896.19		-		-		-		-		221,591		(93,554)		423,039		(258,903)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	250,155.43		-		-		-		-		53,994		(36,980)		126,783		(61,308)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	4,627,188.27		-		-		-		-		371,392		-		716,567		-
Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-		-		-		-		-
Auction Revenue Rights Transaction Amount	55500-0058	(1,587,856.70)		-		-		-		-		-		(187,444)		-		(246,123)
Financial Transmission Rights Annual Transaction Amount	55500-0059	2,364,919.06		-		-		-		-		189,648		-		367,521		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	172,434.77		-		-		-		-		12,720		-		26,295		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(725,636.73)		-		-		-		-		-		(72,009)		-		(109,533)
Financial Transmission Rights Hourly Allocation	55500-0032	(1,529,320.15)		-		-		-		-		4,307		(193,341)		12,491		(263,392)
Financial Transmission Rights Monthly Allocation	55500-0033	(250,383.40)		-		-		-		-		-		(28,305)		-		(37,212)
Financial Transmission Rights Yearly Allocation	55500-0035	(19,487.48)		-		-		-		-		-		(934)		-		(2,708)
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	26,860.92		-		-		-		-		6,655		(5,720)		15,533		(12,127)
FTR Guarantee Uplift Amount	55500-0055	(26,554.71)		-		-		-		-		5,110		(8,707)		12,188		(15,556)
Financial Transmission Rights Monthly Transaction Amount	55500-0056	441,108.49		-		-		-		-		27,373		-		62,331		-
Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-		-		-		-		-
Subtotal		4,498,323.96	620,885	-	620,885	-	217,150	-	217,150	-	1,124,554	892,790.81	1,124,554	(626,994.05)	2,433,676	1,762,747.17	2,433,676	(1,006,861.39)

RSG & Make Whole Payments

Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	268,001.74		-		-		-		-		20,100		-		40,811		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(11,506.29)		-		-		-		-		208		(811)		363		(2,372)
Real Time Price Volatility Make Whole Payment	55500-0057	(826,420.70)		-		-		-		-		-		(50,973)		-		(121,695)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	565,569.60		-		-		-		-		42,473		-		88,241		-
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(66,383.60)		-		-		-		-		2		(4,879)		5		(13,016)
Subtotal		(70,739.25)	620,885	-	620,885	-	217,150	-	217,150	-	1,124,554	62,782.28	1,124,554	(56,663.87)	2,433,676	129,420.25	2,433,676	(137,083.01)

RNU & Misc Charges

Real Time Miscellaneous	55500-0042	204,438.93		-		-		-		-		30,970		(15,276)		76,373		(44,298)
Real Time Net Inadvertent Distribution	55500-0044	(1,945.26)		-		-		-		-		33,589		(21,467)		52,150		(72,721)
Real Time Revenue Neutrality Uplift Amount	55500-0045	1,660,888.75		-		-		-		-		115,749		(11,179)		282,154		(17,357)
Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-		-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-		0		(0)		0		(0)
Day Ahead Ramp Capability Amount	55500-0079	(25,917.10)		-		-		-		-		-		(1,749)		-		(3,833)
Real Time Ramp Capability Amount	55500-0080	5,136.74		-		-		-		-		303		(25)		776		(64)
Subtotal		1,842,602.06	620,885	-	620,885	-	217,150	-	217,150	-	1,124,554	180,610.83	1,124,554	(49,695.87)	2,433,676	411,452.44	2,433,676	(138,273.26)

MINNESOTA POWER

MISO MONTHLY ALLOCATION

MINNESOTA POWER		Account Number	July 2016 - June 2017																
MISO MONTHLY ALLOCATION				MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																			
Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-			-		-		-		-		-		-		-		-
Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-			-		-		-		-		-		-		-		-
Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-			-		-		-		-		-		-		-		-
Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-			-		-		-		-		-		-		-		-
Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-			-		-		-		-		-		-		-		-
Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-			-		-		-		-		-		-		-		-
Subtotal		-	620,885		-	620,885	-	217,150	-	217,150	-	1,124,554	-	1,124,554	-	2,433,676	-	2,433,676	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount	55500-0062	(159,220.45)			-		-		-		-		298		(12,695)		339		(28,233)
Day Ahead Spinning Reserve Amount	55500-0063	(439,027.35)			-		-		-		-		-		(33,018)		-		(67,199)
Day Ahead Supplemental Reserve Amount	55500-0064	(3,463.98)			-		-		-		-		59		(363)		152		(688)
Contingency Reserve Deployment Failure Charge Amount	55500-0065	197.37			-		-		-		-		12		-		41		-
Net Regulation Adjustment Amount	55500-0068	(1,231.09)			-		-		-		-		114		(176)		331		(400)
Real Time Regulation Amount	55500-0070	(4,705.78)			-		-		-		-		973		(1,139)		2,232		(3,075)
Regulation Reserve Cost Distribution Amount	55500-0071	369,359.03			-		-		-		-		25,549		-		54,940		-
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	81,290.91			-		-		-		-		5,686		-		12,883		-
Real Time Spinning Reserve Amount	55500-0072	30,046.78			-		-		-		-		2,652		(3,576)		7,799		(3,613)
Spinning Reserve Cost Distribution Amount	55500-0073	449,929.98			-		-		-		-		30,920		-		68,247		-
Real Time Supplemental Reserve Amount	55500-0074	1,437.65			-		-		-		-		136		(57)		277		(77)
Supplemental Reserve Cost Distribution Amount	55500-0075	188,656.32			-		-		-		-		13,366		(21)		30,159		(57)
Subtotal		513,269.39	620,885		-	620,885	-	217,150	-	217,150	-	1,124,554	79,765.94	1,124,554	(51,045.16)	2,433,676	177,399.96	2,433,676	(103,341.44)
Grand Total		44,597,707.16	620,885		-	620,885	-	217,150	-	217,150	-	1,124,554	2,517,586.16	1,124,554	(1,168,221.34)	2,433,676	5,341,646.34	2,433,676	(2,015,843.75)

**Minnesota Power's
ASM Cost and Benefit Compliance Filing
July 2016 through June 2017**

Overview

Minnesota Power has been participating in Midcontinent ISO's (MISO) Ancillary Service Market (ASM) since it started on January 6, 2009. Since market start, Minnesota Power has not seen any major changes to operation or clearing our units for energy in the market. We have had some additional opportunities in the ASM to optimize generation portfolio revenues by providing regulation and spinning reserve without creating a negative impact on available energy necessary to meet customer needs.

Spinning Reserves

Currently, Minnesota Power has 8 generating resources that are qualified to supply energy, regulation, and spinning reserves service for MISO. Minnesota Power can fully utilize these resources for energy and spinning reserves at 100 percent utilization within the ASM. Under normal operating conditions Minnesota Power has the potential of carrying approximately 80 MW of spinning reserves above the cruise operating level on these generation facilities without reducing energy available for customers. Prior to the ASM, Minnesota Power's share of the spinning reserves obligation was 21 MW. Under ASM, Minnesota Power can currently clear up to approximately 80 MW of spinning reserves on thermal generation without impacting energy availability. The additional ancillary service revenues reduce overall customer costs because the spinning reserve revenues are allocated to the FAC through our MISO allocation process.

The ASM has also added value for customers when generating units have backed down to minimum generation levels due to low energy prices. The generators can be backed down and still provide spinning reserves at the lower operating levels. MISO could also back down generation to acquire the market's required spinning reserves, however to date Minnesota Power's thermal generators have been almost exclusively selected to supply energy and have not been backed down to supply spinning reserves.

Including ASM charge type impact only, MISO's Spinning Reserves process had a net cost of \$40,584.88 in July 2016 through June 2017. The Spinning Reserve costs and revenues are provided in Table 10-A. The true benefit of ASM Spinning Reserves is far greater.

Supplemental Reserves

Minnesota Power's cost allocation for supplemental reserves was \$185,654.07 for July 2016 through June 2017. Prior to the ASM, Minnesota Power utilized interruptible loads at our large power customers to cover our supplemental reserves requirements. Due to low prices for this product under ASM, Minnesota Power has elected not to offer MISO supplemental reserves from our large industrial customers because the benefit is too small for the risk it provides to our customers. The impact to our customers due to lost production if interrupted for deployment of supplemental reserves greatly exceeds the cost of purchasing supplemental reserves from MISO. Minnesota Power will continue

to monitor prices and work with customers as conditions change to see if supplying additional supplemental reserves is appropriate in the future. The Supplemental Reserve costs and revenues are provided in Table 10-A.

Regulation

Prior to ASM, Minnesota Power scheduled approximately 8 MW of regulation on our system on an hourly basis to meet Balancing Authority control performance criteria requirements. Under ASM, Minnesota Power units are only selected by MISO for regulation when it is cost effective. Most of the time our units are cleared for energy instead of being held back to provide the 8 MW we used to reserve for regulation. Under ASM, due to regulation clearing and our ability to purchase affordable regulation service, we have more economic energy available from our low cost generation facilities to serve our customers. Including ASM charge type impact only, MISO's Regulation process provided a net cost of \$208,913.60 in July 2016 through June 2017. The Regulation costs and revenues are provided in Table 10-A. The true benefit of ASM Regulation is far greater.

ASM Charge Summary

Operation in the ASM market has been smooth and there continues to be a positive economic benefit for Minnesota Power's customers. We are now able to maximize the capabilities of our units to a greater extent, which ultimately has led to greater operational efficiencies for Minnesota Power. We have developed many tools and reports to track the benefit of the ASM on a unit by unit and day by day basis. Our overall strategy is to continue to develop strategies in the ASM that have a positive impact for our customers.

Minnesota Power reviews all MISO charges and credits including ASM charge types on a daily basis. Table 10-A provides the July 2016 through June 2017 summary of ASM hourly charges which has provided a net cost of \$512,428.19. Minnesota Power allocates all ASM charges in the same manner as it has allocated MISO Day 2 charge types – on a per MWh approach netting costs and benefits of the various charges. During July 2016 through June 2017, a net cost of \$325,411.86 was allocated to the Retail FCA.

Table 10-B provides a summary of July 2016 through June 2017 hourly MWh related to ASM products. The table provides Minnesota Power's net position for each of the three ASM products which indicate that Minnesota Power was a net buyer of Regulation Service and Spinning and Supplemental Reserves for July 2016 through June 2017.

Schedule 17 Costs

MISO took on additional responsibilities with the start of the ASM and related to this increased systems responsibilities and analysis; additional costs were incurred at MISO. These costs were recovered from Market Participants including Minnesota Power through increased Schedule 17 charges. Table 10-C provides a summary of the Schedule 17 costs before and after the start of ASM. Prior to the start of ASM, Schedule 17 rates averaged

\$0.07223 for an average monthly billing of \$140,922.50 per month. For July 2016 through June 2017, the Schedule 17 rate averaged \$0.07312 for an average monthly billing of \$138,523.53.

Daily Detail

Table 10-D provides the daily details supporting the monthly and quarterly benefits shown in Table 10-A. For the reporting period, 324 days or 89 percent show a net cost. With the exception of 22 days, the cost was not caused by Contingency Reserve Deployment Failure Charges (CRDFC) or Real Time Excessive Deficient Energy Deployment Charges (EDED). The cost appears to be caused by a reduction in cleared ASM products. Fewer MWh of Regulation, Spinning and Supplemental reserves were supplied by Minnesota Power during the current reporting period as compared to the prior reporting period.

Net costs can be caused by various factors, including but not limited to: the amount of energy cleared at each unit, the amount of reserves cleared, reserve clearing price, reserve distribution costs, and load ratio share. Most of these factors are out of Minnesota Power's control.

Contingency Reserve Deployment Failure Charge (CRDFC)

For the period of July 2016 through June 2017, Minnesota Power incurred \$197.37 of CRDFC. This charge occurred on one operating day as shown in Table 10-E. The shortfall MWh totaled of 5.3 for an average cost of \$37.24 per MWh of shortfall.

During all other CRD events, Minnesota Power's generating units responded to the reserve deployments; however, in this instance Minnesota Power fell short of delivering 100 percent of the energy requested.

Real Time Excessive Deficient Energy Deployment Charge Amount (EDED)

For the period of July 2016 through June 2017, Minnesota Power incurred \$78,454.35 in EDED as shown in Table 10-D. The majority of the instances when EDED occurs are during start-up, shut downs, set point deviations or when the unit is having equipment problems and the unit is not considered dispatchable by MISO.

Table 10-A: Summary of ASM Charge Types
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

	Jul-16	Aug-16	Sep-16	3rd Quarter 2016 Total	Oct-16	Nov-16	Dec-16	4th Quarter 2016 Total	Jan-17	Feb-17	Mar-17	1st Quarter 2017 Total	Apr-17	May-17	Jun-17	2nd Quarter 2017 Total	Period-to-date Total
Day Ahead Regulation Amount	(41,044.69)	(29,828.54)	(24,563.12)	\$ (95,436.35)	(3,214.41)	(2,616.06)	(6,120.09)	\$ (11,950.56)	(9,908.16)	(5,564.82)	(4,433.46)	\$ (19,906.44)	(9,090.33)	(11,891.13)	(6,091.90)	\$ (27,073.36)	\$ (154,366.71)
Real Time Regulation Amount	(2,936.56)	(3,958.08)	2,645.99	\$ (4,248.65)	(156.16)	(1,086.48)	(1,002.94)	\$ (2,245.58)	2,559.26	(814.25)	(1,775.77)	\$ (30.76)	3,748.53	(3,760.55)	(2,721.30)	\$ (2,733.32)	\$ (9,258.31)
Regulation Cost Distribution Amount	24,323.46	22,843.79	21,722.92	\$ 68,890.17	33,376.76	29,572.22	31,099.83	\$ 94,048.81	33,064.50	28,422.74	37,272.44	\$ 98,759.68	38,730.71	39,442.89	32,666.36	\$ 110,839.96	\$ 372,538.62
Regulation SubTotal	\$ (19,657.79)	\$ (10,942.83)	\$ (194.21)	\$ (30,794.83)	\$ 30,006.19	\$ 25,869.68	\$ 23,976.80	\$ 79,852.67	\$ 25,715.60	\$ 22,043.67	\$ 31,063.21	\$ 78,822.48	\$ 33,388.91	\$ 23,791.21	\$ 23,853.16	\$ 81,033.28	\$ 208,913.60
Day Ahead Spinning Reserve Amount	(42,904.81)	(43,456.74)	(22,448.96)	\$ (108,810.51)	(22,875.44)	(20,506.19)	(17,840.73)	\$ (61,222.36)	(29,021.72)	(24,280.30)	(28,649.96)	\$ (81,951.98)	(34,067.43)	(95,018.46)	(50,624.14)	\$ (179,710.03)	\$ (431,694.88)
Real Time Spinning Reserve Amount	(194.12)	1,840.71	(1,844.74)	\$ (198.15)	(2,685.61)	(851.53)	(4,908.25)	\$ (8,445.39)	6,606.14	(767.14)	(1,895.04)	\$ 3,943.96	7,295.59	23,659.38	(227.18)	\$ 30,727.79	\$ 26,028.21
Spinning Reserve Cost Distribution Amount	38,542.26	30,482.31	27,963.36	\$ 96,987.93	42,744.88	30,524.84	30,241.22	\$ 103,510.94	26,882.44	22,466.86	39,131.88	\$ 88,481.18	57,800.06	62,234.68	37,236.76	\$ 157,271.50	\$ 446,251.55
Spinning Reserve SubTotal	\$ (4,556.67)	\$ (11,133.72)	\$ 3,669.66	\$ (12,020.73)	\$ 17,183.83	\$ 9,167.12	\$ 7,492.24	\$ 33,843.19	\$ 4,466.86	\$ (2,580.58)	\$ 8,586.88	\$ 10,473.16	\$ 31,028.22	\$ (9,124.40)	\$ (13,614.56)	\$ 8,289.26	\$ 40,584.88
Day Ahead Supplemental Reserve Amount	(801.28)	(16.08)	-	\$ (817.36)	-	(450.25)	-	\$ (450.25)	-	-	-	\$ -	-	(2,196.37)	-	\$ (2,196.37)	\$ (3,463.98)
Real Time Supplemental Reserve Amount	256.08	5.61	-	\$ 261.69	-	440.65	-	\$ 440.65	-	-	(2.17)	\$ (2.17)	(9.97)	1,002.97	(4.33)	\$ 988.67	\$ 1,688.84
Supplemental Reserve Cost Distribution Amount	25,528.67	20,894.72	15,043.59	\$ 61,466.98	15,767.50	12,047.89	15,497.32	\$ 43,312.71	10,984.47	7,695.88	13,449.51	\$ 32,129.86	13,417.50	30,704.70	6,397.46	\$ 50,519.66	\$ 187,429.21
Supplemental Reserve SubTotal	\$ 24,983.47	\$ 20,884.25	\$ 15,043.59	\$ 60,911.31	\$ 15,767.50	\$ 12,038.29	\$ 15,497.32	\$ 43,303.11	\$ 10,984.47	\$ 7,695.88	\$ 13,447.34	\$ 32,127.69	\$ 13,407.53	\$ 29,511.30	\$ 6,393.13	\$ 49,311.96	\$ 185,654.07
Contingency Reserve Deployment Failure Charge Amount	-	197.37	-	\$ 197.37	-	-	-	\$ -	-	-	-	\$ -	-	-	-	\$ -	\$ 197.37
Real Time Excessive Deficient Energy Deployment Charge Amount	7,122.75	9,952.79	9,997.12	\$ 27,072.66	5,136.45	4,027.22	4,247.65	\$ 13,411.32	5,202.80	5,515.46	5,303.57	\$ 16,021.83	5,063.41	11,110.46	5,774.67	\$ 21,948.54	\$ 78,454.35
Net Regulation Adjustment Amount	787.44	378.10	105.56	\$ 1,271.10	(158.99)	(98.77)	36.22	\$ (221.54)	(132.28)	(362.57)	(544.11)	\$ (1,038.96)	(271.64)	(703.26)	(411.78)	\$ (1,386.68)	\$ (1,376.08)
Other Charge SubTotal	\$ 7,910.19	\$ 10,528.26	\$ 10,102.68	\$ 28,541.13	\$ 4,977.46	\$ 3,928.45	\$ 4,283.87	\$ 13,189.78	\$ 5,070.52	\$ 5,152.89	\$ 4,759.46	\$ 14,982.87	\$ 4,791.77	\$ 10,407.20	\$ 5,362.89	\$ 20,561.86	\$ 77,275.64
Total	\$ 8,679.20	\$ 9,335.96	\$ 28,621.72	\$ 46,636.88	\$ 67,934.98	\$ 51,003.54	\$ 51,250.23	\$ 170,188.75	\$ 46,237.45	\$ 32,311.86	\$ 57,856.89	\$ 136,406.20	\$ 82,616.43	\$ 54,585.31	\$ 21,994.62	\$ 159,196.36	\$ 512,428.19

Table 10-B: Summary of MWh of ASM products Purchased and Supplied
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

	Jul-16	Aug-16	Sep-16	3rd Quarter 2016 Total	Oct-16	Nov-16	Dec-16	4th Quarter 2016 Total	Jan-17	Feb-17	Mar-17	1st Quarter 2017 Total	Apr-17	May-17	Jun-17	2nd Quarter 2017 Total	Period-to-date Total
Total MISO Reg Procured (MWh)	294,447.34	295,202.56	285,602.52	875,252.42	294,563.73	285,600.10	294,812.10	874,975.93	294,852.44	247,183.65	295,194.29	837,230.38	284,982.30	295,194.94	285,595.80	865,773.04	3,453,231.77
MP Share of Reg Procured by MISO	3,911.99	4,013.63	4,206.42	12,132.04	5,031.47	5,087.73	4,891.64	15,010.84	4,890.03	4,377.32	5,333.62	14,600.97	5,311.67	5,218.05	4,449.59	14,979.31	56,723.16
MP Supplied Reg Volume	4,348.80	3,849.94	2,505.86	10,704.60	425.63	436.85	758.98	1,621.46	632.78	556.68	483.53	1,672.99	477.67	1,248.96	540.13	2,266.76	16,265.81
MP Net Buyer or (Seller) of Regulation	(436.81)	163.69	1,700.56	1,427.44	4,605.84	4,650.88	4,132.66	13,389.38	4,257.25	3,820.64	4,850.09	12,927.98	4,834.00	3,969.09	3,909.46	12,712.55	40,457.35
Total MISO Spin Procured (MWh)	757,885.55	769,520.26	705,869.84	2,233,275.65	706,652.82	698,484.25	728,644.26	2,133,781.33	706,819.33	589,268.09	723,798.15	2,019,885.57	687,282.62	781,943.49	688,026.53	2,157,252.64	8,544,195.19
MP Share of Spin Procured by MISO	10,113.43	10,531.85	10,457.91	31,103.19	12,123.27	12,505.48	12,108.78	36,737.53	11,744.53	10,478.13	13,112.93	35,335.59	12,850.96	13,870.40	10,792.91	37,514.27	140,690.58
MP Supplied Spin Volume	15,732.49	14,647.69	15,505.13	45,885.31	8,785.59	13,107.34	14,565.64	36,458.57	15,028.30	15,102.17	15,975.18	46,105.65	8,395.90	17,432.16	19,609.95	45,438.01	173,887.54
MP Net Buyer or (Seller) of Spinning Reserves	(5,619.06)	(4,115.84)	(5,047.22)	(14,782.12)	3,337.68	(601.86)	(2,456.86)	278.96	(3,283.77)	(4,624.04)	(2,862.25)	(10,770.06)	4,455.06	(3,561.76)	(8,817.04)	(7,923.74)	(33,196.96)
Total MISO Supp Procured (MWh)	762,368.42	751,422.99	765,915.57	2,279,706.98	813,765.81	773,322.34	792,115.91	2,379,204.06	813,800.73	685,983.46	797,149.56	2,296,933.75	783,891.30	846,291.67	783,771.19	2,413,954.16	9,369,798.95
MP Share of Supp Procured by MISO	10,192.87	10,250.14	11,334.85	31,777.86	13,973.10	13,799.98	13,190.24	40,963.32	13,533.78	12,173.25	14,460.92	40,167.95	14,679.69	15,041.21	12,255.22	41,976.12	154,885.25
MP Supplied Supp Volume	-	0.36	-	0.36	-	-	-	-	-	-	0.43	0.43	6.41	135.73	1.33	143.47	144.26
MP Net Buyer or (Seller) of Supplemental Reserves	10,192.87	10,249.78	11,334.85	31,777.50	13,973.10	13,799.98	13,190.24	40,963.32	13,533.78	12,173.25	14,460.49	40,167.52	14,673.28	14,905.48	12,253.89	41,832.65	154,740.99

Table 10-C: Comparison of MISO Schedule 17 Rates and Amounts before and after the start of the ASM Market

Monthly Average Schedule 17	Amount	Rate per MWh
April 2005 through December 2008	\$ 140,922.50	\$ 0.07223
July 2016 through June 2017	\$ 138,523.53	\$ 0.07312
Average Monthly Increase (Decrease)	\$ (2,398.97)	\$ 0.00089

Table 10-D: ASM Charge Daily Detail / CRDFC / EDED
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

Date	Day Ahead Regulation Amount	Real Time Regulation Amount	Regulation Cost Distribution Amount	Regulation Subtotal	Day Ahead Spinning Reserve Amount	Real Time Spinning Reserve Amount	Spinning Reserve Cost Distribution Amount	Spinning Reserve Subtotal	Day Ahead Supplemental Reserve Amount	Real Time Supplemental Reserve Amount	Supplemental Reserve Cost Distribution Amount	Supplemental Reserve Subtotal	Contingency Reserve Deployment Failure Charge Amount	Real Time Excessive Deficient Energy Deployment Charge Amount	Net Regulation Adjustment Amount	Other Charge Subtotal	Net Benefit
7/1/2016	(185.07)	(2,233.90)	524.54	\$ (1,894.43)	(770.76)	(428.68)	693.98	\$ (505.46)	(130.68)	181.28	517.00	\$ 567.60	-	680.72	(29.67)	\$ 651.05	\$ (1,181.24)
7/2/2016	(2,831.64)	324.51	700.85	\$ (1,806.28)	(1,310.22)	(13.56)	785.05	\$ (538.73)	-	-	633.21	\$ 633.21	-	652.66	11.53	\$ 664.19	\$ (1,047.61)
7/3/2016	(2,449.62)	488.21	837.86	\$ (1,123.55)	(1,335.42)	76.15	787.75	\$ (471.52)	-	-	346.20	\$ 346.20	-	363.20	(70.33)	\$ 292.87	\$ (956.00)
7/4/2016	(2,754.27)	1,116.30	1,019.99	\$ (617.98)	(1,084.86)	(194.07)	560.76	\$ (718.17)	-	-	422.49	\$ 422.49	-	172.72	54.34	\$ 227.06	\$ (686.60)
7/5/2016	(916.07)	(1,806.97)	1,039.22	\$ (1,683.82)	(1,682.08)	(84.75)	1,528.39	\$ (238.44)	-	-	97.75	\$ 97.75	-	216.94	504.63	\$ 721.57	\$ (1,102.94)
7/6/2016	(356.19)	(135.59)	904.60	\$ 412.82	(1,122.47)	2.15	1,911.28	\$ 790.96	-	-	1,541.69	\$ 1,541.69	-	94.23	(22.57)	\$ 71.66	\$ 2,817.13
7/7/2016	(875.60)	63.35	820.55	\$ 8.30	(1,509.72)	100.95	1,971.44	\$ 562.67	-	-	1,521.89	\$ 1,521.89	-	133.63	(6.35)	\$ 127.28	\$ 2,220.14
7/8/2016	(1,910.54)	271.13	681.04	\$ (958.37)	(1,249.04)	(12.95)	1,052.45	\$ (209.54)	-	-	853.22	\$ 853.22	-	101.65	18.35	\$ 120.00	\$ (194.69)
7/9/2016	(1,564.55)	65.95	588.41	\$ (930.19)	(465.88)	(38.30)	775.12	\$ 270.94	-	-	291.90	\$ 291.90	-	385.52	36.13	\$ 421.65	\$ 74.30
7/10/2016	(1,866.15)	501.19	642.24	\$ (722.72)	(399.78)	55.20	555.78	\$ 211.20	-	-	230.56	\$ 230.56	-	551.79	(109.53)	\$ 442.26	\$ 161.30
7/11/2016	(816.18)	(1,688.37)	683.07	\$ (1,821.48)	(753.07)	(10.35)	1,073.26	\$ 309.84	-	-	816.04	\$ 816.04	-	332.01	137.25	\$ 469.26	\$ (226.34)
7/12/2016	(1,945.80)	568.00	916.94	\$ (460.86)	(747.92)	(166.99)	1,464.36	\$ 549.45	-	-	1,183.20	\$ 1,183.20	-	59.92	(8.75)	\$ 51.17	\$ 1,322.96
7/13/2016	(1,968.22)	237.80	748.07	\$ (982.35)	(1,116.89)	1.84	1,173.20	\$ 58.15	-	-	933.64	\$ 933.64	-	102.21	(22.36)	\$ 79.85	\$ 89.29
7/14/2016	(1,912.47)	723.84	683.55	\$ (505.08)	(781.76)	(60.59)	840.67	\$ (1.68)	-	-	740.31	\$ 740.31	-	33.62	(10.21)	\$ 23.41	\$ 256.96
7/15/2016	(1,463.20)	155.03	703.47	\$ (604.70)	(940.00)	78.02	922.10	\$ 60.12	-	-	247.50	\$ 247.50	-	51.95	(17.14)	\$ 34.81	\$ (262.27)
7/16/2016	(1,804.99)	105.31	672.24	\$ (1,027.44)	(898.54)	146.65	607.73	\$ (144.16)	-	-	458.06	\$ 458.06	-	482.61	(56.81)	\$ 425.80	\$ (287.74)
7/17/2016	(1,415.98)	(204.25)	516.10	\$ (1,104.13)	(885.45)	(719.49)	950.97	\$ (653.97)	-	-	220.87	\$ 220.87	-	63.54	473.05	\$ 536.59	\$ (1,000.64)
7/18/2016	(1,820.50)	599.31	909.81	\$ (311.38)	(1,488.09)	0.25	1,590.37	\$ 102.53	-	-	1,387.26	\$ 1,387.26	-	59.59	(6.69)	\$ 52.90	\$ 1,231.31
7/19/2016	(1,496.17)	1,042.63	755.44	\$ 301.90	(2,739.76)	1,262.86	1,214.83	\$ (262.07)	-	-	871.98	\$ 871.98	-	150.39	5.96	\$ 156.35	\$ 1,068.16
7/20/2016	(305.52)	150.95	721.41	\$ 566.84	(2,776.01)	486.64	1,241.03	\$ (1,048.34)	-	-	992.99	\$ 992.99	-	30.81	22.64	\$ 53.45	\$ 564.94
7/21/2016	(367.51)	141.41	1,400.42	\$ 1,174.32	(5,870.88)	66.21	2,896.69	\$ (2,907.98)	(670.60)	74.80	2,230.30	\$ 1,634.50	-	92.05	(3.85)	\$ 88.20	\$ (10.96)
7/22/2016	(3,685.42)	635.06	1,596.41	\$ (1,453.95)	(5,907.54)	213.28	4,203.60	\$ (1,490.66)	-	-	2,167.76	\$ 2,167.76	-	373.79	(7.05)	\$ 366.74	\$ (410.11)
7/23/2016	-	(555.84)	853.49	\$ 297.65	(567.08)	(96.73)	1,424.44	\$ 770.63	-	-	1,071.12	\$ 1,071.12	-	375.29	43.54	\$ 418.83	\$ 2,558.23
7/24/2016	(468.13)	(38.75)	632.08	\$ 125.20	(657.71)	67.40	1,071.17	\$ 480.86	-	-	968.11	\$ 968.11	-	75.12	(7.81)	\$ 67.31	\$ 1,641.48
7/25/2016	(400.07)	101.35	708.67	\$ 409.95	(859.77)	2.36	1,477.00	\$ 619.59	-	-	882.09	\$ 882.09	-	47.86	(58.83)	\$ (10.97)	\$ 1,900.66
7/26/2016	(293.73)	53.51	838.05	\$ 597.83	(748.88)	(105.46)	1,419.46	\$ 565.12	-	-	845.51	\$ 845.51	-	134.19	5.92	\$ 140.11	\$ 2,148.57
7/27/2016	(581.02)	(87.39)	785.38	\$ 116.97	(925.17)	(97.29)	1,158.18	\$ 135.72	-	-	971.88	\$ 971.88	-	54.97	8.43	\$ 63.40	\$ 1,287.97
7/28/2016	(657.31)	(2,371.28)	495.16	\$ (2,533.43)	(1,003.35)	(1,005.93)	699.86	\$ (1,309.42)	-	-	746.88	\$ 746.88	-	152.94	(154.92)	\$ (1.98)	\$ (3,097.95)
7/29/2016	(730.83)	(1,160.46)	605.23	\$ (1,286.06)	(948.18)	126.11	966.34	\$ 144.27	-	-	643.13	\$ 643.13	-	313.25	18.83	\$ 332.08	\$ (166.58)
7/30/2016	(1,551.15)	(305.49)	680.97	\$ (1,175.67)	(799.58)	90.47	863.63	\$ 154.52	-	-	262.13	\$ 262.13	-	364.49	(9.02)	\$ 355.47	\$ (403.55)
7/31/2016	(1,650.79)	306.89	658.20	\$ (685.70)	(568.95)	64.48	661.37	\$ 156.90	-	-	432.00	\$ 432.00	-	419.09	48.73	\$ 467.82	\$ 371.02
July Total	\$ (41,044.69)	\$ (2,936.56)	\$ 24,323.46	\$ (19,657.79)	\$ (42,904.81)	\$ (194.12)	\$ 38,542.26	\$ (4,556.67)	\$ (801.28)	\$ 256.08	\$ 25,528.67	\$ 24,983.47	\$ -	\$ 7,122.75	\$ 787.44	\$ 7,910.19	\$ 8,679.20
8/1/2016	(743.25)	(894.30)	751.94	\$ (885.61)	(634.40)	(269.74)	1,076.56	\$ 172.42	-	-	909.23	\$ 909.23	-	247.16	194.62	\$ 441.78	\$ 637.82
8/2/2016	(569.98)	(975.91)	981.08	\$ (564.81)	(266.91)	(5,145.82)	2,161.91	\$ (3,250.82)	-	-	1,282.60	\$ 1,282.60	-	60.07	22.90	\$ 82.97	\$ (2,450.06)
8/3/2016	(865.01)	72.14	962.49	\$ 169.62	(2,997.38)	(49.10)	1,655.69	\$ (1,390.79)	-	-	1,355.97	\$ 1,355.97	-	417.37	(283.60)	\$ 133.77	\$ 268.57
8/4/2016	(575.19)	(1,464.61)	831.11	\$ (1,208.69)	(2,964.71)	(436.55)	1,727.15	\$ (1,674.11)	-	-	1,346.76	\$ 1,346.76	-	562.95	(175.12)	\$ 387.83	\$ (1,148.21)
8/5/2016	(1,973.71)	17.15	793.86	\$ (1,162.70)	(699.19)	(155.77)	1,154.61	\$ 299.65	-	-	956.51	\$ 956.51	-	1,151.96	(309.89)	\$ 842.07	\$ 935.53
8/6/2016	(208.70)	(346.50)	607.92	\$ 52.72	(499.91)	27.24	538.34	\$ 65.67	-	-	212.49	\$ 212.49	-	171.74	6.57	\$ 178.31	\$ 509.19
8/7/2016	(585.05)	10.57	535.38	\$ (39.10)	(256.60)	(18.31)	455.86	\$ 180.95	-	-	230.79	\$ 230.79	-	88.37	(7.46)	\$ 80.91	\$ 453.55
8/8/2016	(447.72)	(751.76)	537.31	\$ (662.17)	(442.69)	57.15	768.77	\$ 383.23	(16.08)	6.24	238.52	\$ 228.68	-	204.18	39.73	\$ 243.91	\$ 193.65
8/9/2016	(891.62)	(268.96)	756.21	\$ (404.37)	(4,342.24)	5,003.53	1,819.81	\$ 2,481.10	-	-	1,018.94	\$ 1,018.94	-	958.11	64.04	\$ 1,022.15	\$ 4,117.82
8/10/2016	(977.88)	(198.61)	849.70	\$ (326.79)	(4,957.70)	970.70	1,545.90	\$ (2,441.10)	-	-	1,250.43	\$ 1,250.43	-	582.10	137.25	\$ 719.35	\$ (798.11)
8/11/2016	(1,582.30)	99.47	897.57	\$ (585.26)	(3,635.45)	530.47	1,408.89	\$ (1,696.09)	-	-	1,010.41	\$ 1,010.41	-	505.38	415.45	\$ 920.83	\$ (350.11)
8/12/2016	(1,474.86)	201.58	931.75	\$ (341.53)	(2,660.12)	301.99	1,022.56	\$ (1,335.57)	-	-	902.18	\$ 902.18	-	186.46	(12.33)	\$ 174.13	\$ (600.79)
8/13/2016	(638.69)	(490.58)	575.73	\$ (553.54)	(1,719.51)	42.41	601.60	\$ (1,075.50)	-	-	196.38	\$ 196.38	-	126.77	(10.94)	\$ 115.83	\$ (1,316.83)
8/14/2016	(1,100.13)	(373.90)	584.70	\$ (889.33)	(1,636.90)	(53.30)	599.36	\$ (1,090.84)	-	-	194.05	\$ 194.05	-	170.00	7.17	\$ 177.17	\$ (1,608.95)
8/15/2016	(1,055.16)	130.75	738.52	\$ (185.89)	(2,613.56)	448.79	825.00	\$ (1,339.77)	-	-	537.65	\$ 537.65	197.37	252.95	74.71	\$ 525.03	\$ (462.98)
8/16/2016	(1,040.90)	795.07	554.69	\$ 308.86	(2,052.33)	793.34	897.51	\$ (361.48)	-	-	483.14	\$ 483.14	-	167.25	53.49	\$ 220.74	\$ 651.26
8/17/2016	(1,098.75)	224.88	790.42	\$ (83.45)	(1,574.12)	102.70	1,050.41	\$ (421.01)	-	-	700.43	\$ 700.43	-	156.70	(13.96)	\$ 142.74	\$ 338.71
8/18/2016	(792.20)	180.66	715.35	\$ 103.81	(927.90)	22.79	704.34	\$ (200.77)	-	-	653.41	\$ 653.41	-	147.71	50.20	\$ 197.91	\$ 754.36
8/19/2016	(771.43)	40.01	757.71	\$ 26.29	(981.21)	62.39	639.11	\$ (279.71)	-	-	470.40	\$ 470.40	-	106.43	42.97	\$ 149.40	\$ 366.38
8/20/2016	(478.88)	(328.49)	638.53	\$ (168.84)	(312.83)	10.04	526.19	\$ 223.40	-	-	228.24	\$ 228.24	-	305.34	7.77	\$ 313.11	\$ 595.91
8/21/2016	(1,055.42)	(40.99)	626.43	\$ (469.98)	(268.09)	(36.92)	501.39	\$ 196.38	-	-	245.95	\$ 245.95	-	244.74	(2.01)	\$ 242.73	\$ 215.08
8/22/2016	(1,938.88)	431.93	634.95	\$ (872.00)	(321.41)	(49.56)	541.23	\$ 170.26	-	-	232.16	\$ 232.16	-	591.84	(36.28)	\$ 555.56	\$ 85.98
8/23/2016	(1,053.29)	192.77	668.04	\$ (192.48)	(486.85)	(99.60)	780.23	\$ 193.78	-	-	561.38	\$ 561.38	-	261.65	17.04	\$ 278.69	\$ 841.37
8/24/2016	(782.65)	(477.73)	762.41	\$ (497.97)	(834.63)	(16.57)	1,149.42	\$ 298.22	-	-	793.53	\$ 793.53	-	378.56	51.40	\$ 429.96	\$ 1,023.74
8/25/2016	(809.93)	(213.06)	668.43	\$ (354.56)	(649.90)	(243.29)	1,045.85	\$ 152.66	-	-	655.90	\$ 655.90	-	454.58	33.33	\$ 487.91	\$ 941.91
8/26/2016	(1,457.69)	129.76	920.41	\$ (407.52)	(557.50)	30.81	951.48	\$ 424.79	-	-	715.39	\$ 715.39	-	377.35	24.99	\$ 402.34	\$ 1,135.00
8/27/2016	(851.36)	(190.77)	455.14	\$ (586.99)	(374.20)	(91.99)	589.91	\$ 123.72	-	-	247.98	\$ 247.98	-	374.56	(33.45)	\$ 341.11	\$ 125.82
8/28/2016	(1,253.49)	239.45	612.30	\$ (401.74)	(415.85)	(74.87)	632.04	\$ 141.32	-	-	485.53	\$ 485.53	-	204.29	29.70	\$ 233.99	\$ 459.10
8/29/2016	(622.79)	242.66	917.47	\$ 537.34	(592.29)	(97.68)	1,034.54	\$ 344.57	-	-	833.77	\$ 833.77	-	117.80	11.28	\$ 129.08	\$

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

Date	Day Ahead Regulation Amount	Real Time Regulation Amount	Regulation Cost Distribution Amount	Regulation Subtotal	Day Ahead Spinning Reserve Amount	Real Time Spinning Reserve Amount	Spinning Reserve Cost Distribution Amount	Spinning Reserve Subtotal	Day Ahead Supplemental Reserve Amount	Real Time Supplemental Reserve Amount	Supplemental Reserve Cost Distribution Amount	Supplemental Reserve Subtotal	Contingency Reserve Deployment Failure Charge Amount	Real Time Excessive Deficient Energy Deployment Charge Amount	Net Regulation Adjustment Amount	Other Charge Subtotal	Net Benefit
9/1/2016	(1,574.52)	486.96	606.97	\$ (480.59)	(918.94)	97.67	569.33	\$ (251.94)	-	-	248.50	\$ 248.50	-	210.68	(5.43)	\$ 205.25	\$ (278.78)
9/2/2016	(942.80)	(108.30)	613.95	\$ (437.15)	(403.31)	(289.68)	505.71	\$ (187.28)	-	-	259.06	\$ 259.06	-	427.97	(7.84)	\$ 420.13	\$ 54.76
9/3/2016	(1,236.89)	208.93	725.11	\$ (302.85)	(388.05)	(428.26)	507.48	\$ (308.83)	-	-	235.01	\$ 235.01	-	573.08	(0.66)	\$ 572.42	\$ 195.75
9/4/2016	(1,334.98)	289.72	886.61	\$ (158.65)	(415.93)	(589.16)	572.85	\$ (432.24)	-	-	230.87	\$ 230.87	-	558.34	(23.22)	\$ 535.12	\$ 175.10
9/5/2016	(1,675.28)	479.54	721.06	\$ (474.68)	(407.10)	(106.58)	511.21	\$ (2.47)	-	-	230.01	\$ 230.01	-	393.91	32.15	\$ 426.06	\$ 178.92
9/6/2016	(1,483.06)	(2,437.12)	646.59	\$ (3,273.59)	(797.34)	(376.89)	1,766.54	\$ 592.31	-	-	140.25	\$ 140.25	-	1,200.82	342.35	\$ 1,543.17	\$ (997.86)
9/7/2016	(783.89)	(302.17)	844.47	\$ (241.59)	(882.91)	(142.01)	1,373.24	\$ 348.32	-	-	1,027.70	\$ 1,027.70	-	509.56	(58.05)	\$ 451.51	\$ 1,585.94
9/8/2016	(691.90)	82.90	741.93	\$ 132.93	(541.36)	(61.87)	965.77	\$ 362.54	-	-	621.28	\$ 621.28	-	118.55	(30.28)	\$ 88.27	\$ 1,205.02
9/9/2016	(875.00)	(270.23)	533.13	\$ (612.10)	(380.62)	(65.67)	685.68	\$ 239.39	-	-	491.34	\$ 491.34	-	504.92	(42.38)	\$ 462.54	\$ 581.17
9/10/2016	(886.83)	112.94	503.32	\$ (270.57)	(263.58)	(230.17)	456.17	\$ (37.58)	-	-	243.24	\$ 243.24	-	264.06	31.97	\$ 296.03	\$ 231.12
9/11/2016	(636.13)	185.66	623.13	\$ 172.66	(325.64)	(458.39)	552.18	\$ (231.85)	-	-	203.86	\$ 203.86	-	394.82	(63.34)	\$ 331.48	\$ 476.15
9/12/2016	(251.95)	(363.44)	496.40	\$ (118.99)	(332.14)	(52.77)	552.59	\$ 167.68	-	-	232.43	\$ 232.43	-	337.98	(43.18)	\$ 294.80	\$ 575.92
9/13/2016	(549.28)	(42.58)	544.86	\$ (47.00)	(518.54)	(61.50)	863.37	\$ 283.33	-	-	419.35	\$ 419.35	-	123.35	44.71	\$ 168.06	\$ 823.74
9/14/2016	(849.88)	305.25	607.44	\$ 62.81	(405.90)	(8.36)	722.63	\$ 308.37	-	-	574.07	\$ 574.07	-	106.32	(10.20)	\$ 96.12	\$ 1,041.37
9/15/2016	(1,253.53)	852.71	609.59	\$ 208.77	(503.00)	(3.78)	834.32	\$ 327.54	-	-	701.27	\$ 701.27	-	175.16	12.96	\$ 188.12	\$ 1,425.70
9/16/2016	(1,031.67)	137.66	776.33	\$ (117.68)	(538.81)	60.40	996.44	\$ 518.03	-	-	706.62	\$ 706.62	-	698.15	(34.64)	\$ 663.51	\$ 1,770.48
9/17/2016	(1,241.27)	271.53	644.50	\$ (325.24)	(623.06)	(613.06)	1,216.97	\$ (19.15)	-	-	103.21	\$ 103.21	-	540.99	186.04	\$ 727.03	\$ 485.85
9/18/2016	(1,238.81)	423.32	653.28	\$ (162.21)	(1,221.43)	287.72	855.82	\$ (77.89)	-	-	237.56	\$ 237.56	-	665.80	(101.79)	\$ 564.01	\$ 561.47
9/19/2016	(1,408.59)	803.44	926.90	\$ 321.75	(1,640.31)	678.36	1,556.00	\$ 594.05	-	-	1,027.08	\$ 1,027.08	-	661.90	11.22	\$ 673.12	\$ 2,616.00
9/20/2016	(130.85)	(258.81)	954.82	\$ 565.16	(1,376.05)	246.19	1,670.29	\$ 540.43	-	-	1,234.05	\$ 1,234.05	-	51.46	(5.21)	\$ 46.25	\$ 2,385.89
9/21/2016	(1,054.02)	266.83	1,047.41	\$ 260.22	(1,130.35)	55.71	1,267.48	\$ 192.84	-	-	891.60	\$ 891.60	-	80.16	(11.55)	\$ 68.61	\$ 1,413.27
9/22/2016	(918.85)	571.51	951.97	\$ 604.63	(1,066.00)	(186.71)	1,203.29	\$ (49.42)	-	-	828.67	\$ 828.67	-	153.64	(13.60)	\$ 140.04	\$ 1,523.92
9/23/2016	(816.74)	635.02	891.98	\$ 710.26	(1,357.61)	15.36	1,220.96	\$ (121.29)	-	-	990.94	\$ 990.94	-	44.81	(2.13)	\$ 42.68	\$ 1,622.59
9/24/2016	(967.85)	934.19	747.44	\$ 713.78	(1,348.48)	302.25	1,005.07	\$ (41.16)	-	-	682.67	\$ 682.67	-	238.41	(20.66)	\$ 217.75	\$ 1,573.04
9/25/2016	(24.75)	(287.70)	677.25	\$ 364.80	(1,298.55)	(1,023.55)	1,066.87	\$ (1,255.23)	-	-	782.12	\$ 782.12	-	200.45	(11.27)	\$ 189.18	\$ 80.87
9/26/2016	(94.15)	51.64	638.61	\$ 596.10	(1,567.21)	297.01	944.25	\$ (325.95)	-	-	474.73	\$ 474.73	-	85.90	(7.14)	\$ 78.76	\$ 823.64
9/27/2016	(80.20)	38.51	603.42	\$ 561.73	(596.41)	621.88	805.37	\$ 830.84	-	-	353.69	\$ 353.69	-	14.04	0.82	\$ 14.86	\$ 1,761.12
9/28/2016	(150.60)	(22.69)	791.37	\$ 618.08	(504.45)	197.59	956.15	\$ 649.29	-	-	280.64	\$ 280.64	-	88.94	0.99	\$ 89.93	\$ 1,637.94
9/29/2016	(147.10)	(120.13)	922.00	\$ 654.77	(463.68)	2.03	892.39	\$ 430.74	-	-	288.47	\$ 288.47	-	198.27	(0.05)	\$ 198.22	\$ 1,572.20
9/30/2016	(231.75)	(279.10)	791.08	\$ 280.23	(232.20)	(8.50)	866.94	\$ 626.24	-	-	303.30	\$ 303.30	-	374.68	(65.03)	\$ 309.65	\$ 1,519.42
Sept Total	\$ (24,563.12)	\$ 2,645.99	\$ 21,722.92	\$ (194.21)	\$ (22,448.96)	\$ (1,844.74)	\$ 27,963.36	\$ 3,669.66	\$ -	\$ -	\$ 15,043.59	\$ 15,043.59	-	9,997.12	105.56	\$ 10,102.68	\$ 28,621.72
10/1/2016	(156.50)	46.14	979.90	\$ 869.54	(321.14)	(638.80)	1,327.76	\$ 367.82	-	-	340.55	\$ 340.55	-	67.33	0.64	\$ 67.97	\$ 1,645.88
10/2/2016	(79.28)	60.41	1,030.54	\$ 1,011.67	(794.59)	47.41	1,521.14	\$ 773.96	-	-	297.40	\$ 297.40	-	35.70	(0.02)	\$ 35.68	\$ 2,118.71
10/3/2016	(50.00)	(65.55)	844.75	\$ 729.20	(511.39)	(50.96)	1,014.97	\$ 452.62	-	-	311.66	\$ 311.66	-	311.36	(24.81)	\$ 286.55	\$ 1,780.03
10/4/2016	(39.80)	(33.65)	947.41	\$ 873.96	(725.67)	148.53	1,145.02	\$ 567.88	-	-	343.00	\$ 343.00	-	222.21	(16.89)	\$ 205.32	\$ 1,990.16
10/5/2016	(149.30)	(142.84)	757.99	\$ 465.85	(996.88)	(209.79)	2,036.27	\$ 829.60	-	-	891.01	\$ 891.01	-	212.15	13.76	\$ 225.91	\$ 2,412.37
10/6/2016	(93.45)	(56.59)	1,165.97	\$ 1,015.93	(1,000.96)	(57.39)	1,762.97	\$ 704.62	-	-	1,265.24	\$ 1,265.24	-	327.76	(28.64)	\$ 299.12	\$ 3,284.91
10/7/2016	(151.95)	(130.78)	1,059.51	\$ 776.78	(813.02)	(106.38)	1,276.92	\$ 357.52	-	-	262.44	\$ 262.44	-	345.75	(57.66)	\$ 288.09	\$ 1,684.83
10/8/2016	(108.03)	56.44	1,134.63	\$ 1,083.04	(346.66)	(160.96)	1,413.00	\$ 905.38	-	-	350.07	\$ 350.07	-	124.46	(0.08)	\$ 124.38	\$ 2,462.87
10/9/2016	(67.50)	(2.56)	997.86	\$ 927.80	(643.59)	103.67	1,322.76	\$ 782.84	-	-	317.42	\$ 317.42	-	140.93	(6.43)	\$ 134.50	\$ 2,162.56
10/10/2016	(40.35)	(55.06)	1,026.21	\$ 930.80	(264.34)	(109.40)	1,020.71	\$ 646.97	-	-	343.50	\$ 343.50	-	278.17	20.15	\$ 298.32	\$ 2,219.59
10/11/2016	(54.35)	(89.14)	1,232.40	\$ 1,088.91	(407.40)	(42.15)	1,446.55	\$ 997.00	-	-	817.14	\$ 817.14	-	155.55	(12.43)	\$ 143.12	\$ 3,046.17
10/12/2016	(56.65)	(5.35)	1,170.34	\$ 1,108.34	(370.82)	(23.35)	1,326.54	\$ 932.37	-	-	946.89	\$ 946.89	-	62.98	(2.71)	\$ 60.27	\$ 3,047.87
10/13/2016	(36.95)	24.30	1,184.91	\$ 1,172.26	(271.94)	(0.71)	1,071.39	\$ 798.74	-	-	381.37	\$ 381.37	-	89.13	(2.06)	\$ 87.07	\$ 2,439.44
10/14/2016	(55.62)	(48.71)	1,053.08	\$ 948.75	(295.64)	(122.93)	1,210.51	\$ 791.94	-	-	309.03	\$ 309.03	-	222.83	(4.90)	\$ 217.93	\$ 2,267.65
10/15/2016	(104.40)	7.79	1,040.03	\$ 943.42	(741.52)	67.33	1,229.82	\$ 555.63	-	-	262.63	\$ 262.63	-	66.32	(7.22)	\$ 59.10	\$ 1,820.78
10/16/2016	(140.23)	66.61	1,229.65	\$ 1,156.03	(851.05)	(41.99)	1,715.49	\$ 822.45	-	-	762.01	\$ 762.01	-	207.74	(0.35)	\$ 207.39	\$ 2,947.88
10/17/2016	(118.35)	34.21	1,179.44	\$ 1,095.30	(1,171.36)	(32.07)	1,861.83	\$ 658.40	-	-	1,346.75	\$ 1,346.75	-	138.87	(0.56)	\$ 138.31	\$ 3,238.76
10/18/2016	(46.80)	(15.71)	1,357.92	\$ 1,295.41	(1,657.36)	(64.57)	2,293.03	\$ 571.10	-	-	1,658.08	\$ 1,658.08	-	141.33	(2.28)	\$ 139.05	\$ 3,663.64
10/19/2016	(74.10)	(9.36)	1,243.12	\$ 1,159.66	(1,605.09)	58.32	2,250.05	\$ 703.28	-	-	657.70	\$ 657.70	-	45.70	(1.42)	\$ 44.28	\$ 2,564.92
10/20/2016	(59.90)	(57.27)	1,178.89	\$ 1,061.72	(1,173.87)	193.50	1,692.87	\$ 712.50	-	-	347.18	\$ 347.18	-	21.03	0.03	\$ 21.06	\$ 2,142.46
10/21/2016	(131.40)	(31.13)	1,080.51	\$ 917.98	(683.16)	50.12	1,159.75	\$ 526.71	-	-	317.62	\$ 317.62	-	196.97	(13.80)	\$ 183.17	\$ 1,945.48
10/22/2016	(189.64)	(128.10)	1,068.97	\$ 751.23	(551.29)	19.32	1,081.57	\$ 549.60	-	-	334.48	\$ 334.48	-	486.68	(8.28)	\$ 478.40	\$ 2,113.71
10/23/2016	(69.48)	(3.33)	1,019.84	\$ 947.03	(658.02)	61.90	1,110.74	\$ 514.62	-	-	337.67	\$ 337.67	-	136.13	(3.12)	\$ 133.01	\$ 1,932.33
10/24/2016	(165.60)	23.42	997.12	\$ 854.94	(801.23)	26.57	1,146.90	\$ 372.24	-	-	321.97	\$ 321.97	-	210.01	(2.20)	\$ 207.81	\$ 1,756.96
10/25/2016	(94.05)	(46.60)	1,304.64	\$ 1,163.99	(844.48)	85.21	1,286.82	\$ 527.55	-	-	318.83	\$ 318.83	-	123.53	2.05	\$ 125.58	\$ 2,135.95
10/26/2016	(109.70)	59.30	1,423.31	\$ 1,372.91	(757.75)	(61.03)	1,539.78	\$ 721.00	-	-	322.08	\$ 322.08	-	4.03	3.35	\$ 7.38	\$ 2,423.37
10/27/2016	-	(6.64)	1,141.04	\$ 1,134.40	(723.13)	(231.68)	1,241.14	\$ 286.33	-	-	297.85	\$ 297.85	-	30.10	(0.10)	\$ 30.00	\$ 1,748.58
10/28/2016	(230.40)	141.46	672.48	\$ 583.54	(795.25)	(633.66)	1,090.21	\$ (338.70)	-	-	301.48	\$ 301.48	-	341.38	(4.19)	\$ 337.19	\$ 883.51
10/29/2016	(358.98)	292.94	827.83	\$ 761.79	(827.09)	(41.41)	1,177.55	\$ 309.05	-	-	305.95	\$ 305.95	-	24.56	3.88	\$ 28.44	\$ 1,405.23
10/30/2016	(81.40)	23.99	1,049.86	\$ 992.45	(604.92)	(30.37)	1,108.94	\$ 473.65	-	-	341.37	\$ 341.37	-	33.14	(1.73)	\$ 31.41	\$ 1,838.88
10/31/2016	(100.25)	(64.80)	976.61	\$ 811.56	(664.83)	(887.89)	861.88	\$ (690.84)									

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

Date	Day Ahead Regulation Amount	Real Time Regulation Amount	Regulation Cost Distribution Amount	Regulation Subtotal	Day Ahead Spinning Reserve Amount	Real Time Spinning Reserve Amount	Spinning Reserve Cost Distribution Amount	Spinning Reserve Subtotal	Day Ahead Supplemental Reserve Amount	Real Time Supplemental Reserve Amount	Supplemental Reserve Cost Distribution Amount	Supplemental Reserve Subtotal	Contingency Reserve Deployment Failure Charge Amount	Real Time Excessive Deficient Energy Deployment Charge Amount	Net Regulation Adjustment Amount	Other Charge Subtotal	Net Benefit
11/1/2016	(191.43)	20.19	1,206.82	\$ 1,035.58	(2,862.42)	866.71	1,558.41	\$ (437.30)	(160.83)	29.88	1,230.55	\$ 1,099.60	-	228.35	(21.17)	\$ 207.18	\$ 1,905.06
11/2/2016	(222.39)	180.86	1,156.13	\$ 1,114.60	(2,727.72)	2,143.41	1,572.20	\$ 987.89	(202.12)	40.05	1,147.62	\$ 985.55	-	128.11	0.15	\$ 128.26	\$ 3,216.30
11/3/2016	(122.05)	(21.08)	1,169.36	\$ 1,026.23	(300.98)	(517.74)	1,252.53	\$ 433.81	-	-	516.35	\$ 516.35	-	184.59	(1.93)	\$ 182.66	\$ 2,159.05
11/4/2016	(330.48)	176.35	1,045.56	\$ 891.43	(1,116.12)	276.31	1,191.17	\$ 351.36	-	-	303.44	\$ 303.44	-	102.28	0.64	\$ 102.92	\$ 1,649.15
11/5/2016	(82.90)	15.99	979.17	\$ 912.26	(629.92)	(116.52)	899.59	\$ 153.15	-	-	282.74	\$ 282.74	-	52.58	(1.47)	\$ 51.11	\$ 1,399.26
11/6/2016	(29.45)	29.90	971.04	\$ 971.49	(666.17)	(126.42)	809.36	\$ 16.77	-	-	317.86	\$ 317.86	-	113.15	(1.64)	\$ 111.51	\$ 1,417.63
11/7/2016	(137.02)	113.90	1,115.53	\$ 1,092.41	(970.64)	207.55	1,227.85	\$ 464.76	-	-	316.43	\$ 316.43	-	96.51	-	\$ 96.51	\$ 1,970.11
11/8/2016	(38.45)	10.23	1,101.68	\$ 1,073.46	(785.79)	236.75	1,157.54	\$ 608.50	-	-	332.31	\$ 332.31	-	64.31	0.06	\$ 64.37	\$ 2,078.64
11/9/2016	(92.33)	65.56	1,252.92	\$ 1,226.15	(583.19)	(650.79)	1,270.19	\$ 36.21	-	-	338.91	\$ 338.91	-	95.23	(1.36)	\$ 93.87	\$ 1,695.14
11/10/2016	(18.90)	12.20	980.99	\$ 974.29	(438.03)	(195.82)	999.49	\$ 365.64	-	-	322.69	\$ 322.69	-	60.23	(0.34)	\$ 59.89	\$ 1,722.51
11/11/2016	(87.65)	4.80	985.65	\$ 902.80	(617.97)	(55.88)	1,092.26	\$ 418.41	-	-	311.19	\$ 311.19	-	74.45	0.03	\$ 74.48	\$ 1,706.88
11/12/2016	(45.00)	21.45	914.81	\$ 891.26	(723.56)	(56.35)	839.44	\$ 59.53	-	-	360.51	\$ 360.51	-	81.09	(7.66)	\$ 73.43	\$ 1,384.73
11/13/2016	(87.85)	(33.52)	938.06	\$ 816.69	(505.57)	(79.65)	621.23	\$ 36.01	-	-	349.62	\$ 349.62	-	213.49	(10.95)	\$ 202.54	\$ 1,404.86
11/14/2016	(195.38)	8.11	932.99	\$ 745.72	(1,021.56)	383.57	1,264.74	\$ 626.75	-	-	521.50	\$ 521.50	-	185.32	(2.12)	\$ 183.20	\$ 2,077.17
11/15/2016	(110.64)	(61.57)	1,046.17	\$ 873.96	(840.42)	(122.79)	1,245.22	\$ 282.01	-	-	467.66	\$ 467.66	-	123.31	(3.85)	\$ 119.46	\$ 1,743.09
11/16/2016	(80.60)	(349.30)	838.68	\$ 498.78	(689.25)	(726.98)	1,131.77	\$ (284.46)	(59.00)	355.44	501.35	\$ 797.79	-	395.86	5.11	\$ 400.97	\$ 1,323.08
11/17/2016	-	(48.99)	1,008.85	\$ 959.86	(705.80)	(172.70)	1,063.86	\$ 185.36	-	-	338.02	\$ 338.02	-	207.09	0.72	\$ 207.81	\$ 1,691.05
11/18/2016	-	(655.28)	929.73	\$ 274.45	(777.50)	381.69	907.75	\$ 511.94	-	-	298.83	\$ 298.83	-	413.90	(25.06)	\$ 388.84	\$ 1,474.06
11/19/2016	(60.00)	(49.53)	816.24	\$ 706.71	(360.38)	(276.91)	1,004.63	\$ 367.34	-	-	303.25	\$ 303.25	-	120.66	4.20	\$ 124.86	\$ 1,502.16
11/20/2016	(102.08)	75.40	950.61	\$ 923.93	(301.78)	(182.32)	930.35	\$ 446.25	-	-	291.79	\$ 291.79	-	92.91	-	\$ 92.91	\$ 1,754.88
11/21/2016	(80.80)	24.33	980.20	\$ 923.73	(377.38)	(94.22)	1,043.58	\$ 571.98	-	-	426.75	\$ 426.75	-	173.73	(4.85)	\$ 168.88	\$ 2,091.34
11/22/2016	-	(67.78)	906.77	\$ 838.99	(377.38)	(534.63)	1,059.86	\$ 147.85	(28.30)	15.28	352.79	\$ 339.77	-	70.38	(2.66)	\$ 67.72	\$ 1,394.33
11/23/2016	(77.40)	41.52	1,177.34	\$ 1,141.46	(383.46)	(231.63)	1,018.60	\$ 403.51	-	-	309.85	\$ 309.85	-	12.97	(0.15)	\$ 12.82	\$ 1,867.64
11/24/2016	(82.80)	51.99	922.29	\$ 891.48	(210.42)	(187.27)	642.39	\$ 244.70	-	-	310.80	\$ 310.80	-	24.36	(0.09)	\$ 24.27	\$ 1,471.25
11/25/2016	(99.83)	50.39	839.49	\$ 790.05	(262.32)	(177.10)	832.11	\$ 392.69	-	-	302.47	\$ 302.47	-	43.94	0.79	\$ 44.73	\$ 1,529.94
11/26/2016	(45.00)	(102.12)	954.34	\$ 807.22	(272.54)	(198.97)	914.85	\$ 443.34	-	-	295.84	\$ 295.84	-	76.35	1.56	\$ 77.91	\$ 1,624.31
11/27/2016	(44.28)	(115.64)	830.12	\$ 670.20	(196.94)	(38.89)	622.57	\$ 386.74	-	-	298.65	\$ 298.65	-	205.04	0.15	\$ 205.19	\$ 1,560.78
11/28/2016	-	(167.12)	865.21	\$ 698.09	(306.50)	47.53	805.79	\$ 546.82	-	-	292.13	\$ 292.13	-	74.30	(17.29)	\$ 57.01	\$ 1,594.05
11/29/2016	(45.95)	(170.11)	815.06	\$ 599.00	(191.92)	(75.61)	765.32	\$ 497.79	-	-	299.29	\$ 299.29	-	14.61	(3.55)	\$ 11.06	\$ 1,407.14
11/30/2016	(105.40)	(147.61)	940.41	\$ 687.40	(302.56)	(575.86)	780.19	\$ (98.23)	-	-	306.70	\$ 306.70	-	298.12	(6.04)	\$ 292.08	\$ 1,187.95
Nov Total	\$ (2,616.06)	\$ (1,086.48)	\$ 29,572.22	\$ 25,869.68	\$ (20,506.19)	\$ (851.53)	\$ 30,524.84	\$ 9,167.12	\$ (450.25)	\$ 440.65	\$ 12,047.89	\$ 12,038.29	\$ -	\$ 4,027.22	\$ (98.77)	\$ 3,928.45	\$ 51,003.54
12/1/2016	(106.85)	(12.62)	983.56	\$ 864.09	(250.96)	(259.01)	963.43	\$ 453.46	-	-	348.99	\$ 348.99	-	64.83	7.64	\$ 72.47	\$ 1,739.01
12/2/2016	(366.10)	218.72	1,078.52	\$ 931.14	(279.72)	(305.40)	1,192.20	\$ 607.08	-	-	300.31	\$ 300.31	-	25.43	(0.36)	\$ 25.07	\$ 1,863.60
12/3/2016	(316.15)	112.64	996.52	\$ 793.01	(333.24)	(214.15)	984.17	\$ 436.78	-	-	333.69	\$ 333.69	-	136.43	21.29	\$ 157.72	\$ 1,721.20
12/4/2016	(233.20)	73.78	1,089.63	\$ 930.21	(500.62)	(154.58)	1,183.32	\$ 528.12	-	-	342.53	\$ 342.53	-	105.56	(1.71)	\$ 103.85	\$ 1,904.71
12/5/2016	(17.05)	(32.21)	741.14	\$ 691.88	(361.60)	(80.98)	921.76	\$ 479.18	-	-	359.47	\$ 359.47	-	100.45	(0.41)	\$ 100.04	\$ 1,630.57
12/6/2016	(21.58)	(5.24)	985.05	\$ 958.23	(348.60)	(91.92)	857.75	\$ 417.23	-	-	301.47	\$ 301.47	-	60.99	(10.94)	\$ 50.05	\$ 1,726.98
12/7/2016	(18.75)	(11.35)	931.64	\$ 901.54	(364.30)	(97.33)	828.74	\$ 367.11	-	-	296.51	\$ 296.51	-	75.98	(0.32)	\$ 75.66	\$ 1,640.82
12/8/2016	(80.00)	35.96	1,144.97	\$ 1,100.93	(540.52)	(62.26)	1,213.31	\$ 610.53	-	-	855.50	\$ 855.50	-	71.60	(0.71)	\$ 70.89	\$ 2,637.85
12/9/2016	(325.13)	263.22	1,106.46	\$ 1,044.55	(754.70)	655.32	2,139.30	\$ 2,039.92	-	-	1,346.46	\$ 1,346.46	-	78.12	(3.15)	\$ 74.97	\$ 4,505.90
12/10/2016	(294.68)	63.79	1,170.50	\$ 939.61	(377.61)	(402.43)	1,160.98	\$ 380.94	-	-	539.04	\$ 539.04	-	29.36	15.03	\$ 44.39	\$ 1,903.98
12/11/2016	(74.55)	(549.73)	825.45	\$ 201.17	(899.66)	(224.13)	950.87	\$ (172.92)	-	-	515.56	\$ 515.56	-	103.91	(12.83)	\$ 91.08	\$ 634.89
12/12/2016	(603.81)	161.36	1,106.03	\$ 663.58	(398.92)	(176.32)	1,038.72	\$ 463.48	-	-	679.64	\$ 679.64	-	206.29	(11.88)	\$ 194.41	\$ 2,001.11
12/13/2016	(567.20)	288.09	1,027.55	\$ 748.44	(295.96)	(443.25)	737.30	\$ (1.91)	-	-	446.06	\$ 446.06	-	239.59	(15.14)	\$ 224.45	\$ 1,417.04
12/14/2016	(78.18)	(56.19)	1,144.58	\$ 1,010.21	(354.94)	(821.72)	872.25	\$ (304.41)	-	-	662.02	\$ 662.02	-	105.02	0.41	\$ 105.43	\$ 1,473.25
12/15/2016	(225.75)	140.62	1,242.70	\$ 1,157.57	(572.56)	(1,041.57)	1,601.05	\$ (13.08)	-	-	1,072.08	\$ 1,072.08	-	22.78	-	\$ 22.78	\$ 2,239.35
12/16/2016	(78.70)	(405.27)	1,186.13	\$ 702.16	(490.89)	(336.19)	1,352.96	\$ 525.88	-	-	845.98	\$ 845.98	-	44.93	71.84	\$ 116.77	\$ 2,190.79
12/17/2016	-	(5.09)	877.72	\$ 872.63	(396.61)	(236.07)	656.32	\$ 23.64	-	-	564.47	\$ 564.47	-	65.88	0.32	\$ 66.20	\$ 1,526.94
12/18/2016	(141.40)	88.09	981.23	\$ 927.92	(332.87)	(279.17)	885.75	\$ 273.71	-	-	528.05	\$ 528.05	-	44.66	-	\$ 44.66	\$ 1,774.34
12/19/2016	(545.65)	354.53	1,173.50	\$ 982.38	(527.31)	(388.16)	1,378.19	\$ 462.72	-	-	1,036.34	\$ 1,036.34	-	19.40	0.15	\$ 19.55	\$ 2,500.99
12/20/2016	(70.67)	(167.28)	976.45	\$ 738.50	(344.54)	(461.28)	951.13	\$ 145.31	-	-	410.69	\$ 410.69	-	63.17	(1.27)	\$ 61.90	\$ 1,356.40
12/21/2016	(13.64)	(24.77)	850.02	\$ 811.61	(252.80)	(257.93)	661.30	\$ 150.57	-	-	299.63	\$ 299.63	-	50.00	0.37	\$ 50.37	\$ 1,312.18
12/22/2016	(100.45)	(17.29)	1,019.81	\$ 902.07	(347.53)	(274.20)	953.92	\$ 332.19	-	-	304.99	\$ 304.99	-	79.38	0.69	\$ 80.07	\$ 1,619.32
12/23/2016	(389.35)	(116.74)	772.43	\$ 266.34	(1,015.21)	280.78	812.39	\$ 77.96	-	-	386.56	\$ 386.56	-	443.18	(0.86)	\$ 442.32	\$ 1,173.18
12/24/2016	(101.55)	(258.41)	754.22	\$ 394.26	(763.75)	223.22	665.12	\$ 124.59	-	-	332.82	\$ 332.82	-	244.64	(7.14)	\$ 237.50	\$ 1,089.17
12/25/2016	(98.57)	(98.57)	699.03	\$ 600.46	(570.31)	(65.07)	524.62	\$ (110.76)	-	-	345.82	\$ 345.82	-	47.76	(5.48)	\$ 42.28	\$ 877.80
12/26/2016	(76.73)	(257.79)	810.20	\$ 475.68	(564.81)	(760.10)	462.71	\$ (862.20)	-	-	346.06	\$ 346.06	-	132.26	(4.24)	\$ 128.02	\$ 87.56
12/27/2016	(158.25)	(101.25)	1,231.82	\$ 972.32	(2,015.73)	464.23	1,003.28	\$ (548.22)	-	-	328.28	\$ 328.28	-	345.64	1.83	\$ 347.47	\$ 1,099.85
12/28/2016	(56.73)	(277.59)	825.89	\$ 491.57	(693.03)	45.87	687.58	\$ 40.42	-	-	337.66	\$ 337.66	-	139.18	0.63	\$ 139.81	\$ 1,009.46
12/29/2016	(102.80)	(228.77)	880.45	\$ 548.88	(636.68)	(35.58)	757.17	\$ 84.91	-	-	337.66	\$ 337.66	-	225.11	1.46	\$ 226.57	\$ 1,198.02
12/30/2016	(853.74)	222.21	1,351.01	\$ 719.48	(1,193.34)	150.32	1,050.38	\$ 7.36	-	-	335.24	\$ 335.24	-	384.44	(0.60)	\$ 383.84	\$ 1,445.92
12/31/2016	(101.45)	(399.79)	1,135.62	\$ 634.38	(1,061.41)	740.81	793.25	\$ 472.65	-	-	357.74	\$ 357.74	-	491.6			

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

Date	Day Ahead Regulation Amount	Real Time Regulation Amount	Regulation Cost Distribution Amount	Regulation Subtotal	Day Ahead Spinning Reserve Amount	Real Time Spinning Reserve Amount	Spinning Reserve Cost Distribution Amount	Spinning Reserve Subtotal	Day Ahead Supplemental Reserve Amount	Real Time Supplemental Reserve Amount	Supplemental Reserve Cost Distribution Amount	Supplemental Reserve Subtotal	Contingency Reserve Deployment Failure Charge Amount	Real Time Excessive Deficient Energy Deployment Charge Amount	Net Regulation Adjustment Amount	Other Charge Subtotal	Net Benefit
1/1/2017	(151.55)	(253.85)	1,044.80	\$ 639.40	(617.90)	48.42	721.51	\$ 152.03	-	-	366.20	\$ 366.20	-	182.18	(4.11)	\$ 178.07	\$ 1,335.70
1/2/2017	(357.50)	(28.01)	1,150.08	\$ 764.57	(1,085.93)	355.47	1,102.54	\$ 372.08	-	-	322.75	\$ 322.75	-	328.23	(5.77)	\$ 322.46	\$ 1,781.86
1/3/2017	(151.80)	(240.20)	1,075.46	\$ 683.46	(682.82)	30.15	750.36	\$ 97.69	-	-	334.80	\$ 334.80	-	234.60	2.64	\$ 237.24	\$ 1,353.19
1/4/2017	(101.70)	(179.86)	1,130.87	\$ 849.31	(1,204.59)	611.73	1,066.82	\$ 473.96	-	-	773.70	\$ 773.70	-	95.08	(14.76)	\$ 80.32	\$ 2,177.29
1/5/2017	(576.36)	245.83	1,158.42	\$ 827.89	(913.94)	(145.83)	992.45	\$ (67.32)	-	-	302.58	\$ 302.58	-	171.07	0.15	\$ 171.22	\$ 1,234.37
1/6/2017	(1,251.45)	468.52	860.28	\$ 77.35	(1,364.79)	5,328.54	103.31	\$ 4,067.06	-	-	860.91	\$ 860.91	-	101.97	18.81	\$ 120.78	\$ 5,126.10
1/7/2017	(1,406.27)	934.38	1,153.04	\$ 681.15	(1,295.88)	178.73	828.05	\$ (289.10)	-	-	669.87	\$ 669.87	-	55.42	21.07	\$ 76.49	\$ 1,138.41
1/8/2017	(338.75)	(4.04)	969.60	\$ 626.81	(612.81)	(258.85)	630.68	\$ (240.98)	-	-	343.22	\$ 343.22	-	241.82	7.59	\$ 249.41	\$ 978.46
1/9/2017	(149.04)	114.54	726.71	\$ 692.21	(1,254.16)	692.58	1,050.93	\$ 489.35	-	-	587.15	\$ 587.15	-	191.23	(12.21)	\$ 179.02	\$ 1,947.73
1/10/2017	(18.18)	(94.19)	700.58	\$ 588.21	(553.87)	4.68	611.46	\$ 62.27	-	-	331.98	\$ 331.98	-	71.94	(0.32)	\$ 71.62	\$ 1,054.08
1/11/2017	-	(5.05)	1,065.77	\$ 1,060.72	(627.08)	(61.76)	684.65	\$ (4.19)	-	-	315.18	\$ 315.18	-	86.07	(0.46)	\$ 85.61	\$ 1,457.32
1/12/2017	(77.65)	42.07	1,275.38	\$ 1,239.80	(923.33)	(51.17)	1,296.90	\$ 322.40	-	-	303.20	\$ 303.20	-	60.91	(0.37)	\$ 60.54	\$ 1,925.94
1/13/2017	-	(154.51)	1,375.83	\$ 1,221.32	(1,025.43)	(56.16)	1,324.86	\$ 243.27	-	-	316.22	\$ 316.22	-	199.53	(3.56)	\$ 195.97	\$ 1,976.78
1/14/2017	(265.80)	88.19	1,284.10	\$ 1,106.49	(793.11)	(139.44)	1,095.60	\$ 163.05	-	-	322.57	\$ 322.57	-	67.19	0.24	\$ 67.43	\$ 1,659.54
1/15/2017	(336.97)	143.22	1,018.85	\$ 825.10	(758.38)	(65.98)	968.40	\$ 144.04	-	-	335.74	\$ 335.74	-	119.02	0.81	\$ 119.83	\$ 1,424.71
1/16/2017	(343.68)	294.96	1,183.81	\$ 1,135.09	(844.56)	(50.62)	951.06	\$ 55.88	-	-	292.04	\$ 292.04	-	102.67	2.82	\$ 105.49	\$ 1,588.50
1/17/2017	(87.58)	(18.07)	1,006.25	\$ 900.60	(784.77)	384.19	775.63	\$ 375.05	-	-	263.71	\$ 263.71	-	118.66	3.01	\$ 121.67	\$ 1,661.03
1/18/2017	(178.75)	155.49	991.17	\$ 967.91	(458.18)	(87.46)	785.28	\$ 239.64	-	-	305.63	\$ 305.63	-	52.36	0.16	\$ 52.52	\$ 1,565.70
1/19/2017	(157.85)	(39.53)	1,045.85	\$ 848.47	(492.14)	(109.24)	790.59	\$ 189.21	-	-	312.10	\$ 312.10	-	36.46	3.31	\$ 39.77	\$ 1,389.55
1/20/2017	(149.15)	(85.74)	1,205.70	\$ 970.81	(766.74)	(26.04)	936.29	\$ 143.51	-	-	314.23	\$ 314.23	-	250.30	(23.19)	\$ 227.11	\$ 1,655.66
1/21/2017	(364.88)	(0.80)	996.98	\$ 631.30	(858.88)	21.91	809.09	\$ (27.88)	-	-	348.46	\$ 348.46	-	291.86	(14.30)	\$ 277.56	\$ 1,229.44
1/22/2017	(221.04)	45.34	937.20	\$ 761.50	(840.16)	56.67	696.46	\$ (87.03)	-	-	352.29	\$ 352.29	-	177.20	(3.40)	\$ 173.80	\$ 1,200.56
1/23/2017	(530.16)	224.20	1,331.27	\$ 1,025.31	(1,000.67)	(39.37)	935.19	\$ (104.85)	-	-	310.04	\$ 310.04	-	241.44	(10.50)	\$ 230.94	\$ 1,461.44
1/24/2017	(119.19)	3.88	869.64	\$ 754.33	(1,009.08)	50.15	747.69	\$ (211.24)	-	-	289.41	\$ 289.41	-	127.61	(7.50)	\$ 120.11	\$ 952.61
1/25/2017	(143.26)	(15.49)	1,076.31	\$ 917.56	(1,026.89)	(61.64)	770.51	\$ (318.02)	-	-	288.04	\$ 288.04	-	77.08	(4.30)	\$ 72.78	\$ 960.36
1/26/2017	(124.31)	63.74	1,049.47	\$ 988.90	(1,622.94)	144.47	982.35	\$ (496.12)	-	-	278.54	\$ 278.54	-	20.58	(1.03)	\$ 19.55	\$ 790.87
1/27/2017	(549.21)	426.11	1,102.60	\$ 979.50	(1,216.58)	40.93	961.53	\$ (214.12)	-	-	224.37	\$ 224.37	-	96.17	(5.80)	\$ 90.37	\$ 1,080.12
1/28/2017	(413.62)	97.09	962.97	\$ 646.44	(1,101.61)	11.01	850.14	\$ (240.46)	-	-	209.65	\$ 209.65	-	126.70	(27.28)	\$ 99.42	\$ 715.05
1/29/2017	(664.42)	308.51	1,072.88	\$ 716.97	(1,323.43)	323.67	1,073.57	\$ 73.81	-	-	215.51	\$ 215.51	-	465.74	7.66	\$ 473.40	\$ 1,479.69
1/30/2017	(481.60)	35.24	1,122.79	\$ 676.43	(1,064.62)	(266.58)	900.52	\$ (430.68)	-	-	231.12	\$ 231.12	-	573.93	(40.73)	\$ 533.20	\$ 1,010.07
1/31/2017	(196.44)	(12.71)	1,119.84	\$ 910.69	(896.45)	(257.02)	688.02	\$ (465.45)	-	-	263.26	\$ 263.26	-	237.78	(20.96)	\$ 216.82	\$ 925.32
Jan Total	\$ (9,908.16)	\$ 2,559.26	\$ 33,064.50	\$ 25,715.60	\$ (29,021.72)	\$ 6,606.14	\$ 26,882.44	\$ 4,466.86	\$ -	\$ -	\$ 10,984.47	\$ 10,984.47	\$ -	\$ 5,202.80	\$ (132.28)	\$ 5,070.52	\$ 46,237.45
2/1/2017	(208.40)	(1.09)	975.60	\$ 766.11	(876.02)	(70.84)	690.01	\$ (256.85)	-	-	282.33	\$ 282.33	-	78.28	(2.98)	\$ 75.30	\$ 866.89
2/2/2017	(209.83)	43.89	1,142.74	\$ 976.80	(1,359.74)	77.51	1,084.60	\$ (197.63)	-	-	260.80	\$ 260.80	-	160.35	(0.48)	\$ 159.87	\$ 1,199.84
2/3/2017	(131.60)	5.20	1,111.56	\$ 985.16	(1,190.27)	(92.58)	1,008.55	\$ (274.30)	-	-	245.43	\$ 245.43	-	172.51	(8.26)	\$ 164.25	\$ 1,120.54
2/4/2017	(82.10)	(47.13)	792.87	\$ 663.64	(1,000.53)	106.64	808.77	\$ (85.12)	-	-	234.13	\$ 234.13	-	122.00	2.68	\$ 124.68	\$ 937.33
2/5/2017	(98.21)	(65.62)	955.25	\$ 791.42	(1,120.32)	(75.63)	929.72	\$ (266.23)	-	-	258.85	\$ 258.85	-	230.78	0.22	\$ 231.00	\$ 1,015.04
2/6/2017	(131.70)	(188.85)	1,053.88	\$ 733.33	(908.52)	24.79	736.73	\$ (147.00)	-	-	284.27	\$ 284.27	-	254.41	(11.43)	\$ 242.98	\$ 1,113.58
2/7/2017	(342.30)	(107.52)	1,144.03	\$ 694.21	(756.78)	(37.19)	648.01	\$ (145.96)	-	-	261.32	\$ 261.32	-	359.25	(14.77)	\$ 344.48	\$ 1,154.05
2/8/2017	(216.40)	19.32	998.37	\$ 801.29	(1,064.95)	41.26	803.74	\$ (219.95)	-	-	245.86	\$ 245.86	-	210.83	(11.20)	\$ 199.63	\$ 1,026.83
2/9/2017	(72.53)	(444.30)	1,017.12	\$ 500.29	(1,162.75)	16.41	843.41	\$ (302.93)	-	-	245.73	\$ 245.73	-	545.19	(38.26)	\$ 506.93	\$ 950.02
2/10/2017	(339.76)	(119.84)	881.97	\$ 422.37	(1,056.77)	33.60	761.81	\$ (261.36)	-	-	248.68	\$ 248.68	-	484.20	(48.18)	\$ 436.02	\$ 845.71
2/11/2017	(377.04)	0.57	1,057.56	\$ 681.09	(995.75)	70.91	827.30	\$ (97.54)	-	-	280.20	\$ 280.20	-	289.03	(17.63)	\$ 271.40	\$ 1,135.15
2/12/2017	(479.02)	44.92	883.37	\$ 449.27	(734.83)	(163.72)	641.41	\$ (257.14)	-	-	274.29	\$ 274.29	-	214.32	(24.25)	\$ 190.07	\$ 656.49
2/13/2017	(362.97)	181.06	970.39	\$ 788.48	(953.66)	(80.53)	789.57	\$ (244.62)	-	-	250.61	\$ 250.61	-	111.88	(20.21)	\$ 91.67	\$ 886.14
2/14/2017	(63.23)	(49.89)	890.09	\$ 776.97	(871.84)	13.24	773.39	\$ (85.21)	-	-	267.11	\$ 267.11	-	78.28	(11.15)	\$ 67.13	\$ 1,026.00
2/15/2017	(225.16)	134.32	983.76	\$ 892.92	(931.81)	121.23	703.28	\$ (107.30)	-	-	267.76	\$ 267.76	-	46.85	(5.06)	\$ 41.79	\$ 1,095.17
2/16/2017	(70.42)	(14.03)	832.84	\$ 748.39	(937.44)	129.33	811.47	\$ 3.36	-	-	246.06	\$ 246.06	-	67.14	(10.85)	\$ 56.29	\$ 1,054.10
2/17/2017	(54.51)	(29.51)	886.37	\$ 802.35	(683.18)	35.65	738.07	\$ 90.54	-	-	263.20	\$ 263.20	-	162.89	(13.61)	\$ 149.28	\$ 1,305.37
2/18/2017	(190.68)	(112.83)	1,014.93	\$ 711.42	(1,202.45)	318.60	805.36	\$ (78.49)	-	-	240.32	\$ 240.32	-	227.98	(19.35)	\$ 208.63	\$ 1,081.88
2/19/2017	(231.26)	(240.74)	1,161.12	\$ 689.12	(864.07)	(1,029.12)	797.20	\$ (1,095.99)	-	-	296.85	\$ 296.85	-	302.01	(13.84)	\$ 288.17	\$ 178.15
2/20/2017	(378.65)	(40.34)	1,094.80	\$ 675.81	(1,054.77)	145.36	793.25	\$ (116.16)	-	-	265.15	\$ 265.15	-	378.52	(41.49)	\$ 337.03	\$ 1,161.83
2/21/2017	(440.87)	200.15	1,157.23	\$ 916.51	(882.02)	252.82	758.20	\$ 129.00	-	-	270.52	\$ 270.52	-	233.71	2.62	\$ 236.33	\$ 1,552.36
2/22/2017	(111.36)	(44.20)	946.55	\$ 790.99	(856.85)	265.50	763.04	\$ 171.69	-	-	292.67	\$ 292.67	-	88.95	(13.57)	\$ 75.38	\$ 1,330.73
2/23/2017	(120.18)	63.08	1,213.00	\$ 1,155.90	(421.49)	(150.57)	781.76	\$ 209.70	-	-	225.83	\$ 225.83	-	121.74	(1.95)	\$ 119.79	\$ 1,711.22
2/24/2017	(138.30)	19.10	955.69	\$ 836.49	(381.30)	(105.11)	612.23	\$ 125.82	-	-	287.80	\$ 287.80	-	112.02	(18.77)	\$ 93.25	\$ 1,343.36
2/25/2017	(88.74)	(14.49)	1,171.28	\$ 1,068.05	(557.98)	(225.30)	878.87	\$ 95.59	-	-	359.61	\$ 359.61	-	146.52	(6.29)	\$ 140.23	\$ 1,663.48
2/26/2017	(127.69)	2.73	1,099.64	\$ 974.68	(535.61)	(219.87)	940.94	\$ 185.46	-	-	361.70	\$ 361.70	-	74.79	(14.26)	\$ 60.53	\$ 1,582.37
2/27/2017	(128.31)	(82.07)	1,123.67	\$ 913.29	(544.97)	(112.70)	980.85	\$ 323.18	-	-	350.10	\$ 350.10	-	169.73	0.44	\$ 170.17	\$ 1,756.74
2/28/2017	(143.60)	73.86	907.06	\$ 837.32	(373.63)	(56.83)	755.32	\$ 324.86	-	-	328.70	\$ 328.70	-	71.30	(0.69)	\$ 70.61	\$ 1,561.49
Feb Total	\$ (5,564.82)	\$ (814.25)	\$ 28,422.74	\$ 22,043.67	\$ (24,280.30)	\$ (767.14)	\$ 22,466.86	\$ (2,580.58)	\$ -	\$ -	\$ 7,695.88	\$ 7,695.88	\$ -	\$ 5,515.46	\$ (362.57)	\$ 5,152.89	\$ 32,311.86

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

Date	Day Ahead Regulation Amount	Real Time Regulation Amount	Regulation Cost Distribution Amount	Regulation Subtotal	Day Ahead Spinning Reserve Amount	Real Time Spinning Reserve Amount	Spinning Reserve Cost Distribution Amount	Spinning Reserve Subtotal	Day Ahead Supplemental Reserve Amount	Real Time Supplemental Reserve Amount	Supplemental Reserve Cost Distribution Amount	Supplemental Reserve Subtotal	Contingency Reserve Deployment Failure Charge Amount	Real Time Excessive Deficient Energy Deployment Charge Amount	Net Regulation Adjustment Amount	Other Charge Subtotal	Net Benefit
3/1/2017	(64.64)	(14.64)	814.67	\$ 735.39	(323.62)	(78.89)	676.38	\$ 273.87	-	-	284.31	\$ 284.31	-	149.18	(13.65)	\$ 135.53	\$ 1,429.10
3/2/2017	(64.49)	(58.25)	939.53	\$ 816.79	(434.00)	(766.59)	1,200.30	\$ (0.29)	-	-	68.56	\$ 68.56	-	71.51	(24.74)	\$ 46.77	\$ 931.83
3/3/2017	(94.44)	(220.84)	1,153.86	\$ 838.58	(625.04)	(82.29)	1,217.57	\$ 510.24	-	-	254.09	\$ 254.09	-	191.51	(11.44)	\$ 180.07	\$ 1,782.98
3/4/2017	(64.66)	(162.15)	964.43	\$ 737.62	(482.16)	(171.52)	746.96	\$ 93.28	-	-	239.28	\$ 239.28	-	141.48	(2.33)	\$ 139.15	\$ 1,209.33
3/5/2017	(105.64)	(88.88)	1,136.04	\$ 941.52	(379.49)	(1,286.83)	675.52	\$ (990.80)	-	-	250.29	\$ 250.29	-	212.61	(34.47)	\$ 178.14	\$ 379.15
3/6/2017	(110.11)	26.78	1,095.83	\$ 1,012.50	(499.84)	(117.03)	783.86	\$ 166.99	-	-	266.53	\$ 266.53	-	197.04	1.61	\$ 198.65	\$ 1,644.67
3/7/2017	(171.77)	51.15	1,074.90	\$ 954.28	(731.81)	315.35	1,087.49	\$ 671.03	-	-	150.14	\$ 150.14	-	129.03	(19.38)	\$ 109.65	\$ 1,885.10
3/8/2017	(91.94)	(60.38)	920.92	\$ 768.60	(598.10)	304.77	1,049.68	\$ 756.35	-	-	169.92	\$ 169.92	-	151.66	(9.19)	\$ 142.47	\$ 1,837.34
3/9/2017	(94.53)	(5.13)	1,144.03	\$ 1,044.37	(610.82)	(0.51)	1,099.94	\$ 488.61	-	-	310.08	\$ 310.08	-	97.46	(5.04)	\$ 92.42	\$ 1,935.48
3/10/2017	(88.15)	(27.45)	1,235.77	\$ 1,120.17	(1,021.00)	62.77	1,601.87	\$ 643.64	-	-	269.10	\$ 269.10	-	94.70	(15.57)	\$ 79.13	\$ 2,112.04
3/11/2017	(148.45)	(145.17)	1,201.89	\$ 908.27	(990.00)	163.43	1,585.02	\$ 758.45	-	-	238.39	\$ 238.39	-	111.33	3.59	\$ 114.92	\$ 2,020.03
3/12/2017	(161.29)	(31.79)	1,169.74	\$ 976.66	(595.02)	67.62	960.93	\$ 433.53	-	-	280.25	\$ 280.25	-	64.80	(24.99)	\$ 39.81	\$ 1,730.25
3/13/2017	(179.10)	(251.17)	1,364.35	\$ 934.08	(1,443.42)	181.93	1,505.07	\$ 243.58	-	-	1,013.65	\$ 1,013.65	-	451.51	(140.92)	\$ 310.59	\$ 2,501.90
3/14/2017	(179.95)	38.93	1,597.38	\$ 1,456.36	(1,764.31)	(157.72)	1,976.04	\$ 54.01	-	-	1,233.55	\$ 1,233.55	-	41.29	(24.16)	\$ 17.13	\$ 2,761.05
3/15/2017	(135.22)	22.05	1,300.76	\$ 1,187.59	(2,249.06)	13.47	2,023.12	\$ (212.47)	-	-	1,271.03	\$ 1,271.03	-	65.47	(9.85)	\$ 55.62	\$ 2,301.77
3/16/2017	(213.95)	(12.50)	1,353.48	\$ 1,127.03	(1,294.68)	(39.91)	1,372.17	\$ 37.58	-	-	947.79	\$ 947.79	-	291.99	(28.61)	\$ 263.38	\$ 2,375.78
3/17/2017	(79.05)	(227.60)	936.85	\$ 630.20	(786.56)	(129.83)	832.02	\$ (84.37)	-	-	578.63	\$ 578.63	-	195.62	(30.06)	\$ 165.56	\$ 1,290.02
3/18/2017	(220.73)	(222.52)	1,238.64	\$ 795.39	(1,085.92)	(101.73)	1,099.06	\$ (88.59)	-	-	357.76	\$ 357.76	-	249.44	(55.07)	\$ 194.37	\$ 1,258.93
3/19/2017	(305.12)	(32.70)	1,394.92	\$ 1,057.10	(1,079.71)	(832.99)	914.42	\$ (998.28)	-	-	253.04	\$ 253.04	-	368.40	(6.37)	\$ 362.03	\$ 673.89
3/20/2017	(174.50)	(362.23)	1,557.35	\$ 1,020.62	(1,668.78)	(77.38)	1,538.49	\$ (207.67)	-	(2.17)	1,019.00	\$ 1,016.83	-	381.15	(4.54)	\$ 376.61	\$ 2,206.39
3/21/2017	(174.44)	18.28	1,446.59	\$ 1,290.43	(1,077.60)	(122.65)	1,166.96	\$ (33.29)	-	-	343.81	\$ 343.81	-	130.33	(8.18)	\$ 122.15	\$ 1,723.10
3/22/2017	(172.53)	(172.84)	1,199.18	\$ 853.81	(1,951.24)	504.38	1,229.99	\$ (216.87)	-	-	328.01	\$ 328.01	-	302.91	(17.34)	\$ 285.57	\$ 1,250.52
3/23/2017	(226.03)	(116.11)	1,518.50	\$ 1,176.36	(970.66)	(75.38)	1,371.15	\$ 325.11	-	-	217.51	\$ 217.51	-	321.64	(3.12)	\$ 318.52	\$ 2,037.50
3/24/2017	(203.53)	(20.02)	1,483.70	\$ 1,260.15	(819.41)	(52.42)	1,165.72	\$ 293.89	-	-	338.87	\$ 338.87	-	191.87	(12.15)	\$ 179.72	\$ 2,072.63
3/25/2017	(27.87)	(60.07)	993.84	\$ 905.90	(575.55)	(414.94)	906.86	\$ (83.63)	-	-	365.14	\$ 365.14	-	57.07	(6.59)	\$ 50.48	\$ 1,237.89
3/26/2017	(179.41)	62.10	968.11	\$ 850.80	(852.73)	(275.05)	1,154.05	\$ 26.27	-	-	363.31	\$ 363.31	-	71.31	(0.20)	\$ 71.11	\$ 1,311.49
3/27/2017	(180.36)	70.21	1,148.97	\$ 1,038.82	(1,331.30)	379.54	2,221.85	\$ 1,270.09	-	-	153.13	\$ 153.13	-	126.07	(13.67)	\$ 112.40	\$ 2,574.44
3/28/2017	(146.56)	147.94	1,300.42	\$ 1,301.80	(994.87)	980.47	1,764.87	\$ 1,750.47	-	-	870.45	\$ 870.45	-	63.99	(0.72)	\$ 63.27	\$ 3,985.99
3/29/2017	(56.80)	11.18	1,234.65	\$ 1,189.03	(350.53)	(117.16)	1,247.24	\$ 779.55	-	-	393.51	\$ 393.51	-	94.02	(2.06)	\$ 91.96	\$ 2,454.05
3/30/2017	(163.83)	35.99	1,078.02	\$ 950.18	(611.64)	49.76	1,245.85	\$ 683.97	-	-	294.71	\$ 294.71	-	141.60	(7.69)	\$ 133.91	\$ 2,062.77
3/31/2017	(154.37)	32.06	1,305.12	\$ 1,182.81	(451.09)	(17.71)	1,711.43	\$ 1,242.63	-	-	325.67	\$ 325.67	-	145.58	(17.21)	\$ 128.37	\$ 2,879.48
Mar Total	\$ (4,433.46)	\$ (1,775.77)	\$ 37,272.44	\$ 31,063.21	\$ (28,649.96)	\$ (1,895.04)	\$ 39,131.88	\$ 8,586.88	\$ -	\$ (2.17)	\$ 13,449.51	\$ 13,447.34	\$ -	\$ 5,303.57	\$ (544.11)	\$ 4,759.46	\$ 57,856.89
4/1/2017	(183.20)	80.51	1,615.05	\$ 1,512.36	(512.02)	2.51	1,933.71	\$ 1,424.20	-	-	368.67	\$ 368.67	-	127.97	(4.80)	\$ 123.17	\$ 3,428.40
4/2/2017	(75.74)	(36.96)	989.48	\$ 876.78	(339.36)	(152.74)	1,356.22	\$ 864.12	-	-	344.44	\$ 344.44	-	195.91	(13.92)	\$ 181.99	\$ 2,267.33
4/3/2017	(137.78)	(18.18)	1,059.84	\$ 903.88	(789.55)	251.77	1,490.06	\$ 952.28	-	-	351.70	\$ 351.70	-	225.40	(24.05)	\$ 201.35	\$ 2,409.21
4/4/2017	(130.40)	8.02	1,175.81	\$ 1,053.43	(976.66)	23.67	1,855.84	\$ 902.85	-	-	285.90	\$ 285.90	-	118.34	(14.86)	\$ 103.48	\$ 2,345.66
4/5/2017	(141.76)	(3.35)	1,103.69	\$ 958.58	(928.70)	147.70	1,787.52	\$ 1,006.52	-	-	732.42	\$ 732.42	-	114.09	(22.63)	\$ 91.46	\$ 2,788.98
4/6/2017	(136.81)	42.07	1,152.53	\$ 1,057.79	(906.61)	124.57	1,615.39	\$ 833.35	-	-	366.84	\$ 366.84	-	40.79	(11.22)	\$ 29.57	\$ 2,287.55
4/7/2017	(158.08)	(25.25)	1,401.40	\$ 1,218.07	(1,177.00)	314.41	1,801.35	\$ 938.76	-	-	365.55	\$ 365.55	-	97.55	(22.23)	\$ 75.32	\$ 2,597.70
4/8/2017	(192.30)	43.38	1,299.13	\$ 1,150.21	(1,303.30)	519.18	1,364.44	\$ 580.32	-	-	374.33	\$ 374.33	-	194.44	(12.17)	\$ 182.27	\$ 2,287.13
4/9/2017	(180.36)	30.22	1,260.07	\$ 1,109.93	(2,829.00)	1,143.42	1,364.80	\$ (320.78)	-	-	390.76	\$ 390.76	-	199.48	(9.34)	\$ 190.14	\$ 1,370.05
4/10/2017	(244.02)	47.25	1,383.48	\$ 1,186.71	(1,549.49)	592.13	1,970.53	\$ 1,013.17	-	-	846.51	\$ 846.51	-	216.80	(13.24)	\$ 203.56	\$ 3,249.95
4/11/2017	(169.42)	26.34	1,783.51	\$ 1,640.43	(1,082.43)	(123.17)	2,204.59	\$ 998.99	-	-	1,656.50	\$ 1,656.50	-	94.89	(10.76)	\$ 84.13	\$ 4,380.05
4/12/2017	(174.17)	72.09	1,492.49	\$ 1,390.41	(1,289.02)	277.87	1,958.88	\$ 947.73	-	-	743.92	\$ 743.92	-	66.59	(3.85)	\$ 62.74	\$ 3,144.80
4/13/2017	(146.53)	(55.14)	1,284.64	\$ 1,082.97	(1,103.66)	(69.90)	1,890.00	\$ 716.44	-	-	322.71	\$ 322.71	-	224.34	(16.25)	\$ 208.09	\$ 2,330.21
4/14/2017	(147.12)	(33.28)	1,270.71	\$ 1,090.31	(1,524.46)	216.30	1,660.99	\$ 352.83	-	-	362.65	\$ 362.65	-	185.54	(5.25)	\$ 180.29	\$ 1,986.08
4/15/2017	(148.92)	(194.39)	1,195.62	\$ 852.31	(815.55)	(281.66)	1,610.20	\$ 512.99	-	(8.97)	352.93	\$ 343.96	-	410.31	(46.40)	\$ 363.91	\$ 2,073.17
4/16/2017	(183.11)	(278.35)	1,091.10	\$ 629.64	(604.50)	38.02	1,403.13	\$ 836.65	-	-	387.20	\$ 387.20	-	470.08	(33.37)	\$ 436.71	\$ 2,290.20
4/17/2017	(118.65)	(288.31)	1,375.49	\$ 968.53	(1,037.69)	664.68	3,102.93	\$ 2,729.92	-	-	440.91	\$ 440.91	-	184.39	(5.60)	\$ 178.79	\$ 4,318.15
4/18/2017	(150.31)	82.86	1,261.53	\$ 1,194.08	(696.12)	120.32	2,446.72	\$ 1,870.92	-	(1.00)	368.64	\$ 367.64	-	73.77	(11.27)	\$ 62.50	\$ 3,495.14
4/19/2017	(71.25)	32.54	1,352.21	\$ 1,313.50	(556.61)	(337.76)	2,293.49	\$ 1,399.12	-	-	320.80	\$ 320.80	-	41.31	(5.48)	\$ 35.83	\$ 3,069.25
4/20/2017	(105.77)	48.65	1,358.95	\$ 1,301.83	(715.99)	(141.55)	2,000.85	\$ 1,143.31	-	-	403.54	\$ 403.54	-	74.99	(9.27)	\$ 65.72	\$ 2,914.40
4/21/2017	(63.64)	(20.78)	1,365.57	\$ 1,281.15	(726.70)	(160.54)	1,963.47	\$ 1,076.23	-	-	822.75	\$ 822.75	-	24.40	(10.52)	\$ 13.88	\$ 3,194.01
4/22/2017	(130.10)	8.14	1,302.59	\$ 1,180.63	(1,157.99)	27.17	1,913.71	\$ 782.89	-	-	373.54	\$ 373.54	-	165.17	(15.87)	\$ 149.30	\$ 2,486.36
4/23/2017	(87.38)	(38.58)	1,266.97	\$ 1,141.01	(883.23)	(1,272.19)	1,539.25	\$ (616.17)	-	-	404.00	\$ 404.00	-	192.46	(12.29)	\$ 180.17	\$ 1,109.01
4/24/2017	(135.85)	(111.85)	1,270.42	\$ 1,022.72	(1,396.35)	(945.96)	1,891.63	\$ (450.68)	-	-	564.33	\$ 564.33	-	188.71	(7.80)	\$ 180.91	\$ 1,317.28
4/25/2017	(124.65)	83.20	1,262.60	\$ 1,221.15	(622.57)	(339.90)	2,218.33	\$ 1,255.86	-	-	276.27	\$ 276.27	-	91.87	(0.94)	\$ 90.93	\$ 2,844.21
4/26/2017	(143.12)	(82.96)	1,185.76	\$ 959.68	(935.41)	(315.06)	2,109.80	\$ 859.33	-	-	282.92	\$ 282.92	-	254.89	(17.45)	\$ 237.44	\$ 2,339.37
4/27/2017	(138.50)	(106.16)	1,289.94	\$ 1,045.28	(1,011.88)	523.01	2,670.26	\$ 2,181.39	-	-	53.40	\$ 53.40	-	169.18	0.45	\$ 169.63	\$ 3,449.70
4/28/2017	(241.60)	383.49	1,180.69	\$ 1,322.58	(389.72)	3,346.70	2,214.17	\$ 5,171.15	-	-	440.69	\$ 440.69	-	252.09	83.31	\$ 335.40	\$ 7,269.82
4/29/2017	(3,635.55)	2,652.59	1,396.00	\$ 413.04	(4,054.76)	2,213.22	2,221.35	\$ 379.81	-	-							

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC
Negative numbers indicate a payment from MISO / Positive numbers indicate a charge from MISO

Date	Day Ahead Regulation Amount	Real Time Regulation Amount	Regulation Cost Distribution Amount	Regulation Subtotal	Day Ahead Spinning Reserve Amount	Real Time Spinning Reserve Amount	Spinning Reserve Cost Distribution Amount	Spinning Reserve Subtotal	Day Ahead Supplemental Reserve Amount	Real Time Supplemental Reserve Amount	Supplemental Reserve Cost Distribution Amount	Supplemental Reserve Subtotal	Contingency Reserve Deployment Failure Charge Amount	Real Time Excessive Deficient Energy Deployment Charge Amount	Net Regulation Adjustment Amount	Other Charge Subtotal	Net Benefit
5/1/2017	(681.45)	446.63	1,093.45	\$ 858.63	(237.50)	118.45	1,559.88	\$ 1,440.83	-	-	274.05	\$ 274.05	-	138.27	(4.52)	\$ 133.75	\$ 2,707.26
5/2/2017	(256.40)	202.09	1,336.07	\$ 1,281.76	(549.10)	678.11	2,481.02	\$ 2,610.03	-	(6.91)	1,081.32	\$ 1,074.41	-	172.77	(1.06)	\$ 171.71	\$ 5,137.91
5/3/2017	(645.07)	654.46	1,407.67	\$ 1,417.06	(381.33)	(280.52)	3,342.83	\$ 2,680.98	(113.20)	79.69	1,591.47	\$ 1,557.96	-	156.78	(5.75)	\$ 151.03	\$ 5,807.03
5/4/2017	(427.05)	14.55	1,398.89	\$ 986.39	(883.96)	(67.21)	1,899.09	\$ 947.92	(265.60)	226.04	1,670.43	\$ 1,630.87	-	318.77	6.96	\$ 325.73	\$ 3,890.91
5/5/2017	(151.03)	(132.96)	1,403.68	\$ 1,119.69	(859.31)	(2,126.13)	2,080.63	\$ (904.81)	-	-	1,535.44	\$ 1,535.44	-	224.88	(8.89)	\$ 215.99	\$ 1,966.31
5/6/2017	(184.80)	(650.11)	1,194.24	\$ 359.33	(2,374.54)	1,173.52	1,940.64	\$ 739.62	-	-	1,201.19	\$ 1,201.19	-	369.89	(92.94)	\$ 276.95	\$ 2,577.09
5/7/2017	(232.52)	(347.28)	1,298.38	\$ 718.58	(2,458.00)	(21.94)	1,898.39	\$ (581.55)	-	(2.67)	1,789.18	\$ 1,786.51	-	274.87	(11.48)	\$ 263.39	\$ 2,186.93
5/8/2017	(169.86)	(485.35)	1,106.14	\$ 450.93	(2,648.88)	321.86	2,532.09	\$ 205.07	(33.60)	(26.18)	1,784.27	\$ 1,724.49	-	558.58	(27.12)	\$ 531.46	\$ 2,911.95
5/9/2017	(248.71)	(251.28)	1,392.23	\$ 892.24	(2,047.36)	(294.41)	3,666.94	\$ 1,325.17	-	-	2,088.86	\$ 2,088.86	-	514.47	(37.10)	\$ 477.37	\$ 4,783.64
5/10/2017	(545.09)	331.85	1,305.08	\$ 1,091.84	(9,779.70)	7,338.47	2,620.68	\$ 179.45	(345.55)	425.70	1,217.34	\$ 1,297.49	-	165.34	(38.00)	\$ 127.34	\$ 2,696.12
5/11/2017	(692.35)	(114.82)	1,155.30	\$ 348.13	(8,718.95)	8,922.00	2,295.05	\$ 2,498.10	-	-	1,480.19	\$ 1,480.19	-	228.17	(75.22)	\$ 152.95	\$ 4,479.37
5/12/2017	(370.13)	22.01	1,490.71	\$ 1,142.59	(5,390.07)	2,121.36	2,404.71	\$ (864.00)	-	-	1,665.10	\$ 1,665.10	-	289.85	(20.17)	\$ 269.68	\$ 2,213.37
5/13/2017	(111.94)	(259.69)	1,230.38	\$ 858.75	(4,023.48)	(78.33)	1,714.32	\$ (2,387.49)	-	-	1,241.22	\$ 1,241.22	-	179.03	(41.53)	\$ 137.50	\$ (150.02)
5/14/2017	(851.15)	47.71	1,262.57	\$ 459.13	(6,078.59)	340.24	2,064.69	\$ (3,673.66)	-	-	1,716.07	\$ 1,716.07	-	388.50	9.38	\$ 397.88	\$ (1,100.58)
5/15/2017	(420.82)	(420.82)	1,184.76	\$ 580.85	(6,165.14)	5,797.14	2,760.10	\$ 2,392.10	-	-	2,620.59	\$ 2,620.59	-	370.38	49.55	\$ 419.93	\$ 6,013.47
5/16/2017	(215.49)	112.44	1,488.42	\$ 1,385.37	(1,336.82)	(235.10)	2,500.89	\$ 928.97	-	-	945.63	\$ 945.63	-	163.13	(29.01)	\$ 134.12	\$ 3,394.09
5/17/2017	(108.70)	(67.67)	1,113.82	\$ 937.45	(2,935.59)	(30.72)	1,707.99	\$ (1,258.32)	(1,414.90)	268.37	892.93	\$ (253.60)	-	131.60	(13.57)	\$ 118.03	\$ (456.44)
5/18/2017	(150.30)	(558.82)	1,814.75	\$ 1,105.63	(1,538.19)	(194.08)	2,091.99	\$ 359.72	-	-	1,074.12	\$ 1,074.12	-	326.29	(10.18)	\$ 316.11	\$ 2,855.58
5/19/2017	(658.79)	(74.52)	1,219.89	\$ 486.58	(4,307.33)	1,857.85	1,985.88	\$ (463.60)	(23.52)	38.93	1,485.38	\$ 1,500.79	-	355.73	(49.68)	\$ 306.05	\$ 1,829.82
5/20/2017	(2,612.95)	1,335.26	1,283.29	\$ 5.60	(5,649.30)	1,159.40	1,869.03	\$ (2,620.87)	-	-	332.97	\$ 332.97	-	420.28	(52.14)	\$ 368.14	\$ (1,914.16)
5/21/2017	(125.17)	(329.09)	1,042.99	\$ 588.73	(2,296.76)	(481.19)	1,487.45	\$ (1,290.50)	-	-	309.64	\$ 309.64	-	381.29	(52.19)	\$ 329.10	\$ (63.03)
5/22/2017	(147.26)	(162.27)	1,402.33	\$ 1,092.80	(1,257.80)	23.07	1,685.74	\$ 451.01	-	-	329.77	\$ 329.77	-	219.25	(28.97)	\$ 190.28	\$ 2,063.86
5/23/2017	(194.83)	(206.42)	1,278.68	\$ 877.43	(1,109.13)	(98.63)	1,256.09	\$ 48.33	-	-	342.52	\$ 342.52	-	337.16	(12.05)	\$ 325.11	\$ 1,593.39
5/24/2017	(272.04)	(467.78)	1,279.48	\$ 539.66	(999.53)	(655.87)	1,746.39	\$ 90.99	-	-	307.07	\$ 307.07	-	913.89	(12.20)	\$ 901.69	\$ 1,839.41
5/25/2017	(325.28)	(359.94)	1,236.54	\$ 551.32	(1,164.62)	(280.34)	1,638.60	\$ 193.64	-	-	264.06	\$ 264.06	-	726.57	(55.21)	\$ 671.36	\$ 1,680.38
5/26/2017	(276.60)	(419.90)	1,383.28	\$ 686.78	(6,521.94)	1,290.90	2,060.34	\$ (3,170.70)	-	-	306.12	\$ 306.12	-	609.19	(2.20)	\$ 606.99	\$ (1,570.81)
5/27/2017	(298.62)	(228.45)	1,230.08	\$ 703.01	(5,864.82)	1,441.90	1,738.92	\$ (2,684.00)	-	-	290.88	\$ 290.88	-	418.36	(3.56)	\$ 414.80	\$ (1,275.31)
5/28/2017	(150.60)	(481.70)	1,056.44	\$ 424.14	(2,024.70)	(1,551.88)	1,305.39	\$ (2,271.19)	-	-	275.54	\$ 275.54	-	693.11	(9.19)	\$ 683.92	\$ (887.59)
5/29/2017	(167.68)	(417.84)	1,266.68	\$ 681.16	(752.71)	(2,458.98)	1,135.00	\$ (2,076.69)	-	-	213.81	\$ 213.81	-	420.80	(0.92)	\$ 419.88	\$ (761.84)
5/30/2017	(233.93)	(404.92)	975.90	\$ 337.05	(2,687.12)	(203.15)	1,259.57	\$ (1,630.70)	-	-	199.78	\$ 199.78	-	486.95	(45.19)	\$ 441.76	\$ (652.11)
5/31/2017	(202.25)	(85.92)	1,110.77	\$ 822.60	(1,976.19)	133.59	1,504.35	\$ (338.25)	-	-	177.76	\$ 177.76	-	156.31	(29.11)	\$ 127.20	\$ 789.31
May Total	\$ (11,891.13)	\$ (3,760.55)	\$ 39,442.89	\$ 23,791.21	\$ (95,018.46)	\$ 23,659.38	\$ 62,234.68	\$ (9,124.40)	\$ (2,196.37)	\$ 1,002.97	\$ 30,704.70	\$ 29,511.30	\$ -	\$ 11,110.46	\$ (703.26)	\$ 10,407.20	\$ 54,585.31
6/1/2017	(203.66)	(419.57)	1,222.03	\$ 598.80	(839.94)	(1,454.51)	1,132.23	\$ (1,162.22)	-	-	196.92	\$ 196.92	-	159.25	(10.39)	\$ 148.86	\$ (217.64)
6/2/2017	(101.28)	(326.82)	1,217.98	\$ 789.88	(6,568.87)	2,615.35	1,734.86	\$ (2,218.66)	-	-	225.79	\$ 225.79	-	491.83	(76.70)	\$ 415.13	\$ (787.86)
6/3/2017	(118.55)	(105.15)	1,090.52	\$ 866.82	(1,971.97)	(164.81)	1,864.29	\$ (272.49)	-	-	192.11	\$ 192.11	-	173.83	(0.74)	\$ 173.09	\$ 959.53
6/4/2017	(110.09)	(27.59)	1,015.21	\$ 877.53	(1,240.65)	(168.18)	1,824.81	\$ 415.98	-	-	206.93	\$ 206.93	-	99.54	(5.97)	\$ 93.57	\$ 1,594.01
6/5/2017	(124.90)	(28.20)	1,072.03	\$ 918.93	(1,271.68)	(45.51)	1,537.22	\$ 220.03	-	-	180.02	\$ 180.02	-	178.02	(20.54)	\$ 157.48	\$ 1,476.46
6/6/2017	(164.02)	(50.69)	1,151.65	\$ 936.94	(1,435.52)	669.44	1,304.90	\$ 538.82	-	-	189.01	\$ 189.01	-	240.41	(15.77)	\$ 224.64	\$ 1,889.41
6/7/2017	(78.70)	(7.85)	920.22	\$ 833.67	(1,065.71)	(126.86)	1,538.34	\$ 345.77	-	-	(300.24)	\$ (300.24)	-	156.64	(14.25)	\$ 142.39	\$ 1,021.59
6/8/2017	(205.27)	109.44	984.32	\$ 888.49	(1,762.28)	636.33	1,385.56	\$ 259.61	-	-	187.94	\$ 187.94	-	135.82	(20.41)	\$ 115.41	\$ 1,451.45
6/9/2017	(77.69)	(63.48)	1,123.12	\$ 981.95	(1,499.97)	45.87	1,321.84	\$ (132.26)	-	-	192.81	\$ 192.81	-	186.80	(5.01)	\$ 181.79	\$ 1,224.29
6/10/2017	(88.45)	(47.83)	1,116.54	\$ 980.26	(6,897.40)	796.00	1,501.66	\$ (4,599.74)	-	-	189.90	\$ 189.90	-	132.11	(3.58)	\$ 128.53	\$ (3,301.05)
6/11/2017	(110.80)	(159.64)	1,015.34	\$ 744.90	(2,549.27)	(423.41)	1,369.60	\$ (1,603.08)	-	-	200.32	\$ 200.32	-	295.58	(12.43)	\$ 283.15	\$ (374.71)
6/12/2017	(2,664.80)	236.83	2,666.11	\$ 238.14	(2,663.70)	(347.98)	1,611.84	\$ (1,399.84)	-	-	967.76	\$ 967.76	-	430.08	(16.06)	\$ 414.02	\$ 220.08
6/13/2017	(116.63)	(3.17)	893.37	\$ 773.57	(1,196.82)	(124.68)	1,074.62	\$ (246.88)	-	-	182.61	\$ 182.61	-	179.36	(14.12)	\$ 165.24	\$ 874.54
6/14/2017	(169.28)	71.59	1,116.85	\$ 1,019.16	(1,258.43)	222.00	1,180.96	\$ 144.53	-	-	250.75	\$ 250.75	-	80.02	3.51	\$ 83.53	\$ 1,497.97
6/15/2017	(213.51)	58.08	1,759.59	\$ 1,604.16	(489.48)	(30.30)	1,333.99	\$ 814.21	-	-	507.36	\$ 507.36	-	202.26	(5.98)	\$ 196.28	\$ 3,122.01
6/16/2017	(163.44)	45.11	1,119.03	\$ 1,000.70	(1,167.01)	155.27	1,463.57	\$ 451.83	-	-	155.76	\$ 155.76	-	130.10	(3.61)	\$ 126.49	\$ 1,734.78
6/17/2017	(50.29)	(174.71)	740.46	\$ 515.46	(3,447.64)	1,592.56	1,006.53	\$ (848.55)	-	(4.33)	177.55	\$ 173.22	-	119.26	(14.82)	\$ 104.44	\$ (55.43)
6/18/2017	(90.72)	(404.91)	636.65	\$ 141.02	(2,841.71)	(23.65)	1,072.46	\$ (1,792.90)	-	-	189.05	\$ 189.05	-	380.97	(22.22)	\$ 358.75	\$ (1,104.08)
6/19/2017	(149.80)	(153.25)	1,067.52	\$ 764.47	(1,181.03)	(222.58)	1,156.07	\$ (247.54)	-	-	181.82	\$ 181.82	-	108.57	(22.36)	\$ 86.21	\$ 784.96
6/20/2017	(97.55)	9.87	1,058.80	\$ 971.12	(856.94)	(413.56)	1,164.80	\$ (105.70)	-	-	183.93	\$ 183.93	-	59.30	(4.72)	\$ 54.58	\$ 1,103.93
6/21/2017	(76.57)	(35.63)	1,097.68	\$ 985.48	(1,369.08)	(64.31)	1,235.50	\$ (197.89)	-	-	168.54	\$ 168.54	-	157.47	(5.07)	\$ 152.40	\$ 1,108.53
6/22/2017	(128.94)	(164.72)	1,085.29	\$ 791.63	(1,845.76)	264.77	1,490.31	\$ (90.68)	-	-	75.57	\$ 75.57	-	165.04	(34.77)	\$ 130.27	\$ 906.79
6/23/2017	(198.01)	13.11	874.73	\$ 689.83	(748.61)	(876.09)	1,135.83	\$ (488.87)	-	-	163.63	\$ 163.63	-	91.50	(12.61)	\$ 78.89	\$ 443.48
6/24/2017	(115.85)	(251.35)	878.32	\$ 511.12	(405.23)	(960.52)	714.95	\$ (650.80)	-	-	195.05	\$ 195.05	-	335.69	(22.35)	\$ 313.34	\$ 368.71
6/25/2017	(82.89)	(421.78)	892.10	\$ 387.43	(362.91)	(919.58)	676.06	\$ (606.43)	-	-	202.67	\$ 202.67	-	242.81	(6.48)	\$ 236.33	\$ 220.00
6/26/2017	(45.19)	(51.88)	1,011.57	\$ 914.50	(460.73)	(376.24)	810.71	\$ (26.26)	-	-	196.98	\$ 196.98	-	92.32	(6.14)	\$ 86.18	\$ 1,171.40
6/27/2017	(72.45)	(71.46)	1,017.14	\$ 873.23	(380.55)	(162.49)	669.56	\$ 126.52	-	-	188.91	\$ 188.91	-	155.49	1.95	\$ 157.44	\$ 1,346.10
6/28/2017	(55.28)	(264.26)	842.63	\$ 523.09	(1,016.49)	88.89	771.05	\$ (156.55)	-	-	1						

Table 10-E: Contingency Reserve Deployment Events

Date	Day of Week	Node	Contingency Reserve Deployment Failure Charge Amount	HE	Shortfall Mw	Event MW Provided
8/15/2016	Monday	Hibbard	\$ 197.37	16	5.3	17.2

Total \$ 197.37

5.3

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

**Minnesota Power
Report on Addressing Treatment of
Auction Revenue Rights (ARRs)
Docket No. E-015/M-05-277**

The new FTR and ARR MISO charge types are allocated consistent with current Minnesota Power's allocation methods. Charges are allocated to the retail and wholesale customers based on MWh basis.

		2016 / 2017 Annual Allocation								2017 / 2018 Annual Allocation	
		Summer 2016		Fall 2016		Winter 2016 / 2017		Spring 2017		Summer 2017	
Source	Sink	On Peak	Off peak	On Peak	Off Peak	On Peak	Off Peak	On Peak	Off Peak	On Peak	Off Peak
[TRADE SECRET DATA HAS BEEN EXCISED]											

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

Minnesota Power's FTRs purchased in the Monthly Auction for the requested time period:

Monthly FTR Purchases						
Source	Sink	Class Period	Month	Awarded FTRs	Clearing (\$/MW-Month)	Total Monthly Cost
[TRADE SECRET DATA HAS BEEN EXCISED]						

Annual FTR Purchases						
Source	Sink	Class Period	Season	Awarded FTRs	Clearing (\$/MW-Month)	Total Monthly Cost
TRADE SECRET DATA HAS BEEN EXCISED						

Total ARR / FTR Revenues and Costs		
	Cost to hold FTRS	Revenue Generated from ARR/FTRs
Jul-16	\$256,393.17	(\$310,704.18)
Aug-16	\$246,790.11	(\$561,932.23)
Sep-16	\$330,767.29	(\$414,151.59)
Oct-16	\$328,374.25	(\$523,059.85)
Nov-16	\$399,253.66	(\$467,192.51)
Dec-16	\$146,155.89	(\$378,623.70)
Jan-17	\$160,143.16	(\$234,250.97)
Feb-17	\$204,643.84	(\$185,109.70)
Mar-17	\$203,556.59	(\$192,755.99)
Apr-17	\$198,660.41	(\$185,891.57)
May-17	\$222,907.95	(\$125,960.43)
Jun-17	\$331,050.94	(\$500,534.65)

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

Below is monthly detail of different MISO charge type costs included in the ARR/FTR Revenue and Cost Table. Charge types labeled “COST” are included in the Cost to Hold FTRs calculation and charge types labeled “REVENUE” are included in the Revenues Generated from ARRs/FTRs calculation.

Note: Charges/Credits are shown in the month in which they were recorded in 555 of the General Ledger and included in the FAC recovery.

Charge Type		Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Total
Financial Transmission Rights Market Administration Amount	Cost	5,364.88	4,436.00	4,029.60	1,636.56	4,669.92	3,908.88	4,425.12	5,254.72	5,422.56	4,108.80	3,082.80	3,895.10	50,234.94
Auction Revenue Rights Transaction Amount	Revenue	(137,413.20)	(137,413.20)	(231,950.32)	(231,950.32)	(231,950.32)	(91,619.70)	(91,619.70)	(91,619.70)	(55,129.21)	(55,129.21)	(55,129.21)	(176,932.61)	(1,587,856.70)
Financial Transmission Rights Annual Transaction Amount	Cost	222,562.34	222,562.34	310,035.54	310,035.54	310,035.54	96,417.00	96,417.00	96,417.00	146,543.25	146,543.25	146,543.25	260,807.01	2,364,919.06
Auction Revenue Rights Infeasible Uplift Amount	Cost	13,639.76	13,639.76	16,702.15	16,702.15	16,702.15	12,894.56	12,894.56	12,894.56	13,705.93	13,705.93	13,705.93	15,247.33	172,434.77
Auction Revenue Rights Stage 2 Distribution Amount	Revenue	(54,564.64)	(54,564.64)	(48,889.30)	(49,039.24)	(49,039.24)	(79,294.29)	(79,528.80)	(79,528.80)	(55,213.16)	(56,392.68)	(56,446.08)	(65,471.11)	(727,971.98)
Financial Transmission Rights Full Funding Guarantee Amount	Revenue	-	-	(2,270.33)	-	(1,442.89)	18,022.76	(4,023.80)	-	(0.00)	-	(341.94)	(3,885.76)	6,058.04
FTR Guarantee Uplift Amount	Revenue	-	-	1,649.10	-	1,315.63	(16,713.17)	3,709.12	-	0.00	-	401.73	3,885.76	(5,751.83)
Financial Transmission Rights Monthly Transaction Amount	Cost	14,826.19	6,152.01	-	-	67,846.05	32,935.45	46,406.48	90,077.56	37,884.85	34,302.43	59,575.97	51,101.50	441,108.49
Financial Transmission Rights Hourly Allocation Amount	Revenue	(111,705.54)	(345,032.18)	(115,593.14)	(208,617.96)	(163,620.36)	(173,470.66)	(54,582.42)	(6,600.25)	(77,223.88)	(61,067.05)	59,764.95	(258,130.93)	(1,515,879.42)
Financial Transmission Rights Monthly Allocation Amount	Revenue	(7,020.80)	(24,922.21)	(17,097.60)	(33,452.33)	(22,455.33)	(16,061.16)	(8,205.37)	(7,360.95)	(5,189.74)	(13,302.63)	(74,209.88)	-	(229,278.00)
Financial Transmission Rights Transaction Amount	Cost	-	-	-	-	-	-	-	-	-	-	-	-	-
Financial Transmission Rights Yearly Allocation Amount	Revenue	-	-	-	-	-	(19,487.48)	-	-	-	-	-	-	(19,487.48)
Costs of hold FTRs		256,393.17	246,790.11	330,767.29	328,374.25	399,253.66	146,155.89	160,143.16	204,643.84	203,556.59	198,660.41	222,907.95	331,050.94	3,028,697.26
Revenue Generated from ARR/FTRs		(310,704.18)	(561,932.23)	(414,151.59)	(523,059.85)	(467,192.51)	(378,623.70)	(234,250.97)	(185,109.70)	(192,755.99)	(185,891.57)	(125,960.43)	(500,534.65)	(4,080,167.37)

Minnesota Power's Generation Facilities
Maintenance Expenses
Docket No. E999/AA-06-1208 dated February 6, 2008

		Final Rates		
		2016	Test Year 2010	2015
<u>Steam Power Generation</u>	<u>FERC Acct</u>	<u>Actual Expenses</u> 1/	<u>Docket No. E015/GR-09-1151</u> 2/	<u>Actual Expenses</u> 3/
Maintenance Supervision and Engineering	510	3,800,414	6,911,666	4,942,241
Maintenance of Structures	511	1,216,167	5,790,920	1,255,848
Maintenance of Boiler Plant	512	13,662,565	10,366,204	16,238,027
Maintenance of Electric Plant	513	2,707,237	1,386,050	2,955,749
Maintenance of Misc. Steam Plant	514	3,634,873	5,977,730	5,047,469
		<u>25,021,256</u>	<u>30,432,570</u>	<u>30,439,334</u>
<u>Hydraulic Power Generation</u>				
Maintenance Supervision and Engineering	541	448,677	1,255,984	400,287
Maintenance of Structures	542	22,495	950,000	90,298
Maintenance of Reservoirs, Dams and Waterways	543	923,691	-	789,103
Maintenance of Electric Plant	544	1,127,196	980,640	835,319
Maintenance of Misc. Hydraulic Plant	545	1,857,482	-	892,626
		<u>4,379,541</u>	<u>3,186,624</u>	<u>3,007,633</u>
<u>Other Power Generation - Wind</u>				
Maintenance Supervision and Engineering	551	9,880	1,111,330	34,788
Maintenance of Structures	552	189	0	19,980
Maintenance of Generating and Electric Plant	553	7,318,474	0	6,066,187
Maintenance of Misc. Other Pwr Generation Plt.	554	1,776,067	0	907,540
		<u>9,104,610</u>	<u>1,111,330</u>	<u>7,028,495</u>

1/ 2016 FERC Form 1 pages 320 and 321.

2/Attachment 12 page 3 of 5, lines 10, 6, 11, 12, 7, 20, 21, 23 and 27.

3/ 2015 FERC Form 1 pages 320 and 321.

Docket E015/GR-09-1151
Minnesota Power
FINAL 2010 General Rates

			Total Company Compliance 2010		
<u>Utility Operating Expense</u>	<u>FERC</u>	<u>Total</u>	<u>Final</u>	<u>Cost of</u>	
<u>Operations & Maintenance Exp.</u>	<u>Acct No.</u>	<u>Amounts</u>	<u>Adjustments</u>	<u>Service Model</u>	<u>Allocator</u>
Steam Production Demand					
1 Supervision & Engineering	500	1,629,651			DPROD
2 Steam Expenses	502	26,664,197			DPROD
3 Steam from other sources	503	3,034,305			DPROD
4 Electric Expenses	505	7,624,740			DPROD
5 Miscellaneous	506	6,142,546			DPROD
6 Maint. Structures	511	5,790,920			DPROD
7 Misc Maint Plant	514	5,977,730			DPROD
8 Total Demand Steam Production		56,864,089			DPROD
Steam Production Energy:					
10 Maint. Supervision & Engineering	510	6,911,666			EPROD
11 Maint. Boiler Plant	512	13,485,442	(3,119,238)	10,366,204	EPROD
12 Main. Electric Plant	513	1,386,050			EPROD
13 Total Steam Energy		21,783,158			EPROD
14 Total Steam per COSS Vol I		78,647,247	(3,119,238)		
15 MP Compliance Filing Section IX COSS page 10 line 3				75,528,009	
Hydro Production:					
Demand					
16 Operations Supervision & Engineering	535	821,496			
17 Hydraulic Expenses	537	442,590			
18 Electric Expenses	538	575,380			
19 Miscellaneous	539	739,947			
20 Maintenance Supervision & Engineering	541	1,255,984			
21 Maint. Structures	542	950,000			
22 Total Demand Hydro		4,785,397			DPROD
Energy					
23 Electric Plant	544	980,640			EPROD
24 Total Hydro per COSS Vol I		5,766,037		5,766,037	
25 MP Compliance Filing Section IX COSS page 10 line 6					
Other Power Generation					
26 Operation & Engineering	546	-			DPROD
27 Maintenance Supervision & Engineering	551	1,111,330			
28 Total Other Power per COSS Vol II		1,111,330		1,111,330	
29 MP Compliance Filing IX COSS page 10 line 7					
Other Power Supply- Demand					
30 System Control & Load Dispatching	556	1,902,042			
31 Other Expenses	557	1,677,824			
32 Total		3,579,866			
33 Total Other per COSS Vol I				3,579,866	DPROD
34 MP Compliance Filing Section IX COSS page 10 line 8					
Purchased Power					
35 Demand	555	44,648,904			DPROD
36 Energy	555	120,580,037			EPROD
37 Total Purchased Power		165,228,941			
38 Total Purchased Power MP Compliance Filing IX p 10				165,228,941	
39 Fuel	501	166,631,695			EPROD
40 MP Compliance Filing IX Section COSS page 10 line 12				166,631,695	

Note: Classification of expenses between demand and energy are based on FERC methodology used in prior rate cases. Accounts 501,510,512,513, & 544 are energy related, all others are demand.

Minnesota Power		FERC		Final	Total Company	
		Acct No.	Amounts	Adjustments	Cost of	Allocator
					Service Model	
41	Transmission					
42	Operation Supervision & Engineering	560	1,902,682			
43	Load Dispatching	561	-			
44	Load Dispatching -Reliability	561.1	2,611,659			
45	Load Disp.-monitoring/operate trans sys.	561.2	110,893			
46	Scheduling, system control & dispatch	561.4	1,496,009			
47	Reliability, Planning & Stds. Develop.	561.5	1,780,506			
48	Transmission Service Studies	561.6	229,702			
49	Generation Interconnection Studies	561.7	194,702			
50	Reliability, Planning & Stds. Develop.	561.8	90,310			
51	Overhead Line Expenses	563	-			
52	Transmission of Electricity by Others	565	22,375,224			
53	Rents	567	958,500			
54	Total Operation		31,750,187			
	Maintenance					
55	Supervision & Engineering	568	-			
56	Maint Computer Hardware	569.1	383,644			
57	Maint Computer Software	569.2	329,881			
58	Maint Communications Equip.	569.3	451,155			
59	Station Equipment	570	4,925,642			
60	Overhead Lines	571	1,464,707			
61	Total Maintenance		7,555,029			
62	Total Transmission Exp.		39,305,216	(5,899,008)		
63	Total Transmisson Vol I				33,406,208	TRANPLT
64	MP Compliance Filing Section IX COSS page 10 line 13					
65	Regional Market Expenses	575.7	43,071			
66	Total Regional Mkt Vol I MP Exhibit __ (SJS)		43,071		43,071	DTRAN
67	MP Compliance Filing Section IX COSS page 10 line 14					
	Distribution					
68	Meters	586	1,770,672			CMETERS
69	Bulk Delivery					DSUB46
70	Other Distribution					DISTPLMS
71	Supervision & Engineering	580	1,838,910			
72	Overhead Line Expenses	583	649,843			
73	Underground Line Expenses	584	-			
74	Miscellaneous	588	-			
75	Rents	589	-			
76	Total Operation		4,259,425		-	
	Distribution Maintenance:					
77	Supervision & Engineering	590	1,030,446			
78	Station Equipment	592	3,303,251			
79	Overhead Lines	593	11,382,501			
80	Underground Lines	594	2,061,119			
81	Street Lighting& Signal Systems	596	150,148			
82	Meter Expenses	597	-			
83	Miscellaneous	598	-			
84	Total Maintenance		17,927,465			
85	Total Distribution		22,186,890			
86	Total Distribution Vol II				22,186,890	
87	MP Compliance Filing Section IX COSS page 10 line 19					

Minnesota Power

	FERC <u>Acct No.</u>	<u>Amounts</u>	Final <u>Adjustments</u>	Total Company Cost of <u>Service Model</u>	<u>Allocator</u>
Customer Accounts Expenses					
88 Meter Reading Expenses	902	666,985			
89 Customer Records & Collection Exp	903	6,012,441			
90 Uncollectible Accounts	904	600,000			
91 Total Customer Accting Vol I		7,279,426		7,279,426	CACCTS
92 MP Compliance Filing Section IX COSS page 10 line 20					
Customer Service & Info					
93 Operation					
94 Supervision	907	-			
95 Customer Assistance Expenses	908	3,965,076		4,266,923	CUSTSERV
96 Misc Customer Service & Informational Exp	910	301,847			
97 Conserv Improve Prog-energy		6,886,647	(2,262,539)	4,624,108	CIPEXPE
98 Total Customer Service & Info Expenses		11,153,570		8,891,031	
99 Total Customer Serv. Vol II				8,891,031	
100 MP Compliance Filing IX COSS page 10 line 21 & 22					
101 Sales	913	445,060			
102 less rate making adj. for disallowed advertising			(404,578)		
103 MP Compliance Filing Section IX COSS page 10 line 23		445,060		40,482	CSALES
Administration & General					
104 Property Insurance	924	5,319,449			PLANT
105 Regulatory Expenses- see note below at 2.	928	1,325,691	(849,481)	476,210	PLANT
106 Regulatory Expenses- see note below at 1.	928	1,619,558	(1,139,210)	480,348	DTRAN
107 Advertising	930.1	177,500	(162,500)	15,000	LABLAG
108 Franchise Requirement	927	1,117,000			RSALLESJ
109 EPRI Dues	921	-			RSALLESJ
110 Disallowed Organizational dues	n/a	0			RSALLESJ
111 General Plant	935	7,322,068			LABLAG
112 Other A&G		49,116,265	(5,207,882)	43,908,383	LABLAG
113 Total A&G		65,997,531	(7,359,073)	58,638,458	
114 Customer Deposits Interest Expense		18,000			CUSTDEP
115 Charitable Contributions		1,198,000	(682,735)		LABLAG
116 Credit for Expedited Billing		572,000			LABLAG
117 Total Operations & Maintenance Exp.					
118 MP Compliance Filing Section IX COSS page 10 line 37		569,163,880	(20,576,652)	548,587,228	
119 * Other A&G includes the following FERC accts -920,921,923,925,926,930.2.					

**PUBLIC DOCUMENT –
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**Minnesota Power
Transformer Emergency Replacement Guide
Large Power Transformers All load Serving
Windings Greater than 100kV**

**PUBLIC DOCUMENT –
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Background

Minnesota Power has several autotransformers which meet the criteria in which all load serving windings are greater than 100kV. Minnesota Power's backbone transmission system is 230kV with underlying 115kV which serves distribution substations. All of the transformation between the 230kV and 115kV system is accomplished with autotransformers. Additionally Minnesota Power is interconnected at 115kV, 138 kV, 345kV, as well as 500kV. All of these higher voltage (greater than 100kV) transformations, except for the 115kV, are accomplished by autotransformers. (An autotransformer is simply a special connection/winding of a transformer which is useful to reduce the complexity and therefore cost of the transformer) Minnesota Power does have autotransformers in this class which connect separate portions internal to the Minnesota Power grid and form no interconnection externally.

Backup Strategies

[TRADE SECRET DATA HAS BEEN EXCISED]

Transmission Level Transformers Inventory (greater than 100 kV on the low side)

[TRADE SECRET DATA HAS BEEN EXCISED]

HVDC System Transmission Level Transformers Inventory (greater than 100 kV on the low side)

[TRADE SECRET DATA HAS BEEN EXCISED]

**PUBLIC DOCUMENT –
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**Minnesota Power's Report Addressing the Purchase
Power Agreement with Manitoba Hydro**

Docket E015/M-10-961, dated March 11, 2011

**PUBLIC DOCUMENT –
TRADE SECRET DATA HAS BEEN EXCISED**

Minnesota Power is required to provide in its annual automatic adjustment report the following regarding the Purchase Power Agreement with Manitoba Hydro for the period of July 2016 through June 2017:

a) The number of times Manitoba Hydro offered Product B and/or C to Minnesota Power.

See table below.

b) Whether or not Minnesota Power accepted the power.

See table below

c) Minnesota Power's efforts to determine whether lower cost energy exists.

The short-term bilateral energy market in Minnesota is thinly traded. In the short-term markets, Minnesota Power has undertaken efforts to procure energy from sources in the bilateral market when there are not sufficient Minnesota Power resources available to meet customer load. To date, however, Minnesota Power has utilized the MISO market for most of its short-term energy needs.

d) The prices of alternative energy.

Prices for alternative energy (MISO purchases) are equivalent to Product B & C energy purchased from MH.

e) The cost comparison of energy under Product B and/or Product C and the alternative energy sources.

The price paid for Product B & C energy is defined as the **[TRADE SECRET DATA HAS BEEN EXCISED]**. This **[TRADE SECRET DATA HAS BEEN EXCISED]** price is equivalent to the **[TRADE SECRET DATA HAS BEEN EXCISED]**. Since most energy purchased is transacted with MISO, the price for Product B & C is the same as the alternate energy sources.

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Minnesota Power's Offsetting Revenues and/or Compensation Received by Investor-Owned Utilities (IOUs)
Docket No. E-999/AA-10-884 dated April 6, 2012

Minnesota Power's Offsetting Revenues
For the Reporting Period of July 1, 2016 through June 30, 2017

[TRADE SECRET DATA HAS BEEN EXCISED]		
<u>Source</u>	<u>MWh</u>	<u>Offsetting Revenues /1</u>

/1 The costs associated with the Contract MWh used to support the sales shown above were included in the "Less Fuel Costs Recovered through Inter System Sales" line in the Fuel Clause calculation. The revenues associated with all purchased power contracts except for Wing River, Oliver County I, and Oliver County II, are for the sale of purchases that were no longer needed to cover load. The margins from these sales were passed through to the ratepayers in the Fuel Clause.

Filed in monthly fuel filings Docket No.

<u>Fuel Cost Month</u>	<u>Docket No.</u>
July 2016	16-716
August 2016	16-796
September 2016	16-880
October 2016	16-982
November 2016	16-1084
December 2016	17-110
January 2017	17-163
February 2017	17-241
March 2017	17-324
April 2017	17-440
May 2017	17-519
June 2017	17-583

**Annual Identification of Forced Outages, Lessons Learned and
Mechanism for Information Sharing
Docket: E999/AA-10-884, dated April 6, 2012**

Annual Identification of Forced Outages and Lessons Learned

For details related to Minnesota Power's forced outages see the table beginning on page 5.

Our maintenance practices and reliability programs are constantly being evaluated to ensure continuous improvement of our employees' skills and equipment reliability. All of our craftspeople are required to be trained on precision maintenance as part of their apprenticeship. We also require classroom training for all of the operating staff for asset care and preservation. Those individuals are taught operational best practices for operating pumps, motors, valves etc. Since January 2011, over 60 employees at the leadership level – maintenance leads, operations and maintenance superintendents, maintenance planners, and engineers – have participated in Reliability University. Reliability University is a program that teaches students the best practices of equipment maintenance along with the tools needed to be proactive rather than reactive to ensure equipment reliability. Elements of Reliability University include condition monitoring, vibration analysis, system and components, troubleshooting, precision equipment installation and assembly, instrument and process variability and root cause failure analysis. Additionally, we have increased our expectations and requirements around specifications of new and rebuilt equipment and parts with enhanced use of overhaul specifications and visits to repair shops by engineers and technicians.

We are also in the process of instituting a program called Operational Excellence. The focus of Operational Excellence is to teach Human Performance tools to employees (3 way communication, Peer Checking, Labeling, Procedure Use and Adherence etc.) resulting in increased elimination of potential errors occurring in the field. In addition to the Human Performance tool usage, a "lessons learned" process is completed when an event does occur and those learnings are shared throughout the facilities.

Tube Leaks

Tube leaks are statistically the most common cause of outages in coal fired power plants. The most common causes of tube leaks:

- thermal fatigue
- soot blower erosion
- fly ash erosion
- chemical attack

Thermal fatigue manifests itself as cracking of the boiler tubes - sometimes as very small "micro" cracks and sometimes as large cracks. This occurs as a result of changing boiler temperatures, usually when the boiler swings up or down to follow load and when the boilers start up and shut down. This is a similar effect to bending a paper clip back and forth - after so many cycles it eventually breaks. Minimizing boiler "swings" (base loading) helps minimize the impact of thermal fatigue. However, with the energy markets being what they are with the ever increasing impacts of intermittent wind generation, we are seeing more and more swings in output.

Soot blower erosion occurs in areas where soot blowers are used to 'blow off' ash or slag which accumulates on boiler tubes. Soot blowers use high pressure steam or high pressure air to do the cleaning. The ash removal is necessary to improve heat transfer which improves boiler thermal efficiency. Common practices to mitigate soot blower erosion are to add a weld overlay (commonly called "pad welding") to existing tubes, add tube shields which are essential sacrificial attachments to the tubes, changing soot blower media pressure (usually not an option) and tube replacement in the affected areas. The use of the soot blowers is essential in keeping the units on line. Coal composition can differ from mine to mine or even within the same mine. As we look to find the best low cost fuel blend for our customers, certain coals may cause more fouling than others. The increased potential of this fouling requires both the frequency and duration of soot blowing to increase which minimizes the buildup on the boiler tubes. We are increasing using higher alloy weld overlay to provide increased tube longevity.

Fly ash erosion occurs when fly ash and combustion gases pass rapidly across superheated boiler tube surfaces. Because of the abrasiveness of fly ash, the surface of boiler tubes in the high flow areas slowly erode. Many things contribute to the amount of erosion, such as gas path restrictions (plugging- see reasons for soot blowing above), variations in coal quality (higher ash content), other additives which are added to the fuel mix typically for emission control, etc.

Chemical attack is becoming a common source of tube failures due to the corrosiveness of many of the additives being used to control emissions. When these chemicals come in contact with very hot boiler tubes, their normal corrosiveness is significantly increased. Since there tend to be few options for using alternate less corrosive additives, a common solution is to look at tube materials which perform better in the corrosive environment. This is usually a very expensive fix and can have environmental compliance implications.

Minnesota Power has a boiler reliability program which is very effective in proactively identifying areas of the boilers where tube leaks are likely to occur and minimizing that risk with proactive maintenance practices. The program uses a combination of visual inspections, non-destructive testing methods (NDT), tube sample analysis, tube failure history, and industry experiences to avoid forced outages due to unexpected tube leaks.

To give some perspective on the challenges with any boiler reliability program, consider the following:

- Boswell-3 boiler has 473,891 ft (89.7 miles) of varying diameter boiler tubes
- Boswell-4 boiler has 779,905 ft (147.6 miles) of varying diameter boiler tubes

The boiler tube surface area where a leak can occur is several hundred thousand square feet in either boiler.

A tube leak usually begins as a very small hole (0.10 inch or less) in the tube wall which can expand rapidly due to the high temperature and pressure. Considering the huge

surface area in a boiler and the very small size of the hole or microscopic crack which results in a tube leak, it is very difficult to effectively screen the entire boiler to prevent all tube leaks. As part of our boiler reliability program, whenever there is an opportunity to get into the boiler to do an inspection – a forced or schedule outage – critical areas are inspected to evaluate erosion rates and to determine if repairs are needed. This information is used to plan for future capital expenditures to help minimize future tube leaks. During these inspection opportunities, small leaks are sometimes found and repaired. Similar proactive maintenance practices are routinely followed at the other Minnesota Power thermal facilities.

Non Boiler Related Outages

Minnesota Power has a Generation Reliability Group that is dedicated to monitoring and improving the reliability of not only the boiler but also the rotating equipment. The group is comprised of boiler, turbine and pulverizer engineers/specialists as well as specialists in predictive maintenance technologies. They work on a daily basis with the operating and maintenance groups at all facilities to improve the daily operating practices, planning for work and repairs to occur in future outages and establishing 5 and 10 year maintenance plans.

Rotating equipment that is monitored through various predictive technologies is summarized in a monthly reliability meeting with the specific plant. The manager is provided with a monthly scorecard as to their performance as well as identifying concerns and upcoming needs.

Mechanism for Some Level of Information Sharing

Minnesota Power is open to sharing lessons learned on a generic basis with the other utilities on an annual basis.

However, the concept of sharing lessons learned is more attractive in theory than in practice. Each utility's generating units are unique (manufacturer, date of installation, fuel type and mixture, base loaded vs. cyclic loading etc.), as is each company's operation and maintenance practices. Furthermore, sharing best practices regarding planned outages over and above what companies have already described in public filings borders on releasing confidential information about outage planning and energy marketing. This could work to harm that utility's customers if it were made available to other parties, since those practices provide the utility its best protection in acquiring replacement energy at the lowest cost possible.

Minnesota Power will continue to provide information on forced outages and what steps, if any, could have helped in avoiding or alleviating outages.

Minnesota Power's Force Outages

Unit	Event Type	DOC Primary Reason for the Outage	GADS Equivalent MWh lost	GADS Start Date/Time of Actual Outage	GADS End Date/Time of Actual Outage	DOC Equipment or Condition that Resulted in the Outage	DOC Description of Equipment Failure (including identified root cause)	DOC Steps Taken to Alleviate Reoccurrence	DOC Change in Energy
BEC 3	Unplanned Outage	Boiler Waterwall Leak	9,099	7/8/16 1:22	7/9/16 2:53	Waterwall tube	Tube failure due to tube wall thinning from the inside out.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 40,135
THEC 1	Unplanned Outage	Boiler Waterwall Leak	5,392	8/4/16 21:35	8/8/16 3:44	Waterwall tube leak on Northwest 5th level	Urea dripping from urea injection port caused corrosion in tube.	Repaired tube leak. No long term plan due to idling of facility in fall.	\$ 8,961
THEC 1	Unplanned Outage	Boiler Tube Leak	2,759	8/16/16 22:05	8/18/16 14:04	Low temp super heat tube leak 5 1/2 level.	Sootblower erosion caused tube failure.	Repaired tube leaks. No long term plan due to idling of facility in fall.	\$ (1,204)
THEC 2	Unplanned Outage	Boiler SH Tube Leak	5,299	8/18/16 22:00	8/22/16 3:36	Low temp super heat tube leak 5 1/2 level.	Sootblower erosion caused tube failure.	Repaired tube leak. No long term plan due to idling of facility in fall.	\$ 12,326
BEC 4	Unplanned Outage	Main Boiler Feed Pump 4B Repair	56,608	8/24/16 23:55	8/30/16 1:49	4B Main Boiler Feed Pump siezed, due to an axial thrust.	The boiler feedpump suction strainer failed in service releasing debris into pump. The material accumulated between blanacing faces resulting in reverse thrust motion.	Original suction screen was made of wire screen. The screen wore between wires where it was not visible when inspected. The replacement screen is made of perforated steel and much more robust.	\$ 351,349
BEC 3	Unplanned Outage	Boiler Waterwall Leak	15,329	8/29/16 14:45	8/31/16 9:37	Waterwall tube leak.	Tube failure due to slag impact on bottom portion of tube resulting in mechanical failure of upper portion of tube.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 129,503
BEC 3	Unplanned Outage	MBFP Safety Valve Leak	15,740	11/2/16 5:32	11/4/16 2:15	Suction safety on Main Boiler Feed Pump.	Cracked fitting on the pilot operated suction safety valve.	Removed suction safety for repair. Installed temporary suction safety valve in order to bring the unit back online to minimize customer costs.	\$ 107,064
BEC 2	Unplanned Outage	Boiler SH Tube Leak	2,142	12/27/16 22:54	12/29/16 6:52	Superheat tube leak.	Long-term overheating and external corrosion.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ (28,059)
BEC 3	Maintenance Outage	Boiler Waterwall Leak	8,800	12/30/16 23:00	1/1/17 10:19	Waterwall tube leak.	Sootblower erosion caused tube failure.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 4,199
BEC 3	Unplanned Outage	Feedwater Heater 2 Drain Line Leak Repair	7,861	1/1/17 23:11	1/2/17 21:31	#2 Feedwater Heater - Drain line leak	Flow accelerated corrosion.	Replaced pipe with high chrome piping.	\$ 55,228
BEC 3	Unplanned Outage	Boiler RH Tube Leak	14,256	2/17/17 0:00	2/18/17 17:32	Reheat tube leak.	Long-term overheating and external corrosion.	Repaired tube leak. The long-term strategy for inspection and/or replacement is still in planning. There are three root causes of failures in this reheat, so the strategy to resolve all three root causes is more complex.	\$ 40,777
BEC 1	Maintenance Outage	Baghouse Outlet Valve	2,481	3/4/17 23:34	3/6/17 12:36	Poppet valve failure on Baghouse.	Threaded poppet valve shaft broke.	Repaired poppet valve. No long term plan due to impending closure.	\$ 570

Unit	Event Type	DOC Primary Reason for the Outage	GADS Equivalent MWh lost	GADS Start Date/Time of Actual Outage	GADS End Date/Time of Actual Outage	DOC Equipment or Condition that Resulted in the Outage	DOC Description of Equipment Failure (including identified root cause)	DOC Steps Taken to Alleviate Reoccurrence	DOC Change in Energy
BEC 2	Unplanned Outage	Boiler Tube Leak	2,928	3/5/17 23:44	3/7/17 19:26	Economizer tube leak	Sootblower erosion caused tube failure.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 3,670
BEC 4	Maintenance Outage	Boiler Tube Leak	20,774	3/13/17 23:25	3/15/17 11:14	Three pin hold tube leaks on the 16th floor.	Sootblower erosion caused tube failure on one tube. This impinged and caused two more tube leaks.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected. Two more tube leaks were repaired based on inspections. The tube area will be sectioned out in the next planned outage.	\$ 148,423
BEC 3	Unplanned Outage	Boiler RH Tube Leak	16,896	3/28/17 17:37	3/30/17 17:37	Reheat tube leak.	Fatigue stress cracking - overheating.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 107,855
BEC 3	Maintenance Outage	Feedwater Line Pressure Relief Valve Leak	6,788	4/15/17 20:05	4/16/17 15:22	Suction safety on Main Boiler Feed Pump.	Cracked tubing on the pilot operated suction safety valve.	Removed suction safety and installed a different designed valve with no tubing and no fittings.	\$ 11,204
BEC 3	Unplanned Outage	Feedwater Piping Leak	4,259	4/17/17 21:57	4/18/17 10:03	Feedwater line leak.	Sock weld failure from high cycle fatigue.	Weld repaired sock weld.	\$ 2,466
BEC 3	Unplanned Outage	Main Boiler Feed Pump Damaged by Debris	35,927	4/26/17 17:56	5/3/17 6:22	MBFP Barrel	Debris in Feed water system due to damaged screen at DA	Redesign of suction screen in boiler feed scution tank to include standpipe. A Change of procedure made to include independent verification of cleanliness for suction tank entry and inspection prior to exit.	\$ 355,734
BEC 2	Unplanned Outage	Boiler SH Tube Leak	2,928	5/19/17 0:10	5/19/17 23:46	Reheat header tube leak.	Weld porosity caused pin hole leak.	Pad weld repair using weld repair program quality control. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 6,023
BEC 3	Unplanned Outage	Boiler RH Tube Leak	12,273	5/5/17 22:44	5/7/17 9:36	Reheat tube leak.	Sootblower erosion caused tube failure.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 29,342
BEC 3	Unplanned Outage	Boiler RH Spacer Tube Leak	15,019	6/13/17 17:59	6/15/17 12:39	Reheat spacer tube leak.	Sootblower erosion caused tube failure.	Pad weld repair of the leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 52,949

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Minnesota Power's
Comparison and Reconciliation of the MISO Accredited Value of the
Company's Generators Using MISO Accredited UCAP Values and
Integrated Resource Plan Capacity Ratings.

Docket Nos. E999/AA-09-961 and E999/AA-10-884, dated August 31, 2017

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Order Point 28 of the Commission Order states:

Interstate, Minnesota Power, Otter Tail and Xcel shall continue to provide a comparison and reconciliation of the MISO accredited value of their generators using MISO accredited UCAP values and integrated resource plan capacity ratings in future AAA filings. This comparison and reconciliation should be prepared in sufficient detail to allow the Department to understand: (a) the impacts of generation resources that are not network deliverable (i.e., not interconnected), and (b) the possible constraints of utilities' systems and the impact of those constraints.

MISO Accredited UCAP Values and 2015 Resource Plan Capacity Ratings

Minnesota Power has attached to this filing a comparison of the MISO accredited UCAP values for its generating resources from the MISO Planning Year 2017-2018 to the capacity ratings used in its 2015 Resource Plan (See Table A which contains Trade Secret Data). The capacity values used in Minnesota Power's 2015 Resource Plan were based on MISO Planning Year 2015-2016 capacity values; therefore, there are a couple differences between the UCAP values and is noted below.

Wind Generation

There is an approximate 21 MW difference in the wind UCAP capacity values between MISO Planning Year 2017-2018 and the 2015 Resource Plan. The higher wind UCAP capacity value used in the MISO Planning Year 2017-2018 is due to better wind performance during MISO peaks. Note that Minnesota Power expects the UCAP value for Bison to vary in the near term due to the limited history of operational data used in MISO's UCAP calculation for intermittent wind generation.

Thomson Hydro

There is an approximate 57 MW difference in the pondage hydro UCAP capacity values between MISO Planning Year 2017-2018 and the 2015 Resource Plan. The pondage hydro generation represents the Thomson hydro capacity. Due to the catastrophic outage from flooding that occurred in June 2012, only a portion of the Thomson hydro facility had returned to service resulting in a reduced UCAP value for MISO Planning Year 2015-2016 which was used in the 2015 Resource Plan for only 2015. For MISO Planning Year 2017-2018 Thomson hydro returned to full service and the UCAP value is for the entire facility.

Taconite Harbor 3

The capacity of this unit has not been accredited since the unit was suspended per the MISO Attachment Y submittal in 2014.

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Bilateral Purchase Transactions

There are three bilateral power purchase agreements with Great River Energy that total 150 MW of UCAP capacity in Planning Year 2017-2018. The duration of these three bilateral contracts vary. Two of the power purchase agreements (50 MW each) are from June 1, 2016 through May 31, 2020. The purchased capacity from Great River Energy was included in the resource plan as a capacity resource as part of the Company's Bilateral Bridge Strategy in its Near Term Action Plan from the 2013 Resource Plan. The third power purchase agreement with Great River Energy (50 MW) goes from June 1, 2016 through May 31, 2020. This purchased capacity replaced the capacity idled at Taconite Harbor units 1 & 2 per Minnesota Power short term action plan from the 2015 Resource Plan.

There was one 50 MW bilateral power purchase agreement with Minnkota Power Cooperative, Inc. in Planning Year 2017-2018. The duration of this power purchase agreement is January 1, 2014 through May 31, 2020. The purchased capacity from Minnkota was included in the resource plan as a capacity resource as part of the Company's Bilateral Bridge Strategy in its Near Term Action Plan from the 2013 Resource Plan.

Minnesota Power also has two bilateral power purchase agreements with Manitoba Hydro that total 100 MW of UCAP Capacity. The duration of these two contracts vary. The first 50 MW power purchase agreement with Manitoba Hydro goes from June 1, 2015 through May 31, 2020. The purchased capacity from Manitoba was included in the resource plan as a capacity resource as part of the Company's Bilateral Bridge Strategy in its Near Term Action Plan from the 2013 Resource Plan. The second 50 MW power purchase agreement with Manitoba Hydro goes from June 1, 2017 through May 31, 2020. This purchased capacity replaced the capacity idled at Taconite Harbor units 1 & 2 per Minnesota Power short term action plan from the 2015 Resource Plan.

Minnesota Power Generation with Non-Network Interconnection Agreements with MISO

The Midcontinent ISO Generation Deliverability Test Results can be found on the MISO website at the following link:

<https://www.misoenergy.org/Library/Agreements/Pages/InterconnectionAgreements.aspx>

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We have attached to this filing the current Midcontinent ISO Generation Deliverability Results file that has been formatted to highlight the Minnesota Power generating resources and their interconnection service designations. (See Table B)

It should be noted that under MISO's annual resource adequacy program that started June 1, 2013 there is no longer a "local" designation of capacity resources. All capacity resources are considered equal as long as all the requirements are met per the MISO Module E tariff. There remain two types of interconnection transmission service for generating sources: Network Resource Interconnection Service (NRIS) and Energy Resource Interconnection Service (ERIS). Under the previous MISO monthly resource adequacy program a generator with ERIS status was designated "local" capacity, where under the new MISO resource adequacy program a generator with ERIS status and transmission rights to a load in MISO is designated as a capacity resource similar to a generator with NRIS within its Local Resource Zone.

With the new resource adequacy program no longer designating capacity with ERIS status as "Local", Minnesota Power will address the following questions by discussing capacity resources on its system with ERIS interconnection service.

Identification of resources assigned, in full or in part, ERIS status based on Minnesota Power's Deliverability Results from MISO and why these resources are designated as such.

Minnesota Power has one capacity resource that currently has ERIS interconnection service with MISO; the Taconite Ridge wind farm. Details for are provided below:

Taconite Ridge: An ERIS generation interconnection was utilized during the project implementation for this wind farm. To make this resource eligible for capacity credit Minnesota Power worked with the MISO transmission request process to gain 25 MW of transmission rights from the generator to Minnesota Power's load. With this transmission service the generation from the Taconite Ridge facility would be eligible for capacity credit to serve Minnesota Power's customers.

To acquire enough transmission service to allow the Taconite Ridge wind farm to be eligible to serve any MISO customer, or become network deliverable, there would be bulk transmission upgrades required. Minnesota Power did not see the economic benefit of having customers pay for additional transmission upgrades to allow capacity from the wind farm to be eligible to be transferred to other Midwest ISO footprint customers.

Impact to Minnesota Power's Integrated Resource Plan (as a result of these resources having ERIS interconnection service)

As Minnesota Power's 2015 Resource Plan identifies how Minnesota Power will serve its local customers with available generation and power purchases, the definition of ERIS vs. NRIS does

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not impact its long-term plan as all of the capacity that has ERIIS service is able to count for Minnesota Power's capacity requirement. These MISO Resource Adequacy capacity attributes are included as part of the larger capacity position for each resource as it is being added to Minnesota Power's long-term expansion plan.

Minnesota Power's plan to address the ERIIS resources and make them NRIS

See paragraph on Impact to Minnesota Power's Integrated Resource Plan above. Minnesota Power continues to ensure its customers receive the maximum economic capacity available from its resources.

Table A:
Planning Year 2017-2018 Compared to
2015 Resource Plan Capacity Values

MN Power Thermal Generation	Planning Year 2017-2018 UCAP Value	MISO PY 2015-2016	
		2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
	[TRADE SECRET DATA HAS BEEN EXCISED]		
Boswell 1			
Boswell 2			
Boswell 3			
Boswell 4			
Hibbard 3&4			
Laskin 1			
Laskin 2			
Young 2/Square Butte			
Taconite Harbor 1			
Taconite Harbor 2			
Taconite Harbor 3			
SAPPI TG 5 /1			
Total			

/1 SAPPI TG 5 is no longer owned by Minnesota Power

MN Power Hydro Generation	Planning Year	2015 Resource	2015 Resource
	2017-2018 UCAP	Plan Capacity	Plan Capacity
	Value	ICAP Values	UCAP Values
	[TRADE SECRET DATA HAS BEEN EXCISED]		
Pondage			
Run of River			
Total			

Bilateral Purchase Transactions	Planning Year	2015 Resource	2015 Resource
	2017-2018 UCAP	Plan Capacity	Plan Capacity
	Value	ICAP Values	UCAP Values
	[TRADE SECRET DATA HAS BEEN EXCISED]		
MHEB			
Minnkota			
Great River Energy			
Xcel			
Total			

Behind The Meter Generation (BTMG)	Planning Year	2015 Resource	2015 Resource
	2017-2018 UCAP Value	Plan Capacity ICAP Values	Plan Capacity UCAP Values
	[TRADE SECRET DATA HAS BEEN EXCISED]		
Customer Owned			
Minnesota Power Owned Non Hydro			
Total			
(A) Total BTMG			
(B) BTMG Coincident with Peak Demand			
(C) Duel Fuel			
Remaining MP and Customer Owned BTMG (A-B-C)			
Reserve Margin Requirement on BTMG Coincident with Peak (The UCAP Reserve Margin 7.6% & ICAP Reserve Margin 15.2% - Planning Year 15-16)&(The UCAP Reserve Margin 7.1% & ICAP Reserve Margin 14.3% - 2015 Resource Plan)			
BTMG Modeled in Strategist (non-coincident Customer Net Generation)			

	Planning Year 2017-2018 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
Wind Generation	[TRADE SECRET DATA HAS BEEN EXCISED]		
Oliver 1 & 2			
Bison 1-4			
Taconite Ridge			
Total			
	Planning Year 2017-2018 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
Solar Generation	[TRADE SECRET DATA HAS BEEN EXCISED]		
Camp Ripley			
Total			
	Planning Year 2017-2018 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
TOTAL OF ALL CAPACITY	[TRADE SECRET DATA HAS BEEN EXCISED]		

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Table B:
Midwest ISO Interconnection Service

CPNode	Operator Name	Total Interconnection Service	NRIS	NRIS (Local)	ERIS
MP.BISON1		496.6	496.6	0	
MP.BLNCHR123	BLANCHARD 1	18	18	0	
MP.BOS111	BOSWELL 1	75	75	0	
MP.BOS112	BOSWELL 2	75	75	0	
MP.BOS233	BOSWELL 3	364.5	364.5	0	
MP.FONDLA1	FOND-DU-LAC 1	12	12	0	
MP.HIBBAR3	HIBBARD 3	34	34	0	
MP.HIBBAR4	HIBBARD 4	35	35	0	
MP.LASKIN1	LASKIN 1	60.5	60.5	0	
MP.LASKIN2	LASKIN 2	60.5	60.5	0	
MP.MP_BOS4	BOSWELL 4 JOU MP (MP Share)	476	476	0	
MP.OLIVER12	MP OLIVERCO OLIVER_1 - 2_UNIT	101		0	101
MP.POTLTUN_5	POTLATCH 5	41.5	41.5	0	
MP.TACHB1	TACONITE HARBOR 1	76.0	76	0	
MP.TACHB2	TACONITE HARBOR 2	74.0	74	0	
MP.TACHB3	TACONITE HARBOR 3	75.0	50	0	25
MP.TACRIDGE1	MP MINNTAC MINNTA_1_UNIT	25	0	0	25
MP.THOMSON		77.3	39.3	0	
OTP.Y2ACGEN.MP	YOUNG 2 JOU MP	134.9	134.9	0	

Congestion Costs Analysis

Minnesota Power is providing, in a separate Access database, hourly Day-Ahead Locational Marginal Price data, including energy, line losses and congestion charges for each of its generation nodes, load node and Minnesota Hub for the time period of July 2016 through June 2017. The Access database also includes all hours in which congestion costs were incurred between our generator and load nodes (paths).

Please note the access database is considered Trade Secret Data and will be provided separately on a cd as it is not in a format that can be filed.

Below is the reference guide to the Access database

The table “MP DA LMP” includes the Day Ahead LMPs for each of Minnesota Power’s generation nodes, our load node and Minnesota Hub node for each hour from July 1, 2016 through June 30, 2017. The table columns are defined as follows:

Localday	Calendar Day of the Year
HE	Hour Ending
Location	MISO Node Name
Market	Day Ahead market
LMP	Locational Marginal Price
MCC	Marginal Congestion Component of the LMP
MLC	Marginal Loss Component of the LMP
Energy	Energy Component of the LMP

The table “DA Congestion” includes the data related to Minnesota Power’s calculation of Day Ahead Congestion costs for the paths between our generation nodes and our load node for July 1, 2016 through June 30, 2017. The table columns are defined as follows:

Localday	Calendar Day of the Year
HE	Hour Ending
Mmi Nodename	MISO Node Name
DA RE MWh	Day Ahead cleared MWh at the generation node that are used in the calculation of the Day Ahead Congestion for the path between the generator and load
DA MCC Gen	Day Ahead Marginal Congestion Component of the LMP at the generator
DA MCC Load	Day Ahead Marginal Congestion Component of the LMP at Minnesota Power’s load node for the corresponding day and hour ending
DA Congestion	The calculated congestion between the generator and load for the given day and hour ending.

The table “HVDC Utilization” included data related to the hedged congestion due to the transfer of energy across the HVDC line for July 1, 2016 through June 30, 2017. The table columns are defined as follows:

Localday	Calendar Day of the Year
HE	Hour Ending
Mmi Nodename	MISO Node Name
DA RE MWh	Day Ahead cleared MWh on the DC line that are used in the calculation of the Day Ahead Congestion hedging on the DC line
DA MCC Gen	Day Ahead Marginal Congestion Component of the Day Ahead LMP at the west end of the DC line – MISO node name MP.HVDCW
DA MCC Load	Day Ahead Marginal Congestion Component of the Day Ahead LMP at the east end of the DC line – MISO node name MP.HVDCE
DA Congestion	The calculated congestion between the west end of the DC line and east end of the DC line for the given day and hour ending

The table below shows the sum of the qualifying congestion costs by path along with the FTR revenues for the top 10 paths.

As shown by the information provided, Minnesota Power has no FTRs associated with the MP.BISON1 to MP.MP path. This is because at the time of requesting ARR’s for 2013 Minnesota Power did not have firm transmission from MP.BISON1 to MP.MP. However, the FTRs associated with the MP.HVDCE to MP.MP path, are allocated to MP.Y2ACGEN.MP, MP.BISON1 and MP.OLIVER12. This represents the path between the east end of the DC line and Minnesota Power’s load zone. MP.HVDCE is the node at the east end of the DC line where Minnesota Power sells power to the MISO market. HVDC Utilization is allocated to MP.Y2ACGEN.MP, MP.BISON1 and MP.OLIVER12 on a pro-rata basis based on the total DA Congestion on these paths.

Minnesota Power is always looking at ways to provide cost-effective delivery. Minnesota Power’s ARR strategy has been to schedule FTRs up to the amount that MISO allows between generation and the load zone in order to sell electricity into the MISO market at the same price as it is being purchased.

**Day Ahead Congestion by Path
July 2016 – June 2017**

	Path Node to MP.MP	Total DA Congestion	HVDC Utilization	FTR Revenues	Net Congestion
1	MP.BISON1	5,273,688.19	(5,623,485.67)	1,131,394.86	781,597.37
2	OTP.Y2ACGEN.MP	1,443,655.85	(1,539,411.83)	309,715.85	213,959.87
3	MP.OLIVER12	1,047,076.57	(1,116,527.91)	113,260.54	43,809.19
4	MP.BOS233	773,345.10		(554,130.64)	219,214.46
5	MP.MP_BOS4	534,546.63		(1,225,944.24)	(691,397.61)
6	MP.BLNCHR123	128,264.17		(57,357.53)	70,906.64
7	MP.BOS112	116,437.77		(136,070.99)	(19,633.22)
8	MP.BOS111	113,176.69		(119,912.39)	(6,735.70)
9	MP.TACRIDGE1	9,544.53			9,544.53
10	MP.TACHB3	0.00			0.00
	Subtotal of top 10	9,439,735.51	(8,279,425.42)	(539,044.55)	621,265.53
	MINN.HUB	0.00			0.00
	MP.HIBBAR4	(952.96)	-	-	(952.96)
	MP.HIBBAR3	(4,112.71)	-	-	(4,112.71)
	MP.LASKIN2	(4,786.27)	-	-	(4,786.27)
	MP.LASKIN1	(17,450.82)	-	-	(17,450.82)
	MP.TACHB2	(32,987.45)	-	-	(32,987.45)
	MP.TACHB1	(39,708.76)	-	-	(39,708.76)
	MP.FONDLA1	(44,383.24)	-	-	(44,383.24)
	MP.THOMSON	(261,031.69)	-	-	(261,031.69)
	Grand Total	9,034,321.61	(8,279,425.42)	(539,044.55)	215,851.64

Plant Outage Contingency Plans
Docket No. E-999/AA-08-995 dated March 15, 2010

Plant Outage Contingency Plans to address the following for the period of July 2016-June 2017:

1. Identification for the period of July 2016-June 2017 any and all contractors (and associated contracts) that increased replacement energy costs due to an extension of the plant outage days as a result of delays and/or lack of performance.
2. Please provide a narrative fully explaining the reasons for the delays and/or lack of performance for each of the contracts identified above.
3. Please describe the lessons learned and the contingency plans developed by the Company to mitigate against future risk of delays or lack of performance, when contractors perform poorly and increase costs during plant outages.

Identification and explanation of outage delays

During this period, there were no delays or lack of performance by contractors identified which impacted the length of the outages and/or the replacement energy costs.

Reasons for Delay and/or Lack of Performance

During this period, there were no delays or lack of performance by contractors identified which impacted the length of the outages and/or the replacement energy costs.

Lessons Learned and Contingency plans utilized

During this period, there were no delays or lack of performance by contractors identified which impacted the length of the outages and/or the replacement energy costs.

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Oliver I and II Wind Curtailment Reporting

(Docket No. E015/M-05-975; Dated December 20, 2005)

	Oliver County I				
	FPL Wind Energy in FAC (MWh)	Curtailments of Wind Energy MWh	Curtailment Payments by MP	Reason Codes	Explanation
	[TRADE SECRET DATA HAS BEEN EXCISED]				
July 2016		None	None	None	None
August 2016		7	\$448.32	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
September 2016		57	\$3,854.16	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
October 2016		43	\$2,912.48	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
November 2016		16	\$1,057.59	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
December 2016		None	None	None	None
Januray 2017		40	\$1,179.43	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
February 2017		None	None	None	None
March 2017		53	\$1,561.85	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
April 2017		43	\$1,280.43	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
May 2017		None	None	None	None
June 2017		126	\$3,722.66	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
Total		384	\$ 16,016.92		

- 1. Minnesota Power’s refusal to accept Contract Energy at the Point of Delivery as a result of low load conditions that justify not accepting Contract Energy; or
- 2. The availability of less expensive energy from another source; or
- 3. Minnesota Power’s election to use non-firm transmission services to deliver Contract Energy.

Oliver County II					
	FPL Wind Energy in FAC (MWh)	Curtailments of Wind Energy MWh	Curtailment Payments by MP	Reason Codes	Explanation
	[TRADE SECRET DATA HAS BEEN EXCISED]				
July 2016		None	None	None	None
August 2016		9	\$728.97	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
September 2016		51	\$4,058.05	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
October 2016		51	\$4,012.86	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
November 2016		20	\$1,569.58	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
December 2016		None	None	None	None
Januray 2017		26	\$2,034.14	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
February 2017		None	None	None	None
March 2017		13	\$1,039.58	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
April 2017		6	\$461.02	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
May 2017		None	None	None	None
June 2017		11	\$852.16	2	Oliver County is a Dispatchable Intermittent Unit (DIR) within MISO. The offer price is set so that if the Locational Marginal Price (LMP) drops below the amount of a compensated curtailment payment amount on the PPA, then the unit will be curtailed. When this happens, the LMP is negative and Minnesota Power would be paying MISO to generate at this unit, or being paid not to generate. With the LMP this negative, the cost paid under the PPA is less than what Minnesota Power would have paid MISO if we would have generated.
Total		186	\$ 14,756.36		

1. Minnesota Power’s refusal to accept Contract Energy at the Point of Delivery as a result of low load conditions that justify not accepting Contract Energy; or
2. The availability of less expensive energy from another source; or
3. Minnesota Power’s election to use non-firm transmission services to deliver Contract Energy.

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Bison Wind Energy Curtailment Reporting

Docket No. E015/M-11-234; Dated September 8, 2011

Docket No. E015/M-11-626; Dated November 2, 2011

Minnesota Power
Bison Wind Energy Curtailment Reporting
Reporting Period: July 1, 2016 - June 30, 2017

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	Delivered MWh	Lost MWh
	[TRADE SECRET DATA HAS BEEN EXCISED]	
Jul-15		585
Aug-15		1,749
Sep-15		5,212
Oct-15		1,255
Nov-15		0
Dec-15		20,999
Jan-16		2,255
Feb-16		488
Mar-16		5,829
Apr-16		1,126
May-16		1,603
Jun-16		2,063
Total		43,164