



August 31, 2018

**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
Docket No. E999/AA-18-373

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

- | | |
|------------------|--|
| 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 2017 through June 2018 (MN Rule 7825.2820). |
| Attachment No. 3 | Minnesota Power's Annual Report of Automatic Adjustment Charges for the period July 2017 through June 2018 (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). |

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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). Please note this document contains Trade Secret Data.
- 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). Please note this document contains Trade Secret Data.
- 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). Please note this document contains Trade Secret Data.
- 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). Please note this document contains Trade Secret Data.
- 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).

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- 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 and Docket No. E999/AA-09-961 dated April 6, 2012). 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, 2018

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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].

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].

- 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 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 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

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[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 2018 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 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]**.

- 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]**.

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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].

- Venture Fuels
Hibbard Renewable Energy Center - A 2018 Agreement to provide coal and transportation beginning [TRADE SECRET DATA HAS BEEN EXCISED] ending [TRADE SECRET DATA HAS BEEN EXCISED] for up to [TRADE SECRET DATA HAS BEEN EXCISED] tons of coal.

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 at the Rapids Energy Center. Minnesota Power will go out for bids for the natural gas at the Rapids Energy Center 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].

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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 its 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 its 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.

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Medium Term Activities

Minnesota Power uses a production cost model to determine its 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 periodically to determine MP's forward energy position.

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, 2017 through June 30, 2018 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. 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 July 2017, December 2017 and April 2018, 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 July 2017, December 2017 and April 2018, we agreed fuel purchases recorded in the Company's fuel ledger to supporting invoices for fuel purchases totaling \$7.8 million (100% coverage), \$10.6 million (100% coverage), and \$9.7 million (100% coverage), respectively, without exception.
- 2) For the months of July 2017, December 2017 and April 2018, we obtained the Minnesota Public Utilities Commission – Approved Base Costs of Power, Docket No. E0915/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, 2017 through June 30, 2018 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 July 2017, December 2017 and April 2018, 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 July 2017, December 2017 and April 2018 the Company asserted that there were no corrections to the fuel adjustment clause charges or other billing errors, which we agreed to testing procedures performed.
- 6) For the months of July 2017, December 2017 and April 2018 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 July 2017, December 2017 and April 2018, 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 \$12.0 million (73% coverage), \$12.7 million (72% coverage), and \$11.9 million (74% coverage), respectively. We agreed the selected purchase transaction amounts to supporting invoice and payment documentation, consisting of third party 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, (July 2017, December 2017 and April 2018), we obtained the MISO Charge Types Excluding Asset Energy and Admin Charges Report and, selected, at a minimum, 16 MISO related charges for July 2017, December 2017 and April 2018, respectively, and agreed them to the underlying invoices, noting no differences.
- 8) For the months of July 2017, December 2017 and April 2018, 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 July 2017, December 2017 and April 2018, 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 285.8 million kWh (73% coverage), 314.5 million kWh (78% coverage), and 285.6 million kWh (74% coverage) for the months of July 2017, December 2017 and April 2018, 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.
- 10) For the period July 1, 2017 through June 30, 2018, we obtained and compared the accounting records for the revenues billed to customers for energy delivered to the total sales of electric energy without exception.
- 11) For the period July 1, 2017 through June 30, 2018, we reviewed the revenue reconciliations from the CIS sub-ledger to the company general ledger (obtained from the CIS Admin and Energy Pricing and Billing departments), for total revenue and did not identify any unreconciled differences. For the period July 1, 2017 through June 30, 2018, we reviewed the cost of power reconciliations from the Energy Pricing and Billing department, which includes (1) coal burned, (2) total purchase power, (3) MISO non-recoverable cost, and (4) purchased steam, to the company general ledger and did not identify any unreconciled differences.

This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. We were not engaged to and did not conduct an examination or review, the objective of which would be the expression of an opinion or conclusion, respectively, on Section A of Minnesota Power's Annual Report of Automatic Adjustment Charges for the period July 1, 2017 through June 30, 2018 found in Attachment No. 3 of the Company's Annual Report. Accordingly, we do not express such an opinion or conclusion. 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, 2018

Minnesota Power
Automatic Retail Fuel Adjustment Recovery
July 1, 2017 - June 30, 2018

A. Summary - Automatic Adjustment Charges:

Line No.	Revenue/Accounting Month Cost of Fuel	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018
1	Company's Generating Stations (A/C 151)	\$10,717,622	\$11,361,798	\$12,481,788	\$12,437,116	\$10,488,694	\$9,147,513	\$12,116,080	\$11,180,994	\$12,143,907	\$10,259,919	\$11,944,618	\$10,429,208	\$12,193,250	\$11,234,268
2	Plus: Purchased Energy	14,269,617	14,061,974	16,510,536	15,649,170	14,895,333	16,069,665	15,289,230	17,533,337	17,948,426	15,758,822	16,332,976	16,136,314	15,134,284	15,459,835
2	Less: MISO Schedules 16 &17 & 24	3,262	5,728	947	(23)	20,558	66,281	31,027	37,827	(8,680)	9,277	50,119	56,950	(6,539)	(15,420)
3	Less: Fuel Cost Recovered Through Inter-System Sales	9,251,197	9,765,152	9,291,855	9,230,849	9,027,472	9,249,229	9,187,284	9,350,655	10,494,363	8,074,663	8,526,725	8,581,354	9,436,629	8,374,124
4	Less: Costs Related to Solar	0	0	0	0	0	0	0	436	1,517	3,737	5,766	5,429	4,569	3,115
5	Plus: Time of Generation and Solar Energy Adjustment	50,302	54,975	92,614	66,332	45,677	35,365	19,948	10,805	22,510	39,471	42,593	45,668	48,600	49,057
6	Total Monthly Cost of Fuel	\$15,783,082	\$15,707,868	\$19,792,136	\$18,921,793	\$16,381,674	\$15,937,033	\$18,206,947	\$19,336,218	\$19,627,642	\$17,970,535	\$19,737,576	\$17,967,457	\$17,941,476	\$18,381,341
7	2-Month Total Cost of Fuel	\$33,477,731	\$31,490,949	\$35,500,004	\$38,713,929	\$35,303,467	\$32,318,707	\$34,143,980	\$37,543,165	\$38,963,860	\$37,598,177	\$37,708,111	\$37,705,033	\$35,908,933	\$36,322,817
KWh Sales															
8	Total Sales of Electricity	1,208,046,433	1,188,658,409	1,225,013,061	1,232,515,058	1,178,420,518	1,206,548,496	1,223,776,036	1,305,899,305	1,333,878,277	1,224,417,124	1,242,992,820	1,207,436,705	1,215,939,675	1,148,248,103
9	Less: Inter-System Sales	398,000,720	394,800,862	389,716,792	387,523,581	362,975,842	390,142,122	371,884,619	402,358,188	417,871,100	365,221,871	362,737,208	384,506,812	407,011,370	362,128,094
10	Less: Solar Generation and Purchased kWh	1,810,777	1,844,056	2,158,646	1,680,356	1,622,958	1,295,050	837,315	331,201	882,408	1,357,901	1,708,214	1,897,431	2,054,809	1,784,689
11	Total Monthly kWh Sales	808,234,936	792,013,491	833,137,623	843,311,121	813,821,718	815,111,324	851,054,102	903,209,916	915,124,769	857,837,352	878,547,398	821,032,462	806,873,496	784,335,320
12	2-Month Total kWh Sales	1,629,796,587	1,600,248,427	1,625,151,114	1,676,448,744	1,657,132,839	1,628,933,042	1,666,165,426	1,754,264,018	1,818,334,685	1,772,962,121	1,736,384,750	1,699,579,860	1,627,905,958	1,591,208,816
Fuel Adjustment Charge - Fuel Clause 16 (¢/KWh)															
13	2-Month Average Cost of Fuel (¢/kWh)	2.054	1.968	2.184	2.309	2.130	1.984	2.049	2.140	2.143	2.121	2.172	2.218		
14	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		
15	Fuel Adjustment Charge (lines 10 - line 11) (¢/kWh)	1.036	0.950	1.166	1.291	1.112	0.966	1.031	1.122	1.125	1.103	1.154	1.200		
16	Applicable During Billing Month of:	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018		

2-Month Average Cost of Fuel by Energy Type (¢/kWh)													
Billing Month:		Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
17	Generation - Coal	0.682	0.789	0.899	0.963	0.854	0.708	0.828	0.906	0.873	0.886	0.930	0.920
18	Generation - Gas	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.003	0.005	0.002	0.002
19	Generation - BioFuel	0.000	0.000	0.001	0.005	0.013	0.009	0.000	0.002	0.002	0.000	0.000	0.000
20	Purchased Power - Coal	0.148	0.180	0.135	0.117	0.160	0.159	0.151	0.131	0.098	0.088	0.109	0.119
21	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
22	Purchased Power - Hydro	0.141	0.145	0.155	0.158	0.149	0.142	0.140	0.137	0.134	0.130	0.133	0.141
23	Purchased Power - Gas	0.000	0.001	0.006	0.007	0.003	0.001	0.000	0.001	0.001	0.002	0.002	0.000
24	Purchased Power - Wind	0.111	0.125	0.110	0.082	0.084	0.137	0.157	0.148	0.144	0.128	0.112	0.109
25	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
26	Purchased Power - Unknown	0.972	0.728	0.876	0.977	0.867	0.827	0.773	0.816	0.888	0.882	0.884	0.927
27	Total Two-Month Average Cost	2.054	1.968	2.184	2.309	2.130	1.984	2.049	2.140	2.143	2.121	2.172	2.218

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

Line No.		Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018
1	Total Monthly Cost of Fuel (line 5, section A)	\$19,792,136	\$18,921,793	\$16,381,674	\$15,937,033	\$18,206,947	\$19,336,218	\$19,627,642	\$17,970,535	\$19,737,576	\$17,967,457	\$17,941,476	\$18,381,341
2	Total Monthly KWH Sales (line 10, section A)	833,137,623	843,311,121	813,821,718	815,111,324	851,054,102	903,209,916	915,124,769	857,837,352	878,547,398	821,032,462	806,873,496	784,335,320
3	Actual Monthly Cost of Fuel (¢/kWh) (line 1/ line 2)	2.376	2.244	2.013	1.955	2.139	2.141	2.145	2.095	2.247	2.188	2.224	2.344
4	Retail kWh Sales Subject to FAC (line 5 + line 13+ line 20+ line 27+ line 34+ line 41+ line 48+ line 55)	694,688,351	709,104,619	686,791,914	684,837,247	709,364,329	744,264,670	755,733,952	717,089,681	736,290,378	688,748,551	684,969,468	664,724,407
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)	1.036	0.950	1.166	1.291	1.112	0.966	1.031	1.122	1.125	1.103	1.154	1.200
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	73,528,080	74,907,626	72,762,427	66,427,945	80,272,982	99,194,439	116,915,637	116,138,521	97,821,337	90,784,918	76,170,751	68,681,733
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)	1.109	1.017	1.249	1.382	1.191	1.034	1.104	1.201	1.205	1.181	1.236	1.285
Fuel Cost Recovery (Total \$)													
17	Base Cost of Fuel (line 13 x line 15)	\$801,456	\$816,493	\$793,110	\$724,065	\$874,976	\$1,081,219	\$1,274,380	\$1,265,910	\$1,066,253	\$989,556	\$830,261	\$748,631
18	Fuel Adjustment Charge (line 13 x line 16)	\$815,426	\$761,811	\$908,803	\$918,034	\$956,051	\$1,025,670	\$1,290,749	\$1,394,824	\$1,178,747	\$1,072,170	\$941,470	\$882,560
19	Subtotal (line 17 + line 18)	\$1,616,882	\$1,578,304	\$1,701,913	\$1,642,099	\$1,831,027	\$2,106,890	\$2,565,129	\$2,660,734	\$2,245,000	\$2,061,725	\$1,771,732	\$1,631,191
Retail Fuel Clause -GENERAL SERVICE													
KWH SALES													
20	Retail kWh Sales Subject to Fuel Clause	54,675,386	55,326,525	52,955,711	50,409,953	52,679,953	57,730,711	63,089,632	64,290,388	57,369,318	53,981,135	52,001,429	51,622,920
FUEL COST RECOVERY (¢/KWH)													
Class Cost Factor (RIDER FOR FUEL AND PURCHASED ENERGY ADJUSTMENT Nov 2, 2009)													
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)	1.109	1.017	1.249	1.383	1.191	1.035	1.104	1.202	1.205	1.181	1.236	1.285
FUEL COST RECOVERY (\$)													
24	Base Cost of Fuel (line 20 x line 22)	\$595,962	\$603,059	\$577,217	\$549,468	\$574,211	\$629,265	\$687,677	\$700,765	\$625,326	\$588,394	\$566,816	\$562,690
25	Fuel Adjustment Charge (line 20 x line 23)	\$606,350	\$562,671	\$661,417	\$697,170	\$627,418	\$597,513	\$696,510	\$772,770	\$691,300	\$637,517	\$642,738	\$663,355
26	Subtotal (line 24 + line 25)	\$1,202,312	\$1,165,730	\$1,238,634	\$1,246,638	\$1,201,630	\$1,226,778	\$1,384,187	\$1,473,536	\$1,316,626	\$1,225,912	\$1,209,553	\$1,226,044

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Retail Fuel Clause -LARGE LIGHT AND POWER													
KWH SALES													
27	Retail kWh Sales Subject to Fuel Clause	108,166,992	113,539,832	113,221,140	109,556,259	108,528,444	109,709,379	114,467,923	114,156,376	112,142,836	112,182,544	110,142,346	106,359,159
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)	1.040	0.954	1.171	1.296	1.117	0.970	1.035	1.127	1.130	1.108	1.159	1.205
FUEL COST RECOVERY (\$)													
31	Base Cost of Fuel (line 27 x line 29)	\$1,105,467	\$1,160,377	\$1,157,120	\$1,119,665	\$1,109,161	\$1,121,230	\$1,169,862	\$1,166,678	\$1,146,100	\$1,146,506	\$1,125,655	\$1,086,991
32	Fuel Adjustment Charge (line 27 x line 30)	\$1,124,937	\$1,083,170	\$1,325,820	\$1,419,849	\$1,212,263	\$1,064,181	\$1,184,743	\$1,286,542	\$1,267,214	\$1,242,983	\$1,276,550	\$1,281,628
33	Subtotal (line 31 + line 32)	\$2,230,403	\$2,243,547	\$2,482,940	\$2,539,514	\$2,321,423	\$2,185,411	\$2,354,605	\$2,453,221	\$2,413,314	\$2,389,488	\$2,402,205	\$2,368,618
Retail Fuel Clause -LARGE POWER													
KWH SALES													
34	Retail kWh Sales Subject to Fuel Clause	456,043,548	463,305,756	445,183,083	455,603,192	464,797,106	474,426,338	457,809,071	419,287,244	466,069,273	429,096,713	444,186,893	435,786,409
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)	1.013	0.929	1.140	1.262	1.087	0.944	1.008	1.097	1.100	1.078	1.128	1.173
FUEL COST RECOVERY (\$)													
38	Base Cost of Fuel (line 34 x line 36)	\$4,537,633	\$4,609,892	\$4,429,572	\$4,533,252	\$4,624,731	\$4,720,542	\$4,555,200	\$4,171,908	\$4,637,389	\$4,269,512	\$4,419,660	\$4,336,075
39	Fuel Adjustment Charge (line 34 x line 37)	\$4,619,721	\$4,304,110	\$5,075,087	\$5,749,712	\$5,052,345	\$4,478,585	\$4,614,715	\$4,599,581	\$5,126,762	\$4,625,663	\$5,010,428	\$5,111,775
40	Subtotal (line 38 + line 39)	\$9,157,354	\$8,914,003	\$9,504,659	\$10,282,964	\$9,677,076	\$9,199,127	\$9,169,916	\$8,771,489	\$9,764,151	\$8,895,175	\$9,430,088	\$9,447,849
Retail Fuel Clause -MUNICIPAL PUMPING													
		Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018
KWH SALES													
41	Retail kWh Sales Subject to Fuel Clause	1,036,224	802,340	1,085,186	1,196,641	1,102,300	1,067,468	1,196,901	1,194,571	1,162,242	1,106,144	1,107,370	1,049,006
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)	1.016	0.932	1.144	1.267	1.091	0.948	1.011	1.101	1.104	1.082	1.132	1.177
FUEL COST RECOVERY (\$)													
45	Base Cost of Fuel (line 41 x line 43)	\$10,352	\$8,015	\$10,841	\$11,954	\$11,012	\$10,664	\$11,957	\$11,934	\$11,611	\$11,050	\$11,063	\$10,480
46	Fuel Adjustment Charge (line 41 x line 44)	\$10,528	\$7,478	\$12,415	\$15,161	\$12,026	\$10,120	\$12,101	\$13,152	\$12,831	\$11,968	\$12,535	\$12,347
47	Subtotal (line 45 + line 46)	\$20,880	\$15,493	\$23,256	\$27,116	\$23,038	\$20,784	\$24,058	\$25,086	\$24,442	\$23,019	\$23,598	\$22,826

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Retail Fuel Clause -LIGHTING

KWH SALES													
48	Retail kWh Sales Subject to Fuel Clause	1,238,121	1,222,540	1,584,367	1,643,257	1,983,544	2,136,335	2,254,788	2,022,581	1,725,372	1,597,097	1,360,679	1,225,180
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)	0.767	0.703	0.863	0.956	0.823	0.715	0.763	0.831	0.833	0.817	0.854	0.888
FUEL COST RECOVERY (\$)													
52	Base Cost of Fuel (line 48 x line 50)	\$9,335	\$9,218	\$11,946	\$12,390	\$14,956	\$16,108	\$17,001	\$15,250	\$13,009	\$12,042	\$10,260	\$9,238
53	Fuel Adjustment Charge (line 48 x line 51)	\$9,496	\$8,594	\$13,673	\$15,710	\$16,325	\$15,275	\$17,204	\$16,808	\$14,372	\$13,048	\$11,620	\$10,880
54	Subtotal (line 52 + line 53)	\$18,832	\$17,812	\$25,619	\$28,100	\$31,280	\$31,383	\$34,205	\$32,058	\$27,382	\$25,090	\$21,880	\$20,117
Total Fuel Cost Recovery From Retail Sales:													
		Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018
61	Base Cost of Fuel (line 10+line 17+ line 24+ line 31+ line 38+ line 45+ line 52 + line 58)	\$7,060,205	\$7,207,055	\$6,979,807	\$6,950,794	\$7,209,047	\$7,579,028	\$7,716,078	\$7,332,445	\$7,499,687	\$7,017,060	\$6,963,713	\$6,754,104
62	Fuel Adjustment Charge (line 11+ line 18+ line 25+ line 32+ line 39+ line 46+ line 53 + line 59)	\$7,186,459	\$6,727,834	\$7,997,214	\$8,815,636	\$7,876,427	\$7,191,343	\$7,816,021	\$8,083,677	\$8,291,227	\$7,603,349	\$7,895,342	\$7,962,544
63	Total Fuel Cost Recovery (line 12+ line 19+ line 26+ line 33+ line 40+ line 47+ line 54 + line 60)	\$14,246,664	\$13,934,889	\$14,977,020	\$15,766,431	\$15,085,474	\$14,770,371	\$15,532,099	\$15,416,123	\$15,790,914	\$14,620,409	\$14,859,055	\$14,716,647

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

Line No.		Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
1	Total Retail Fuel Cost Recovery (line 63, section B)	\$14,246,664	\$13,934,889	\$14,977,020	\$15,766,431	\$15,085,474	\$14,770,371	\$15,532,099	\$15,416,123	\$15,790,914	\$14,620,409	\$14,859,055	\$14,716,647
2	Retail kWh Sales Subject to FAC (line 4, section B)	694,688,351	709,104,619	686,791,914	684,837,247	709,364,329	744,264,670	755,733,952	717,089,681	736,290,378	688,748,551	684,969,468	664,724,407
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)	694,688,351	709,104,619	686,791,914	684,837,247	709,364,329	744,264,670	755,733,952	717,089,681	736,290,378	688,748,551	684,969,468	664,724,407
5	Actual Monthly Cost of Fuel (¢/kWh) (line 3, section B)	2.376	2.244	2.013	1.955	2.139	2.141	2.145	2.095	2.247	2.188	2.224	2.344
6	Actual Monthly Cost of Fuel for Retail kWh (line 4 x line 5)	\$16,505,795	\$15,912,308	\$13,825,121	\$13,388,568	\$15,173,303	\$15,934,707	\$16,210,493	\$15,023,029	\$16,544,445	\$15,069,818	\$15,233,721	\$15,581,140
7	Total Over (Under) Recovery - Monthly (line 1- line 6)	(\$2,259,131)	(\$1,977,419)	\$1,151,899	\$2,377,862	(\$87,829)	(\$1,164,335)	(\$678,394)	\$393,094	(\$753,531)	(\$449,409)	(\$374,666)	(\$864,493)
8	Cumulative Over (Under) Recovery (Based on line 7)	(\$2,259,131)	(\$4,236,550)	(\$3,084,651)	(\$706,788)	(\$794,617)	(\$1,958,952)	(\$2,637,346)	(\$2,244,252)	(\$2,997,783)	(\$3,447,192)	(\$3,821,858)	(\$4,686,351)

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 2018 - June 2023**

**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 2018 is available on an annual basis only.

Minnesota Power has six sources of power:

- Steam Generation at 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 Power from Company owned generating plants (for which there is no fuel cost), and
- Wind Generation from Company owned generating plants, and from other power suppliers
- Solar Generation from Company owned generating plant (Camp Ripley) and Community Solar Garden program.

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 retired Taconite Harbor Unit 3 generator (75 MW) and converted its Laskin Energy Center to natural gas which runs significantly less than its previous baseload operation as it serves as a peaking and reliability 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. Since the 2015 IRP, Minnesota Power announced it will cease coal-fired operation at Boswell units 1 and 2 by the end of 2018.
2. Total Steam generation costs attributed to coal are expected to **[TRADE SECRET HAS BEEN EXCISED]** from 2018 to 2023.
3. Starting in June 2015 purchased generation from Square Butte declined to reflect MP's decreased share of the unit's 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.

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

4. Minnesota Power continues to use wholesale market purchases and bilateral contracts to meet its energy requirements.
5. Minnesota Power has about 116 MW of Hydroelectric capability for its customer native load. There is no fuel cost associated with this energy source. Hydro generation is projected to **[TRADE SECRET HAS BEEN EXCISED]**.
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 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 2018-2022, which includes the Camp Ripley solar project currently operating at 10 MW and the 1 MW Community Solar Garden project. Also included, is the 10 MW Blanchard Solar Project proposed in the *EnergyForward* Resource Package that is expected to start generating in 2020.
8. Minnesota Power has developed an energy-rich wind portfolio composed of 600 MW of wind located mostly in North Dakota. The wind energy is transported across a high-voltage DC line that starts in Center, ND and terminates outside Duluth, MN. Also included is the 250 MW Nobles 2 Wind project proposed in the *EnergyForward* Resource Package that is expected to start generating in 2020. This project is expected to generate approximately 1 million MWh annually.

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

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



® **minnesota power** / 30 west superior street / duluth, minnesota 55802-2093 / 218-722-5642 / www.mnpower.com

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, 2018

[illegible]

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James	Jarvi	N/A	Minnesota Ore Operations - U S Steel	P O Box 417 Mountain Iron, MN 55768	Paper Service	No	OFF_SL_9-1151_Official
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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_9-1151_Official
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David	Cartella	David.Cartella@cliffsnr.com	Cliffs Natural Resources Inc.	200 Public Square Ste 3300 Cleveland, OH 44114-2315	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
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Susan	Ludwig	sludwig@mnpower.com	Minnesota Power	30 West Superior Street Duluth, MN 55802	Electronic Service	No	OFF_SL_16-664_PUC Offical Service List General Rate Case
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Christopher J.	Oppitz	N/A	-	110 1/2 1ST ST E Park Rapids, MN 56470-1695	Paper Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
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Tolaver	Rapp	Tolaver.Rapp@cliffsnr.com	Cliffs Natural Resources	200 Public Square Suite 3400 Cleveland, OH 441142318	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Kevin	Reuther	kreuther@mncenter.org	MN Center for Environmental Advocacy	26 E Exchange St, Ste 206 St. Paul, MN 551011667	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Ralph	Riberich	rriberich@uss.com	United States Steel Corp	600 Grant St Ste 2028 Pittsburgh, PA 15219	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Buddy	Robinson	buddy@citizensfed.org	Minnesota Citizens Federation NE	2110 W. 1st Street Duluth, MN 55806	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Santi	Romani	N/A	United Taconite	P O Box 180 Eveleth, MN 55734	Paper Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
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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_PUC Official Service List General Rate Case
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Doug	Shoemaker	dougs@mnRenewables.org	Minnesota Renewable Energy	2928 5th Ave S Minneapolis, MN 55408	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
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_PUC Official Service List General Rate Case
Corbin	Smyth	csmyth@d.umn.edu	UMD Student Life	1208 Kirby Dr Duluth, MN 55812	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Richard	Staffon	rcstaffon@msn.com	W. J. McCabe Chapter, Izaak Walton League of America	1405 Lawrence Road Cloquet, Minnesota 55720	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case

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James M.	Strommen	jstrommen@kennedy-graven.com	Kennedy & Graven, Chartered	470 U.S. Bank Plaza 200 South Sixth Street Minneapolis, MN 55402	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Eric	Swanson	eswanson@winthrop.com	Winthrop & Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Robert	Tammen	bobtammen@frontiernet.net	Wetland Action Group	PO Box 398 Soudan, MN 55782	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
David	Thornton	J.David.Thornton@state.mn.us	MN Pollution Control Agency	520 Lafayette Road St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_16-664_PUC Official Service List General Rate Case
Jim	Tieberg	jtieberg@polymetmining.com	PolyMet Mining, Inc.	PO Box 475 County Highway 666 Hoyt Lakes, MN 55750	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Jessica	Tritsch	jessica.tritsch@sierraclub.org	Sierra Club	2327 E Franklin Ave Minneapolis, MN 55406	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Karen	Turnboom	karen.turnboom@versocom	Verso Corporation	100 Central Avenue Duluth, MN 55807	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Kodi	Verhalen	kverhalen@briggs.com	Briggs & Morgan	2200 IDS Center 80 South Eighth Street Minneapolis, Minnesota 55402	Electronic Service	Yes	OFF_SL_16-664_PUC Official Service List General Rate Case
Kevin	Walli	kwalli@fryberger.com	Fryberger, Buchanan, Smith & Frederick	380 St. Peter St Ste 710 St. Paul, MN 55102	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case
Cam	Winton	cwinton@mncchamber.com	Minnesota Chamber of Commerce	400 Robert Street North Suite 1500 St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_16-664_PUC Official Service List General Rate Case

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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_PUC Offical Service List General Rate Case
Scott	Zahorik	scott.zahorik@aeoa.org	Arrowhead Economic Opportunity Agency	702 S. 3rd Avenue Virginia, MN 55792	Electronic Service	No	OFF_SL_16-664_PUC Offical Service List General Rate Case

**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 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 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.

The Commission discontinued this requirement in their February 6, 2008, Order in Docket No. E017/M-05-284.

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	67.1
Unit No. 2	67.1
Unit No. 3	364.5
Unit No. 4	474.0
Taconite Harbor Energy Center	
Unit No. 1	71.3
Unit No. 2	72.1
Unit No. 3	-
Laskin Energy Center	
Unit No. 1	47.8
Unit No. 2	48.6
Hibbard Energy Center	
Unit No. 3/4	57.4
Hydro Generation	MW /2
Thomson	75.1
Blanchard	12.9
Fond du Lac	12.0
Other Hydro	12.2
Wind Generation	MW /4
Taconite Ridge	3.2
Bison	98.2
Long Term Purchase	MW /2
Square Butte /3	100.8
Oliver County 1	8.5
Oliver County 2	8.5
Wing River	0.2

Notes: /1 Steam Generation is also provided by MP Non-Regulated Units: Rapids Energy Center (28.7 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 2018-2019 as these quantities are currently in effect. Values are comprised from the MISO Planning Year 2018-2019 List of GVTC Test Results as found in the Planning Year 2018-2019 unit list of capacity.

/3 Minnesota Power's share of Square Butte.

/4 All quantities relate to MISO Planning Year 2018-2019 as these quantities are currently in effect. Values are comprised from the MISO Planning Year 2018-2019 List of Capacity Credit Results as found in the Planning Year 2018-2019 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/MR-16-709	December 30, 2016
E999/M-15-825	April 21, 2017
E999/AA-15-611	July 21, 2017
E999/GR-16-664	March 12, 2018
E999/AA-16-523	March 16, 2018
E999/AA-17-492	Still open
E999/C1-03-802	Still open

**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 sales MWh to MISO, the source of which was a purchase from another entity that was intended to serve 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 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		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	July 2017	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	4,481,639.55 (1,731,955.04)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	218,878.75 71,049.23 (47,162.82) (89,400.47)									-				
	Excessive Energy Amount	55500-0066														
	Non-Excessive Energy Amount	55500-0069														
22	Real Time Non-Asset Energy	55500-0043										-				
Subtotal			2,903,049.21	694,688	3,033,679.80			140,608	621,356.10			3,655,035.90	40,523			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,052,921.89		684,445.01		-		140,187.53		-	824,632.54		37,517.43		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	39,964.00 (310,033.27)		25,978.34		-		5,320.86		-	31,299.20 (241,825.95)		1,423.99		-
	Real Time Distribution of Losses	55500-0041														
	Real Time Financial Bilateral Transaction Loss	55500-0038														
Subtotal			1,192,918.56	694,688	975,900.03	694,688	(200,715.54)	140,608	199,883.14	140,608	(41,110.41)	933,957.22	40,523	54,116.94	40,523	(11,473.56)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	694,688	-	694,688	-	140,608	-	140,608	-	-	40,523	-	40,523	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	116,368.36		75,336.88		-		15,430.44		-	90,767.32		4,306.50		-
	Real Time Market Administration (Schedule 17)	55500-0036														
19	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	8,126.73		5,261.25		-		1,077.60		-	6,338.85		300.75		-
29			4,328.78		2,802.45		-		574.00		-	3,376.45		160.20		-
Subtotal			128,823.87	694,688	83,400.57	694,688	-	140,608	17,082.05	140,608	-	100,482.62	40,523	4,767.45	40,523	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	July 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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	79,761.31		51,848.32		-		10,619.53		-	62,467.85		2,842.03		-
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(83,570.92)		-		(54,324.73)		-		(11,126.75)	(65,451.49)		-		(2,977.78)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	454,298.99		294,113.17		-		60,240.05		-	354,353.21		16,812.47		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(176,932.61)		-		(114,546.17)		-		(23,461.26)	(138,007.44)		-		(6,547.84)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	260,807.01		168,846.46		-		34,583.01		-	203,429.47		9,651.82		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	15,247.33		9,871.12		-		2,021.80		-	11,892.92		564.27		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(64,232.42)		-		(41,584.07)		-		(8,517.22)	(50,101.29)		-		(2,377.08)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(253,773.27)		-		(164,292.81)		-		(33,650.34)	(197,943.15)		-		(9,391.52)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(7,942.52)		-		(5,141.99)		-		(1,053.18)	(6,195.17)		-		(293.93)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(18,523.55)		-		(11,992.15)		-		(2,456.22)	(14,448.37)		-		(685.51)
	FTR Guarantee Uplift Amount	55500-0055	18,523.55		11,992.15		-		2,456.22		-	14,448.37		685.51		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	12,502.85		8,094.35		-		1,657.88		-	9,752.22		462.70		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			236,165.74	694,688	544,765.55	694,688	(391,881.92)	140,608	111,578.49	140,608	(80,264.97)	184,197.15	40,523	31,018.80	40,523	(22,273.65)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	10,556.05		6,833.99		-		1,399.73		-	8,233.72		390.65		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(1,029.87)		-		(666.74)		-		(136.56)	(803.30)		-		(38.11)
	Real Time Price Volatility Make Whole Payment	55500-0057	(14,730.43)		-		(9,536.48)		-		(1,953.26)	(11,489.74)		-		(545.14)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	32,449.93		21,008.08		-		4,302.86		-	25,310.95		1,200.89		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(6,545.55)		-		(4,237.59)		-		(867.94)	(5,105.53)		-		(242.23)
Subtotal			20,700.13	694,688	27,842.07	694,688	(14,440.81)	140,608	5,702.59	140,608	(2,957.76)	16,146.10	40,523	1,591.54	40,523	(825.48)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	26,680.65		17,273.05		-		3,537.85		-	20,810.91		987.38		-
21	Real Time Net Inadvertent Distribution	55500-0044	11,495.89		7,442.44		-		1,524.36		-	8,966.79		425.43		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	82,425.52		53,362.28		-		10,929.62		-	64,291.91		3,050.36		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(1,580.21)		-		(1,023.03)		-		(209.54)	(1,232.56)		-		(58.48)
34	Real Time Ramp Capability Amount	55500-0080	(217.53)		-		(140.83)		-		(28.84)	(169.67)		-		(8.05)
Subtotal			118,804.32	694,688	78,077.77	694,688	(1,163.86)	140,608	15,991.83	140,608	(238.38)	92,667.37	40,523	4,463.18	40,523	(66.53)

MINNESOTA POWER		Account	July 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC Cost/(Revenue)	MISO Non-Liquidation			
MISO MONTHLY ALLOCATION		Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	694,688	-	694,688	-	140,608	-	140,608	-	-	40,523	-	40,523	-
ASM Charge Types (12 Other)																
	Day Ahead Regulation Amount	55500-0062	(1,125.63)		-		(728.73)		-		(149.26)	(877.99)		-		(41.66)
	Day Ahead Spinning Reserve Amount	55500-0063	(20,157.02)		-		(13,049.65)		-		(2,672.82)	(15,722.48)		-		(745.96)
	Day Ahead Supplemental Reserve Amount	55500-0064	(39.18)		-		(25.37)		-		(5.20)	(30.56)		-		(1.45)
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	42.06		27.23		-		5.58		-	32.81		1.56		-
	Net Regulation Adjustment Amount	55500-0068	(111.64)		-		(72.28)		-		(14.80)	(87.08)		-		(4.13)
	Real Time Regulation Amount	55500-0070	(4,369.84)		-		(2,829.03)		-		(579.44)	(3,408.48)		-		(161.72)
	Regulation Reserve Cost Distribution Amount	55500-0071	32,485.65		21,031.21		-		4,307.60		-	25,338.81		1,202.21		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,972.72		3,219.34		-		659.38		-	3,878.72		184.03		-
	Real Time Spinning Reserve Amount	55500-0072	(14,006.53)		-		(9,067.83)		-		(1,857.27)	(10,925.09)		-		(518.35)
	Spinning Reserve Cost Distribution Amount	55500-0073	28,061.65		18,167.11		-		3,720.97		-	21,888.09		1,038.49		-
	Real Time Supplemental Reserve Amount	55500-0074	29.69		19.22		-		3.94		-	23.16		1.10		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	15,034.26		9,733.18		-		1,993.54		-	11,726.72		556.38		-
Subtotal			40,816.19	694,688	52,197.29	694,688	(25,772.89)	140,608	10,691.01	140,608	(5,278.78)	31,836.63	40,523	2,983.77	40,523	(1,473.26)
Grand Total			4,641,278.02	694,688	4,795,863.10	694,688	(633,975.02)	140,608	982,285.21	140,608	(129,850.30)	5,014,322.99	40,523	98,941.68	40,523	(36,112.49)

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		Account	July 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	4,481,639.55 (1,731,955.04)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	218,878.75 71,049.23 (47,162.82) (89,400.47)																
	Excessive Energy Amount	55500-0066																	
	Non-Excessive Energy Amount	55500-0069																	
	Real Time Non-Asset Energy	55500-0043																	
Subtotal			2,903,049.21	22,913				37,200				53,288				237,952			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,052,921.89 410,065.94										49,335.26		-		141,436.66		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022											19,955.74		-		55,083.25		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	39,964.00 (310,033.27) -										1,872.54 - -		- (15,087.68) -		5,368.28 - -		- (41,646.08) -
	Real Time Distribution of Losses	55500-0041																	
	Real Time Financial Bilateral Transaction Loss	55500-0038																	
Subtotal			1,192,918.56	22,913	-	22,913	-	37,200	-	37,200	-	53,288	71,163.53	53,288	(15,087.68)	237,952	201,888.19	237,952	(41,646.08)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	22,913	-	22,913	-	37,200	-	37,200	-	53,288	-	53,288	-	237,952	-	237,952	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	116,368.36 8,126.73										5,663.03		-		15,631.50		-
	Real Time Market Administration (Schedule 17)	55500-0036											395.48		-		1,091.65		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,328.78										210.66		-		581.48		-
Subtotal			128,823.87	22,913	-	22,913	-	37,200	-	37,200	-	53,288	6,269.18	53,288	-	237,952	17,304.62	237,952	-

MINNESOTA POWER		Account																	
MISO MONTHLY ALLOCATION		Number	July 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																			
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	79,761.31										3,737.26		-		10,714.16		-
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(83,570.92)										-		(3,915.76)		-		(11,225.90)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	454,298.99										22,108.33		-		61,024.98		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(176,932.61)										-		(8,610.37)		-		(23,766.97)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	260,807.01										12,692.10		-		35,033.63		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	15,247.33										742.01		-		2,048.14		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(64,232.42)										-		(3,125.85)		-		(8,628.20)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(253,773.27)										-		(12,349.80)		-		(34,088.80)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(7,942.52)										-		(386.52)		-		(1,066.90)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(18,523.55)										-		(901.44)		-		(2,488.23)
	FTR Guarantee Uplift Amount	55500-0055	18,523.55										901.44		-		2,488.23		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	12,502.85										608.45		-		1,679.48		-
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-
Subtotal			236,165.74	22,913	-	22,913	-	37,200	-	37,200	-	53,288	40,789.58	53,288	(29,289.76)	237,952	112,988.61	237,952	(81,264.99)
RSG & Make Whole Payments																			
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	10,556.05										513.71		-		1,417.97		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(1,029.87)										-		(50.12)		-		(138.34)
	Real Time Price Volatility Make Whole Payment	55500-0057	(14,730.43)										-		(716.85)		-		(1,978.71)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	32,449.93										1,579.17		-		4,358.93		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(6,545.55)										-		(318.54)		-		(879.25)
Subtotal			20,700.13	22,913	-	22,913	-	37,200	-	37,200	-	53,288	2,092.87	53,288	(1,085.51)	237,952	5,776.90	237,952	(2,996.30)
RNU & Misc Charges																			
20	Real Time Miscellaneous	55500-0042	26,680.65										1,298.41		-		3,583.95		-
21	Real Time Net Inadvertent Distribution	55500-0044	11,495.89										559.44		-		1,544.22		-
	Real Time Revenue Neutrality Uplift Amount	55500-0045	82,425.52										4,011.21		-		11,072.04		-
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-
	Day Ahead Ramp Capability Amount	55500-0079	(1,580.21)										-		(76.90)		-		(212.27)
34	Real Time Ramp Capability Amount	55500-0080	(217.53)										-		(10.59)		-		(29.22)
Subtotal			118,804.32	22,913	-	22,913	-	37,200	-	37,200	-	53,288	5,869.06	53,288	(87.49)	237,952	16,200.21	237,952	(241.49)

MINNESOTA POWER		Account	July 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	22,913	-	22,913	-	37,200	-	37,200	-	53,288	-	53,288	-	237,952	-	237,952	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(1,125.63)										-		(54.78)		-		(151.20)
	Day Ahead Spinning Reserve Amount	55500-0063	(20,157.02)										-		(980.94)		-		(2,707.65)
	Day Ahead Supplemental Reserve Amount	55500-0064	(39.18)										-		(1.91)		-		(5.26)
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	42.06										2.05		-		5.65		-
	Net Regulation Adjustment Amount	55500-0068	(111.64)										-		(5.43)		-		(15.00)
	Real Time Regulation Amount	55500-0070	(4,369.84)										-		(212.66)		-		(586.99)
	Regulation Reserve Cost Distribution Amount	55500-0071	32,485.65										1,580.90		-		4,363.73		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,972.72										242.00		-		667.97		-
	Real Time Spinning Reserve Amount	55500-0072	(14,006.53)										-		(681.62)		-		(1,881.47)
	Spinning Reserve Cost Distribution Amount	55500-0073	28,061.65										1,365.61		-		3,769.46		-
	Real Time Supplemental Reserve Amount	55500-0074	29.69										1.44		-		3.99		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	15,034.26										731.64		-		2,019.52		-
Subtotal			40,816.19	22,913	-	22,913	-	37,200	-	37,200	-	53,288	3,923.64	53,288	(1,937.33)	237,952	10,830.32	237,952	(5,347.57)
Grand Total			4,641,278.02	22,913	-	22,913	-	37,200	-	37,200	-	53,288	130,107.87	53,288	(47,487.76)	237,952	364,988.84	237,952	(131,496.42)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	August 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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,200,049.73 (1,254,505.14)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(193,235.37)									-				
	Excessive Energy Amount	55500-0066														
22	Non-Excessive Energy Amount	55500-0069	(263,179.71)									-				
	Real Time Non-Asset Energy	55500-0043	(99,990.57)													
Subtotal			3,447,765.47	709,105	3,411,040.16			135,887	649,721.94			4,060,762.10	38,091			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	900,456.69		590,071.10		-		112,394.50		-	702,465.60		30,330.24		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(41,788.96) (228,707.16)		-		(27,384.39) (149,848.93)		-		(5,216.07) (28,542.65)	(32,600.47) (178,391.58)		-		(1,407.59) (7,714.59)
	Real Time Distribution of Losses	55500-0041														
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal			1,026,264.11	709,105	849,729.18	709,105	(177,233.32)	135,887	161,853.18	135,887	(33,758.73)	800,590.31	38,091	43,698.08	38,091	(9,122.17)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	709,105	-	709,105	-	135,887	-	135,887	-	-	38,091	-	38,091	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	116,567.04		76,374.72		-		14,547.57		-	90,922.29		3,931.96		-
	Real Time Market Administration (Schedule 17)	55500-0036														
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,541.64		2,320.48		-		442.00		-	2,762.48		119.46		-
Subtotal			127,258.37	709,105	83,379.68	709,105	-	135,887	15,881.84	135,887	-	99,261.53	38,091	4,292.59	38,091	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	August 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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(22,561.09)		-		(14,784.33)		-		(2,816.06)	(17,600.39)		-		(759.93)
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(71,171.35)		-		(46,638.73)		-		(8,883.57)	(55,522.29)		-		(2,397.28)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	340,092.39		222,828.53		-		42,443.53		-	265,272.06		11,471.76		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(176,932.61)		-		(115,926.25)		-		(22,081.19)	(138,007.44)		-		(5,968.17)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	260,807.01		170,880.75		-		32,548.71		-	203,429.47		8,797.36		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	15,247.33		9,990.05		-		1,902.87		-	11,892.92		514.31		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(64,164.42)		-		(42,040.53)		-		(8,007.72)	(50,048.25)		-		(2,164.35)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(259,872.65)		-		(170,268.56)		-		(32,432.11)	(202,700.67)		-		(8,765.84)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(25,365.22)		-		(16,619.29)		-		(3,165.58)	(19,784.87)		-		(855.60)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(2,234.99)		-		(1,464.37)		-		(278.93)	(1,743.29)		-		(75.39)
	FTR Guarantee Uplift Amount	55500-0055	2,234.99		1,464.37		-		278.93		-	1,743.29		75.39		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	38,700.64		25,356.66		-		4,829.84		-	30,186.50		1,305.42		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			34,780.04	709,105	430,520.36	709,105	(407,742.05)	135,887	82,003.88	135,887	(77,665.15)	27,117.04	38,091	22,164.24	38,091	(20,986.55)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	10,125.29		6,634.09		-		1,263.64		-	7,897.73		341.54		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	255.32		167.29		-		31.86		-	199.15		8.61		-
	Real Time Price Volatility Make Whole Payment	55500-0057	(13,321.77)		-		(8,728.42)		-		(1,662.56)	(10,390.98)		-		(449.36)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	35,637.72		23,349.83		-		4,447.59		-	27,797.42		1,202.11		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(5,033.37)		-		(3,297.86)		-		(628.16)	(3,926.03)		-		(169.78)
Subtotal			27,663.19	709,105	30,151.21	709,105	(12,026.29)	135,887	5,743.09	135,887	(2,290.72)	21,577.29	38,091	1,552.26	38,091	(619.14)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	28,013.30		18,354.31		-		3,496.06		-	21,850.37		944.92		-
21	Real Time Net Inadvertent Distribution	55500-0044	25,736.57		16,862.60		-		3,211.92		-	20,074.52		868.13		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	62,098.70		40,687.07		-		7,749.92		-	48,436.99		2,094.67		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(5,504.65)		-		(3,606.65)		-		(686.98)	(4,293.63)		-		(185.68)
34	Real Time Ramp Capability Amount	55500-0080	1,706.40		1,118.03		-		212.96		-	1,330.99		57.56		-
Subtotal			112,050.32	709,105	77,022.02	709,105	(3,606.65)	135,887	14,670.86	135,887	(686.98)	87,399.25	38,091	3,965.28	38,091	(185.68)

MINNESOTA POWER		Account										Subtotal FPE and FAC Cost/(Revenue)				
MISO MONTHLY ALLOCATION		Number	August 2017	FPE Retail				FAC Resale					MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	709,105	-	709,105	-	135,887	-	135,887	-	-	38,091	-	38,091	-
ASM Charge Types (12 Other)																
	Day Ahead Regulation Amount	55500-0062	(4,731.55)		-		(3,100.11)		-		(590.50)	(3,690.61)		-		(159.60)
	Day Ahead Spinning Reserve Amount	55500-0063	(33,384.76)		-		(21,873.69)		-		(4,166.42)	(26,040.11)		-		(1,126.11)
	Day Ahead Supplemental Reserve Amount	55500-0064	8.85		5.80		-		1.10		-	6.90		0.30		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-
	Net Regulation Adjustment Amount	55500-0068	30.21		19.79		-		3.77		-	23.56		1.02		-
	Real Time Regulation Amount	55500-0070	105.21		68.93		-		13.13		-	82.06		3.55		-
	Regulation Reserve Cost Distribution Amount	55500-0071	31,251.24		20,475.81		-		3,900.15		-	24,375.97		1,054.14		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	2,615.33		1,713.56		-		326.39		-	2,039.96		88.22		-
	Real Time Spinning Reserve Amount	55500-0072	(4,026.66)		-		(2,638.27)		-		(502.53)	(3,140.79)		-		(135.82)
	Spinning Reserve Cost Distribution Amount	55500-0073	35,029.49		22,951.32		-		4,371.68		-	27,323.00		1,181.59		-
	Real Time Supplemental Reserve Amount	55500-0074	(6.41)		-		(4.20)		-		(0.80)	(5.00)		-		(0.22)
	Supplemental Reserve Cost Distribution Amount	55500-0075	6,971.92		4,568.00		-		870.10		-	5,438.10		235.17		-
Subtotal			33,862.87	709,105	49,803.23	709,105	(27,616.27)	135,887	9,486.33	135,887	(5,260.24)	26,413.04	38,091	2,563.99	38,091	(1,421.75)
Grand Total			4,809,644.37	709,105	4,931,645.84	709,105	(628,224.58)	135,887	939,361.11	135,887	(119,661.82)	5,123,120.55	38,091	78,236.44	38,091	(32,335.30)

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		Account	August 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,200,049.73 (1,254,505.14)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(193,235.37)																
	Excessive Energy Amount	55500-0066	58,626.53																
	Non-Excessive Energy Amount	55500-0069	(263,179.71)																
	Real Time Non-Asset Energy	55500-0043	(99,990.57)																
Subtotal			3,447,765.47	19,539				37,200				58,073				236,301			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	900,456.69										46,240.88		-		121,419.97		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	396,303.54										20,380.33		-		53,438.62		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(41,788.96)										-		(2,145.98)		-		(5,634.94)
	Real Time Distribution of Losses	55500-0041	(228,707.16)										-		(11,761.51)		-		(30,839.48)
	Real Time Financial Bilateral Transaction Loss	55500-0038	-										-		-		-		-
Subtotal			1,026,264.11	19,539	-	19,539	-	37,200	-	37,200	-	58,073	66,621.20	58,073	(13,907.48)	236,301	174,858.59	236,301	(36,474.42)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	19,539	-	19,539	-	37,200	-	37,200	-	58,073	-	58,073	-	236,301	-	236,301	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	116,567.04										5,994.58		-		15,718.21		-
	Real Time Market Administration (Schedule 17)	55500-0036	7,149.69										367.68		-		964.08		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,541.64										182.13		-		477.56		-
Subtotal			127,258.37	19,539	-	19,539	-	37,200	-	37,200	-	58,073	6,544.40	58,073	-	236,301	17,159.86	236,301	-

MINNESOTA POWER		Account	August 2017		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
MISO MONTHLY ALLOCATION		Number			Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(22,561.09)											-		(1,158.57)		-		(3,042.20)
13b	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(71,171.35)											-		(3,654.84)		-		(9,596.93)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	340,092.39											17,489.61		-		45,858.96		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-											-		-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(176,932.61)											-		(9,098.95)		-		(23,858.06)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	260,807.01											13,412.27		-		35,167.91		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	15,247.33											784.11		-		2,055.99		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(64,164.42)											-		(3,299.72)		-		(8,652.10)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(259,872.65)											-		(13,364.22)		-		(35,041.92)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(25,365.22)											-		(1,304.43)		-		(3,420.31)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-											-		-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(2,234.99)											-		(114.94)		-		(301.37)
	FTR Guarantee Uplift Amount	55500-0055	2,234.99											114.94		-		301.37		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	38,700.64											1,990.22		-		5,218.50		-
31	Financial Transmission Rights Transaction	55500-0034	-											-		-		-		-
Subtotal			34,780.04	19,539	-	19,539	-	37,200	-	37,200	-	58,073	33,791.15	58,073	(31,995.67)	236,301	88,602.73	236,301	(83,912.90)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	10,125.29											520.70		-		1,365.32		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	255.32											13.13		-		34.43		-
	Real Time Price Volatility Make Whole Payment	55500-0057	(13,321.77)											-		(685.09)		-		(1,796.34)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	35,637.72											1,832.71		-		4,805.48		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(5,033.37)											-		(258.85)		-		(678.71)
Subtotal			27,663.19	19,539	-	19,539	-	37,200	-	37,200	-	58,073	2,366.54	58,073	(943.93)	236,301	6,205.23	236,301	(2,475.06)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	28,013.30											1,440.61		-		3,777.39		-
21	Real Time Net Inadvertent Distribution	55500-0044	25,736.57											1,323.53		-		3,470.39		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	62,098.70											3,193.49		-		8,373.55		-
26	Real Time Uninstructed Deviation	55500-0048	-											-		-		-		-
27	Demand Response Allocation Uplift Amount	55500-0077	-											-		-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(5,504.65)											-		(283.08)		-		(742.26)
34	Real Time Ramp Capability Amount	55500-0080	1,706.40											87.75		-		230.10		-
Subtotal			112,050.32	19,539	-	19,539	-	37,200	-	37,200	-	58,073	6,045.39	58,073	(283.08)	236,301	15,851.42	236,301	(742.26)	

MINNESOTA POWER		Account	August 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	19,539	-	19,539	-	37,200	-	37,200	-	58,073	-	58,073	-	236,301	-	236,301	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(4,731.55)										-		(243.32)		-		(638.01)
	Day Ahead Spinning Reserve Amount	55500-0063	(33,384.76)										-		(1,716.85)		-		(4,501.69)
	Day Ahead Supplemental Reserve Amount	55500-0064	8.85										0.46		-		1.19		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	30.21										1.55		-		4.07		-
	Real Time Regulation Amount	55500-0070	105.21										5.41		-		14.19		-
	Regulation Reserve Cost Distribution Amount	55500-0071	31,251.24										1,607.13		-		4,214.00		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	2,615.33										134.50		-		352.66		-
	Real Time Spinning Reserve Amount	55500-0072	(4,026.66)										-		(207.08)		-		(542.97)
	Spinning Reserve Cost Distribution Amount	55500-0073	35,029.49										1,801.43		-		4,723.47		-
	Real Time Supplemental Reserve Amount	55500-0074	(6.41)										-		(0.33)		-		(0.86)
	Supplemental Reserve Cost Distribution Amount	55500-0075	6,971.92										358.54		-		940.11		-
Subtotal			33,862.87	19,539	-	19,539	-	37,200	-	37,200	-	58,073	3,909.01	58,073	(2,167.58)	236,301	10,249.69	236,301	(5,683.53)
Grand Total			4,809,644.37	19,539	-	19,539	-	37,200	-	37,200	-	58,073	119,277.69	58,073	(49,297.75)	236,301	312,927.53	236,301	(129,288.16)

MINNESOTA POWER			Account															
MISO MONTHLY ALLOCATION			Number	September 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																		
1a	5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,122,108.72 (2,704,273.01)									-					
		Day Ahead Non-Asset Energy	55500-0027															
13a		Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	302,766.99 51,974.77 206,575.73 (360,580.21)									-					
		Excessive Energy Amount	55500-0066															
		Non-Excessive Energy Amount	55500-0069															
22		Real Time Non-Asset Energy	55500-0043										-					
Subtotal				2,618,572.99	686,792	2,469,953.10		128,653	470,467.26				2,940,420.35	33,036				
Day Ahead and Real Time Energy Loss																		
1c	3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	707,028.74 409,593.39						88,003.66 51,117.26		-	550,022.86 319,482.84		21,812.14 12,328.60		-	
		Day Ahead Financial Bilateral Transaction Loss	55500-0022															
13c	14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(43,502.39) (263,557.30) -		-	(28,427.33) (172,682.74) -		-		(5,414.73) (32,891.95) -	(33,842.06) (205,574.69) -		-		(1,342.07) (7,932.97) -		
		Real Time Distribution of Losses	55500-0041															
		Real Time Financial Bilateral Transaction Loss	55500-0038															
Subtotal				809,562.44	686,792	730,384.79	686,792	(201,110.07)	128,653	139,120.91	128,653	(38,306.68)	630,088.95	33,036	34,140.74	33,036	(9,275.04)	
Virtual Energy																		
12		Day Ahead Virtual Energy	55500-0030	-		-	-		-		-	-	-					
27		Real Time Virtual Energy	55500-0049	-		-	-		-		-	-	-					
Subtotal				-	686,792	-	686,792	-	128,653	-	128,653	-	-	33,036	-	33,036	-	
Schedule 16 & 17 1/																		
4	19	Day Ahead Market Administration (Schedule 17)	55500-0020	125,205.00 10,211.37		82,034.32 6,690.49	-		15,625.58 1,274.38		-	97,659.90 7,964.87		3,768.62 307.36		-		
		Real Time Market Administration (Schedule 17)	55500-0036															
29		Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,026.12		2,637.91	-		502.46		-	3,140.37		121.18		-		
Subtotal				139,442.49	686,792	91,362.72	686,792	-	128,653	17,402.42	128,653	-	108,765.14	33,036	4,197.16	33,036	-	

MINNESOTA POWER		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	September 2017	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	499,439.14		326,366.47		-		62,165.04		-	388,531.51		15,407.91		-
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(302,518.18)		-		(197,685.33)		-		(37,654.35)	(235,339.68)		-		(9,332.82)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	860,887.27		564,053.34		-		107,438.73		-	671,492.07		25,912.37		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(238,978.07)		-		(156,578.43)		-		(29,824.46)	(186,402.89)		-		(7,193.15)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	388,919.46		254,820.03		-		48,537.15		-	303,357.18		11,706.32		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,675.71		3,063.53		-		583.53		-	3,647.05		140.74		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(5,334.81)		-		(3,495.37)		-		(665.78)	(4,161.15)		-		(160.58)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(669,240.13)		-		(438,486.13)		-		(83,521.17)	(522,007.30)		-		(20,143.87)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(28,542.79)		-		(18,701.24)		-		(3,562.14)	(22,263.38)		-		(859.13)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	2,908.70		1,905.78		-		363.01		-	2,268.79		87.55		-
	FTR Guarantee Uplift Amount	55500-0055	(2,908.70)		-		(1,905.78)		-		(363.01)	(2,268.79)		-		(87.55)
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	42,078.05		27,569.54		-		5,251.34		-	32,820.88		1,266.53		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			551,385.65	686,792	1,177,778.68	686,792	(816,852.28)	128,653	224,338.80	128,653	(155,590.91)	429,674.29	33,036	54,521.42	33,036	(37,777.08)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	28,796.48		18,867.45		-		3,593.80		-	22,461.25		866.76		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(5,694.97)		-		(3,731.34)		-		(710.73)	(4,442.08)		-		(171.42)
	Real Time Price Volatility Make Whole Payment	55500-0057	(9,796.00)		-		(6,418.34)		-		(1,222.54)	(7,640.88)		-		(294.86)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	69,388.03		45,463.04		-		8,659.63		-	54,122.66		2,088.55		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(12,809.95)		-		(8,393.08)		-		(1,598.68)	(9,991.76)		-		(385.57)
Subtotal			69,883.59	686,792	64,330.49	686,792	(18,542.76)	128,653	12,253.43	128,653	(3,531.95)	54,509.20	33,036	2,955.32	33,036	(851.85)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	(10,898.29)		-		(7,140.56)		-		(1,360.11)	(8,500.67)		-		(328.03)
21	Real Time Net Inadvertent Distribution	55500-0044	(11,820.28)		-		(7,744.65)		-		(1,475.17)	(9,219.82)		-		(355.79)
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	188,039.17		123,203.26		-		23,467.29		-	146,670.55		5,659.91		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(13,682.06)		-		(8,964.49)		-		(1,707.52)	(10,672.01)		-		(411.82)
34	Real Time Ramp Capability Amount	55500-0080	4,231.94		2,772.77		-		528.15		-	3,300.91		127.38		-
Subtotal			155,870.48	686,792	125,976.03	686,792	(23,849.69)	128,653	23,995.43	128,653	(4,542.80)	121,578.97	33,036	5,787.29	33,036	(1,095.64)

MINNESOTA POWER		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	September 2017	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	686,792	-	686,792	-	128,653	-	128,653	-	-	33,036	-	33,036	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount		55500-0062	(9,151.11)		-		(5,995.81)		-		(1,142.06)	(7,137.87)		-		(275.44)
Day Ahead Spinning Reserve Amount		55500-0063	(58,637.34)		-		(38,419.19)		-		(7,317.94)	(45,737.13)		-		(1,764.96)
Day Ahead Supplemental Reserve Amount		55500-0064	-		-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount		55500-0065	-		-		-		-		-	-		-		-
Net Regulation Adjustment Amount		55500-0068	217.76		142.68		-		27.18		-	169.85		6.55		-
Real Time Regulation Amount		55500-0070	(8,727.67)		-		(5,718.37)		-		(1,089.21)	(6,807.58)		-		(262.70)
Regulation Reserve Cost Distribution Amount		55500-0071	36,045.47		23,616.99		-		4,498.47		-	28,115.47		1,084.95		-
Real-Time Excessive Deficient Deployment Charge Amount		55500-0067	6,021.25		3,945.12		-		751.45		-	4,696.58		181.24		-
Real Time Spinning Reserve Amount		55500-0072	19,187.50		12,571.65		-		2,394.60		-	14,966.25		577.54		-
Spinning Reserve Cost Distribution Amount		55500-0073	38,032.21		24,918.70		-		4,746.42		-	29,665.12		1,144.75		-
Real Time Supplemental Reserve Amount		55500-0074	-		-		-		-		-	-		-		-
Supplemental Reserve Cost Distribution Amount		55500-0075	7,806.52		5,114.83		-		974.25		-	6,089.09		234.97		-
Subtotal			30,794.59	686,792	70,309.98	686,792	(50,133.36)	128,653	13,392.38	128,653	(9,549.21)	24,019.78	33,036	3,230.01	33,036	(2,303.11)
Grand Total			4,375,512.23	686,792	4,730,095.78	686,792	(1,110,488.16)	128,653	900,970.63	128,653	(211,521.55)	4,309,056.69	33,036	104,831.94	33,036	(51,302.72)

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		Account	September 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,122,108.72 (2,704,273.01)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	302,766.99																
	Excessive Energy Amount	55500-0066	51,974.77																
	Non-Excessive Energy Amount	55500-0069	206,575.73																
22	Real Time Non-Asset Energy	55500-0043	(360,580.21)																
Subtotal			2,618,572.99	13,085				36,000				57,795				224,683			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	707,028.74										38,159.76		-		97,033.99		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	409,593.39										21,568.56		-		56,213.39		-
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(43,502.39)										-		(2,347.91)		-		(5,970.35)
	Real Time Distribution of Losses	55500-0041	(263,557.30)										-		(13,878.52)		-		(36,171.11)
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-										-		-		-		-
Subtotal			809,562.44	13,085	-	13,085	-	36,000	-	36,000	-	57,795	59,728.31	57,795	(16,226.43)	224,683	153,247.37	224,683	(42,141.46)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	13,085	-	13,085	-	36,000	-	36,000	-	57,795	-	57,795	-	224,683	-	224,683	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	125,205.00										6,593.10		-		17,183.38		-
	Real Time Market Administration (Schedule 17)	55500-0036	10,211.37										537.72		-		1,401.43		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,026.12										212.01		-		552.55		-
Subtotal			139,442.49	13,085	-	13,085	-	36,000	-	36,000	-	57,795	7,342.83	57,795	-	224,683	19,137.36	224,683	-

MINNESOTA POWER		Account																		
MISO MONTHLY ALLOCATION		Number	September 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																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	499,439.14										26,955.73		-		68,543.99		-	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(302,518.18)										-		(16,327.51)		-		(41,518.18)	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	860,887.27										45,333.00		-		118,149.83		-	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(238,978.07)										-		(12,584.22)		-		(32,797.81)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	388,919.46										20,479.90		-		53,376.06		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,675.71										246.22		-		641.70		-	
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(5,334.81)										-		(280.92)		-		(732.16)	
28	Financial Transmission Rights Hourly Allocation	55500-0032	(669,240.13)										-		(35,241.16)		-		(91,847.81)	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(28,542.79)										-		(1,503.02)		-		(3,917.27)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	2,908.70										153.17		-		399.20		-	
	FTR Guarantee Uplift Amount	55500-0055	(2,908.70)										-		(153.17)		-		(399.20)	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	42,078.05										2,215.77		-		5,774.87		-	
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal			551,385.65	13,085	-	13,085	-	36,000	-	36,000	-	57,795	95,383.78	57,795	(66,090.00)	224,683	246,885.65	224,683	(171,212.42)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	28,796.48										1,516.38		-		3,952.08		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(5,694.97)										-		(299.89)		-		(781.59)	
	Real Time Price Volatility Make Whole Payment	55500-0057	(9,796.00)										-		(515.84)		-		(1,344.42)	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	69,388.03										3,653.87		-		9,522.95		-	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(12,809.95)										-		(674.55)		-		(1,758.06)	
Subtotal			69,883.59	13,085	-	13,085	-	36,000	-	36,000	-	57,795	5,170.25	57,795	(1,490.28)	224,683	13,475.03	224,683	(3,884.07)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	(10,898.29)										-		(573.89)		-		(1,495.70)	
21	Real Time Net Inadvertent Distribution	55500-0044	(11,820.28)										-		(622.44)		-		(1,622.24)	
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	188,039.17										9,901.85		-		25,806.86		-	
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
33	Day Ahead Ramp Capability Amount	55500-0079	(13,682.06)										-		(720.48)		-		(1,877.75)	
34	Real Time Ramp Capability Amount	55500-0080	4,231.94										222.85		-		580.80		-	
Subtotal			155,870.48	13,085	-	13,085	-	36,000	-	36,000	-	57,795	10,124.70	57,795	(1,916.80)	224,683	26,387.66	224,683	(4,995.69)	

MINNESOTA POWER		Account	September 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	13,085	-	13,085	-	36,000	-	36,000	-	57,795	-	57,795	-	224,683	-	224,683	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(9,151.11)										-		(481.88)		-		(1,255.92)
	Day Ahead Spinning Reserve Amount	55500-0063	(58,637.34)										-		(3,087.75)		-		(8,047.50)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	217.76										11.47		-		29.89		-
	Real Time Regulation Amount	55500-0070	(8,727.67)										-		(459.59)		-		(1,197.80)
	Regulation Reserve Cost Distribution Amount	55500-0071	36,045.47										1,898.10		-		4,946.95		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	6,021.25										317.07		-		826.37		-
	Real Time Spinning Reserve Amount	55500-0072	19,187.50										1,010.38		-		2,633.33		-
	Spinning Reserve Cost Distribution Amount	55500-0073	38,032.21										2,002.72		-		5,219.61		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	7,806.52										411.08		-		1,071.38		-
Subtotal			30,794.59	13,085	-	13,085	-	36,000	-	36,000	-	57,795	5,650.82	57,795	(4,029.22)	224,683	14,727.53	224,683	(10,501.22)
Grand Total			4,375,512.23	13,085	-	13,085	-	36,000	-	36,000	-	57,795	183,400.69	57,795	(89,752.74)	224,683	473,860.60	224,683	(232,734.87)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	October 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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	6,148,929.57 (3,512,824.77)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	196,375.75 31,928.39 (348,130.38)									-				
	Excessive Energy Amount	55500-0066														
	Non-Excessive Energy Amount	55500-0069														
22	Real Time Non-Asset Energy	55500-0043	25,966.16									-				
Subtotal			2,542,244.72	684,837	2,448,946.18			131,569	466,465.94			2,915,412.12	31,057			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	883,395.73		583,360.29		-		111,116.25		-	694,476.54		24,702.85		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	86,221.01 (319,081.03)		56,937.01 -		-	(211,742.17)	10,845.15 -		-	67,782.16 (252,074.01)		2,411.04 -		-
	Real Time Distribution of Losses	55500-0041														
	Real Time Financial Bilateral Transaction Loss	55500-0038														
Subtotal			1,005,588.79	684,837	875,910.53	684,837	(211,742.17)	131,569	166,840.10	131,569	(40,331.84)	790,676.62	31,057	36,541.59	31,057	(8,472.54)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	684,837	-	684,837	-	131,569	-	131,569	-	-	31,057	-	31,057	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	192,085.75 13,723.05		127,468.10 9,106.62		-		24,279.64 1,734.59		-	151,747.74 10,841.21		5,100.44 364.39		-
	Real Time Market Administration (Schedule 17)	55500-0036														
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,566.90		3,030.59		-		577.26		-	3,607.85		121.26		-
Subtotal			210,375.70	684,837	139,605.31	684,837	-	131,569	26,591.49	131,569	-	166,196.80	31,057	5,586.09	31,057	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	October 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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(202,905.63)		-		(133,991.01)		-		(25,522.10)	(159,513.11)		-		(5,673.95)
13b	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	29,995.17		19,807.65		-		3,772.89		-	23,580.53		838.77		-
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	638,473.33		423,690.90		-		80,703.03		-	504,393.93		16,953.34		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(238,978.07)		-		(158,585.85)		-		(30,206.83)	(188,792.68)		-		(6,345.57)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	388,919.46		258,086.95		-		49,159.42		-	307,246.37		10,326.95		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,675.71		3,102.80		-		591.01		-	3,693.81		124.15		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(5,335.01)		-		(3,540.31)		-		(674.35)	(4,214.66)		-		(141.66)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(306,293.73)		-		(203,256.52)		-		(38,715.53)	(241,972.05)		-		(8,133.00)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(26,582.24)		-		(17,639.97)		-		(3,360.00)	(20,999.97)		-		(705.84)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(38,989.77)		-		(25,873.61)		-		(4,928.31)	(30,801.92)		-		(1,035.29)
	FTR Guarantee Uplift Amount	55500-0055	38,989.77		25,873.61		-		4,928.31		-	30,801.92		1,035.29		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	43,436.19		28,824.26		-		5,490.33		-	34,314.59		1,153.36		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			325,405.18	684,837	759,386.17	684,837	(542,887.28)	131,569	144,644.98	131,569	(103,407.10)	257,736.78	31,057	30,431.87	31,057	(22,035.31)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	23,463.62		15,570.46		-		2,965.80		-	18,536.26		623.03		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(3,316.17)		-		(2,200.61)		-		(419.16)	(2,619.77)		-		(88.05)
	Real Time Price Volatility Make Whole Payment	55500-0057	(14,103.18)		-		(9,358.87)		-		(1,782.64)	(11,141.51)		-		(374.48)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	41,441.36		27,500.49		-		5,238.19		-	32,738.67		1,100.39		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(5,512.68)		-		(3,658.21)		-		(696.80)	(4,355.02)		-		(146.38)
Subtotal			41,972.95	684,837	43,070.94	684,837	(15,217.70)	131,569	8,203.99	131,569	(2,898.61)	33,158.63	31,057	1,723.42	31,057	(608.91)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	101,068.76		67,069.23		-		12,775.09		-	79,844.32		2,683.67		-
21	Real Time Net Inadvertent Distribution	55500-0044	(14,522.38)		-		(9,637.05)		-		(1,835.63)	(11,472.68)		-		(385.61)
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	338,381.94		224,550.26		-		42,771.48		-	267,321.73		8,985.03		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(7,757.87)		-		(5,148.12)		-		(980.59)	(6,128.72)		-		(205.99)
34	Real Time Ramp Capability Amount	55500-0080	1,608.08		1,067.12		-		203.26		-	1,270.38		42.70		-
Subtotal			418,778.53	684,837	292,686.61	684,837	(14,785.17)	131,569	55,749.83	131,569	(2,816.22)	330,835.04	31,057	11,711.41	31,057	(591.61)

MINNESOTA POWER		Account										Subtotal FPE and FAC					
MISO MONTHLY ALLOCATION		Number	October 2017	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation				
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue	
Grandfathered Charge Types																	
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-					
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-					
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-					
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-					
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-					
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-					
Subtotal			-	684,837	-	684,837	-	131,569	-	131,569	-	-	31,057	-	31,057	-	
ASM Charge Types (12 Other)																	
	Day Ahead Regulation Amount	55500-0062	(6,643.39)		-		(4,408.55)		-		(839.72)	(5,248.28)		-		(176.40)	
	Day Ahead Spinning Reserve Amount	55500-0063	(47,060.51)		-		(31,229.35)		-		(5,948.45)	(37,177.80)		-		(1,249.59)	
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-	
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	132.52		87.94		-		16.75		-	104.69		3.52		-	
	Net Regulation Adjustment Amount	55500-0068	(491.20)		-		(325.96)		-		(62.09)	(388.05)		-		(13.04)	
	Real Time Regulation Amount	55500-0070	3,052.01		2,025.31		-		385.77		-	2,411.09		81.04		-	
	Regulation Reserve Cost Distribution Amount	55500-0071	42,317.07		28,081.61		-		5,348.88		-	33,430.49		1,123.64		-	
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	3,932.18		2,609.39		-		497.03		-	3,106.42		104.41		-	
	Real Time Spinning Reserve Amount	55500-0072	7,246.08		4,808.50		-		915.90		-	5,724.40		192.40		-	
	Spinning Reserve Cost Distribution Amount	55500-0073	39,491.44		26,206.52		-		4,991.72		-	31,198.24		1,048.61		-	
	Real Time Supplemental Reserve Amount	55500-0074	-		-		-		-		-	-		-		-	
	Supplemental Reserve Cost Distribution Amount	55500-0075	9,768.80		6,482.58		-		1,234.78		-	7,717.35		259.39		-	
Subtotal			51,745.00	684,837	70,301.85	684,837	(35,963.87)	131,569	13,390.83	131,569	(6,850.26)	40,878.55	31,057	2,813.02	31,057	(1,439.04)	
Grand Total			4,596,110.87	684,837	4,629,907.59	684,837	(820,596.19)	131,569	881,887.16	131,569	(156,304.04)	4,534,894.53	31,057	88,807.40	31,057	(33,147.41)	

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		Account	October 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	6,148,929.57 (3,512,824.77)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	196,375.75 31,928.39 (348,130.38) 25,966.16																
	Excessive Energy Amount	55500-0066																	
	Non-Excessive Energy Amount	55500-0069																	
Real Time Non-Asset Energy		55500-0043																	
Subtotal			2,542,244.72	34,680				37,200				53,835				234,665			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	883,395.73 355,053.08										42,820.09		-		121,396.25		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022											16,342.05		-		48,791.40		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	86,221.01 (319,081.03) -										4,179.32 - -		- (14,686.36) -		11,848.49 - -		- (43,848.12) -
	Real Time Distribution of Losses	55500-0041																	
	Real Time Financial Bilateral Transaction Loss	55500-0038																	
Subtotal			1,005,588.79	34,680	-	34,680	-	37,200	-	37,200	-	53,835	63,341.46	53,835	(14,686.36)	234,665	182,036.14	234,665	(43,848.12)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	34,680	-	34,680	-	37,200	-	37,200	-	53,835	-	53,835	-	234,665	-	234,665	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	192,085.75 13,723.05 4,566.90										8,841.14		-		26,396.43		-
	Real Time Market Administration (Schedule 17)	55500-0036											631.63		-		1,885.82		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031											210.20		-		627.58		-
Subtotal			210,375.70	34,680	-	34,680	-	37,200	-	37,200	-	53,835	9,682.97	53,835	-	234,665	28,909.83	234,665	-

MINNESOTA POWER		Account	October 2017		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
MISO MONTHLY ALLOCATION			Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(202,905.63)											-		(9,835.27)		-		(27,883.29)
13b	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	29,995.17											1,453.93		-		4,121.94		-
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	638,473.33											29,387.05		-		87,739.01		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-											-		-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(238,978.07)											-		(10,999.46)		-		(32,840.37)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	388,919.46											17,900.82		-		53,445.32		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,675.71											215.21		-		642.54		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(5,335.01)											-		(245.55)		-		(733.14)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(306,293.73)											-		(14,097.80)		-		(42,090.89)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(26,582.24)											-		(1,223.50)		-		(3,652.93)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-											-		-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(38,989.77)											-		(1,794.58)		-		(5,357.97)
	FTR Guarantee Uplift Amount	55500-0055	38,989.77											1,794.58		-		5,357.97		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	43,436.19											1,999.24		-		5,969.00		-
31	Financial Transmission Rights Transaction	55500-0034	-											-		-		-		-
Subtotal			325,405.18	34,680	-	34,680	-	37,200	-	37,200	-	53,835	52,750.83	53,835	(38,196.17)	234,665	157,275.78	234,665	(112,558.59)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	23,463.62											1,079.96		-		3,224.37		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(3,316.17)											-		(152.63)		-		(455.71)
	Real Time Price Volatility Make Whole Payment	55500-0057	(14,103.18)											-		(649.13)		-		(1,938.06)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	41,441.36											1,907.42		-		5,694.87		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(5,512.68)											-		(253.73)		-		(757.55)
Subtotal			41,972.95	34,680	-	34,680	-	37,200	-	37,200	-	53,835	2,987.38	53,835	(1,055.49)	234,665	8,919.24	234,665	(3,151.32)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	101,068.76											4,651.90		-		13,888.87		-
21	Real Time Net Inadvertent Distribution	55500-0044	(14,522.38)											-		(668.42)		-		(1,995.67)
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	338,381.94											15,574.72		-		46,500.45		-
26	Real Time Uninstructed Deviation	55500-0048	-											-		-		-		-
27	Demand Response Allocation Uplift Amount	55500-0077	-											-		-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(7,757.87)											-		(357.07)		-		(1,066.09)
34	Real Time Ramp Capability Amount	55500-0080	1,608.08											74.02		-		220.98		-
Subtotal			418,778.53	34,680	-	34,680	-	37,200	-	37,200	-	53,835	20,300.64	53,835	(1,025.49)	234,665	60,610.30	234,665	(3,061.75)	

MINNESOTA POWER		Account	October 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	34,680	-	34,680	-	37,200	-	37,200	-	53,835	-	53,835	-	234,665	-	234,665	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(6,643.39)										-		(305.78)		-		(912.93)
	Day Ahead Spinning Reserve Amount	55500-0063	(47,060.51)										-		(2,166.06)		-		(6,467.06)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	132.52										6.10		-		18.21		-
	Net Regulation Adjustment Amount	55500-0068	(491.20)										-		(22.61)		-		(67.50)
	Real Time Regulation Amount	55500-0070	3,052.01										140.48		-		419.41		-
	Regulation Reserve Cost Distribution Amount	55500-0071	42,317.07										1,947.73		-		5,815.21		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	3,932.18										180.99		-		540.36		-
	Real Time Spinning Reserve Amount	55500-0072	7,246.08										333.52		-		995.76		-
	Spinning Reserve Cost Distribution Amount	55500-0073	39,491.44										1,817.67		-		5,426.91		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	9,768.80										449.63		-		1,342.43		-
Subtotal			51,745.00	34,680	-	34,680	-	37,200	-	37,200	-	53,835	4,876.11	53,835	(2,494.44)	234,665	14,558.29	234,665	(7,447.49)
Grand Total			4,596,110.87	34,680	-	34,680	-	37,200	-	37,200	-	53,835	153,939.39	53,835	(57,457.96)	234,665	452,309.58	234,665	(170,067.27)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	November 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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	3,020,036.68 (1,800,676.51)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	216,641.98 33,279.45									-				
	Excessive Energy Amount	55500-0066														
22	Non-Excessive Energy Amount	55500-0069	420,223.97 9,452.16									-				
	Real Time Non-Asset Energy	55500-0043														
Subtotal			1,898,957.73	709,364	1,977,978.82			142,527	405,128.19			2,383,107.01	37,621			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,156,234.43		762,954.20		-		156,267.73		-	919,221.92		37,804.40		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(183,069.48) (303,632.33)		-		(120,800.44) (201,611.87)		-		(24,742.26) (41,294.00)	(145,542.70) (242,905.86)		-		(5,985.67) (9,291.15)
	Real Time Distribution of Losses	55500-0041														
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal			967,946.01	709,364	961,100.68	709,364	(322,412.30)	142,527	196,851.95	142,527	(66,036.26)	769,504.07	37,621	46,935.85	37,621	(15,276.81)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	709,364	-	709,364	-	142,527	-	142,527	-	-	37,621	-	37,621	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	150,315.78 9,733.68		99,809.68 6,463.16		-		20,442.95 1,323.78		-	120,252.62 7,786.94		4,599.66 297.85		-
	Real Time Market Administration (Schedule 17)	55500-0036														
19	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,411.20		2,265.04		-		463.92		-	2,728.96		104.38		-
Subtotal			163,460.66	709,364	108,537.88	709,364	-	142,527	22,230.65	142,527	-	130,768.53	37,621	5,001.90	37,621	-

MINNESOTA POWER		Account															
MISO MONTHLY ALLOCATION		Number	November 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																	
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	580,807.87		383,252.55		-		78,497.51		-	461,750.06		18,990.18		-	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	60,972.18		40,233.18		-		8,240.53		-	48,473.71		1,993.56		-	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	(9,080.86)		-		(6,029.69)		-		(1,235.00)	(7,264.69)		-		(277.87)	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(238,978.07)		-		(158,681.44)		-		(32,501.02)	(191,182.46)		-		(7,312.73)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	388,919.46		258,242.52		-		52,893.05		-	311,135.57		11,900.93		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,675.71		3,104.67		-		635.90		-	3,740.57		143.08		-	
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(5,335.01)		-		(3,542.45)		-		(725.56)	(4,268.01)		-		(163.25)	
28	Financial Transmission Rights Hourly Allocation	55500-0032	37,843.79		25,128.28		-		5,146.76		-	30,275.03		1,158.02		-	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(30,384.55)		-		(20,175.34)		-		(4,132.30)	(24,307.64)		-		(929.77)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	22,781.90		15,127.18		-		3,098.34		-	18,225.52		697.13		-	
	FTR Guarantee Uplift Amount	55500-0055	(33,500.60)		-		(22,244.40)		-		(4,556.08)	(26,800.48)		-		(1,025.12)	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	38,543.12		25,592.63		-		5,241.86		-	30,834.50		1,179.42		-	
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-	
Subtotal			817,264.94	709,364	750,681.01	709,364	(210,673.32)	142,527	153,753.94	142,527	(43,149.96)	650,611.68	37,621	36,062.31	37,621	(9,708.74)	
RSG & Make Whole Payments																	
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	24,391.06		16,195.66		-		3,317.18		-	19,512.85		746.37		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(45.35)		-		(30.11)		-		(6.17)	(36.28)		-		(1.39)	
	Real Time Price Volatility Make Whole Payment	55500-0057	(4,333.48)		-		(2,877.43)		-		(589.35)	(3,466.78)		-		(132.60)	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	45,106.96		29,951.02		-		6,134.55		-	36,085.57		1,380.27		-	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-	
Subtotal			65,119.19	709,364	46,146.69	709,364	(2,907.54)	142,527	9,451.73	142,527	(595.52)	52,095.35	37,621	2,126.64	37,621	(133.99)	
RNU & Misc Charges																	
20	Real Time Miscellaneous	55500-0042	19,549.72		12,981.01		-		2,658.76		-	15,639.78		598.22		-	
21	Real Time Net Inadvertent Distribution	55500-0044	19,425.99		12,898.86		-		2,641.93		-	15,540.79		594.44		-	
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	69,155.17		45,919.03		-		9,405.10		-	55,324.14		2,116.15		-	
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-	
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-	
33	Day Ahead Ramp Capability Amount	55500-0079	(70.41)		-		(46.75)		-		(9.58)	(56.33)		-		(2.15)	
34	Real Time Ramp Capability Amount	55500-0080	(74.46)		-		(49.44)		-		(10.13)	(59.57)		-		(2.28)	
Subtotal			107,986.01	709,364	71,798.90	709,364	(96.19)	142,527	14,705.80	142,527	(19.70)	86,388.81	37,621	3,308.80	37,621	(4.43)	

MINNESOTA POWER		Account															
MISO MONTHLY ALLOCATION		Number	November 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																	
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-					
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-					
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-					
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-					
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-					
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-					
Subtotal			-	709,364	-	709,364	-	142,527	-	142,527	-	-	37,621	-	37,621	-	
ASM Charge Types (12 Other)																	
	Day Ahead Regulation Amount	55500-0062	(1,945.01)		-		(1,291.49)		-		(264.52)	(1,556.01)		-		(59.52)	
	Day Ahead Spinning Reserve Amount	55500-0063	(26,125.94)		-		(17,347.62)		-		(3,553.13)	(20,900.75)		-		(799.45)	
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-	
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-	
	Net Regulation Adjustment Amount	55500-0068	(350.19)		-		(232.53)		-		(47.63)	(280.15)		-		(10.72)	
	Real Time Regulation Amount	55500-0070	(719.20)		-		(477.55)		-		(97.81)	(575.36)		-		(22.01)	
	Regulation Reserve Cost Distribution Amount	55500-0071	36,392.73		24,164.77		-		4,949.41		-	29,114.18		1,113.62		-	
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	3,471.39		2,305.00		-		472.11		-	2,777.11		106.22		-	
	Real Time Spinning Reserve Amount	55500-0072	(890.20)		-		(591.09)		-		(121.07)	(712.16)		-		(27.24)	
	Spinning Reserve Cost Distribution Amount	55500-0073	36,229.13		24,056.14		-		4,927.16		-	28,983.30		1,108.61		-	
	Real Time Supplemental Reserve Amount	55500-0074	-		-		-		-		-	-		-		-	
	Supplemental Reserve Cost Distribution Amount	55500-0075	6,295.09		4,179.94		-		856.13		-	5,036.07		192.63		-	
Subtotal			52,357.80	709,364	54,705.86	709,364	(19,940.28)	142,527	11,204.81	142,527	(4,084.15)	41,886.24	37,621	2,521.08	37,621	(918.93)	
Grand Total			4,073,092.34	709,364	3,970,949.84	709,364	(556,029.64)	142,527	813,327.08	142,527	(113,885.59)	4,114,361.69	37,621	95,956.58	37,621	(26,042.91)	

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		Account	November 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	3,020,036.68 (1,800,676.51)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	216,641.98																
	Excessive Energy Amount	55500-0066	33,279.45																
	Non-Excessive Energy Amount	55500-0069	420,223.97																
22	Real Time Non-Asset Energy	55500-0043	9,452.16																
Subtotal			1,898,957.73	31,917				36,000				51,876				215,308			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,156,234.43										52,129.07		-		147,079.04		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	298,413.38										12,591.49		-		37,959.74		-
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(183,069.48)										-		(8,253.73)		-		(23,287.39)
	Real Time Distribution of Losses	55500-0041	(303,632.33)										-		(12,811.71)		-		(38,623.61)
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-										-		-		-		-
Subtotal			967,946.01	31,917	-	31,917	-	36,000	-	36,000	-	51,876	64,720.56	51,876	(21,065.43)	215,308	185,038.77	215,308	(61,911.00)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	31,917	-	31,917	-	36,000	-	36,000	-	51,876	-	51,876	-	215,308	-	215,308	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	150,315.78										6,342.54		-		19,120.95		-
	Real Time Market Administration (Schedule 17)	55500-0036	9,733.68										410.71		-		1,238.17		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,411.20										143.93		-		433.92		-
Subtotal			163,460.66	31,917	-	31,917	-	36,000	-	36,000	-	51,876	6,897.19	51,876	-	215,308	20,793.05	215,308	-

MINNESOTA POWER		Account																		
MISO MONTHLY ALLOCATION		Number	November 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																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	580,807.87										26,185.84		-		73,881.78		-	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	60,972.18										2,748.94		-		7,755.98		-	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	(9,080.86)										-		(383.17)		-		(1,155.13)	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(238,978.07)										-		(10,083.63)		-		(30,399.25)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	388,919.46										16,410.38		-		49,472.58		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,675.71										197.29		-		594.77		-	
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(5,335.01)										-		(225.11)		-		(678.64)	
	Financial Transmission Rights Hourly Allocation	55500-0032	37,843.79										1,596.81		-		4,813.93		-	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(30,384.55)										-		(1,282.07)		-		(3,865.07)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	22,781.90										961.28		-		2,897.98		-	
	FTR Guarantee Uplift Amount	55500-0055	(33,500.60)										-		(1,413.55)		-		(4,261.45)	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	38,543.12										1,626.32		-		4,902.89		-	
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal			817,264.94	31,917	-	31,917	-	36,000	-	36,000	-	51,876	49,726.87	51,876	(13,387.53)	215,308	144,319.91	215,308	(40,359.55)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	24,391.06										1,029.18		-		3,102.67		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(45.35)										-		(1.91)		-		(5.77)	
	Real Time Price Volatility Make Whole Payment	55500-0057	(4,333.48)										-		(182.85)		-		(551.24)	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	45,106.96										1,903.28		-		5,737.84		-	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-	
Subtotal			65,119.19	31,917	-	31,917	-	36,000	-	36,000	-	51,876	2,932.46	51,876	(184.76)	215,308	8,840.51	215,308	(557.01)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	19,549.72										824.90		-		2,486.83		-	
21	Real Time Net Inadvertent Distribution	55500-0044	19,425.99										819.68		-		2,471.09		-	
	Real Time Revenue Neutrality Uplift Amount	55500-0045	69,155.17										2,917.99		-		8,796.90		-	
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
	Day Ahead Ramp Capability Amount	55500-0079	(70.41)										-		(2.97)		-		(8.96)	
34	Real Time Ramp Capability Amount	55500-0080	(74.46)										-		(3.14)		-		(9.47)	
Subtotal			107,986.01	31,917	-	31,917	-	36,000	-	36,000	-	51,876	4,562.56	51,876	(6.11)	215,308	13,754.81	215,308	(18.43)	

MINNESOTA POWER		Account	November 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	31,917	-	31,917	-	36,000	-	36,000	-	51,876	-	51,876	-	215,308	-	215,308	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(1,945.01)										-		(82.07)		-		(247.42)
	Day Ahead Spinning Reserve Amount	55500-0063	(26,125.94)										-		(1,102.38)		-		(3,323.36)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	(350.19)										-		(14.78)		-		(44.55)
	Real Time Regulation Amount	55500-0070	(719.20)										-		(30.35)		-		(91.49)
	Regulation Reserve Cost Distribution Amount	55500-0071	36,392.73										1,535.58		-		4,629.34		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	3,471.39										146.47		-		441.58		-
	Real Time Spinning Reserve Amount	55500-0072	(890.20)										-		(37.56)		-		(113.24)
	Spinning Reserve Cost Distribution Amount	55500-0073	36,229.13										1,528.68		-		4,608.53		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	6,295.09										265.62		-		800.77		-
Subtotal			52,357.80	31,917	-	31,917	-	36,000	-	36,000	-	51,876	3,476.36	51,876	(1,267.13)	215,308	10,480.23	215,308	(3,820.04)
Grand Total			4,073,092.34	31,917	-	31,917	-	36,000	-	36,000	-	51,876	132,315.99	51,876	(35,910.97)	215,308	383,227.27	215,308	(106,666.03)

MINNESOTA POWER		Account	December 2017	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
MISO MONTHLY ALLOCATION		Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	4,764,872.30 (1,446,242.35)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(25,833.35) 34,710.72 78,086.18 96,749.49									-				
	Excessive Energy Amount	55500-0066														
	Non-Excessive Energy Amount	55500-0069														
22	Real Time Non-Asset Energy	55500-0043										-				
Subtotal			3,502,342.99	744,265	3,419,561.44			159,276	750,635.44			4,170,196.87	41,185			
Day Ahead and Real Time Energy Loss																
1c	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,140,994.71		746,775.92		-		163,926.42		-	910,702.34		38,422.55		-
3	Day Ahead Financial Bilateral Transaction Loss	55500-0022	261,574.66		171,592.98		-		37,666.75		-	209,259.73		8,594.01		-
13c	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(33,624.08)		-		(22,006.81)		-		(4,830.76)	(26,837.58)		-		(1,132.28)
14	Real Time Distribution of Losses	55500-0041	(339,915.57)		-		(222,984.61)		-		(48,947.84)	(271,932.46)		-		(11,167.89)
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal			1,029,029.72	744,265	918,368.90	744,265	(244,991.43)	159,276	201,593.17	159,276	(53,778.61)	821,192.04	41,185	47,016.56	41,185	(12,300.17)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	744,265	-	744,265	-	159,276	-	159,276	-	-	41,185	-	41,185	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	169,272.91		111,043.03		-		24,375.30		-	135,418.33		5,561.45		-
19	Real Time Market Administration (Schedule 17)	55500-0036	13,349.68		8,757.39		-		1,922.35		-	10,679.74		438.60		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,217.75		2,110.84		-		463.36		-	2,574.20		105.72		-
Subtotal			185,840.34	744,265	121,911.26	744,265	-	159,276	26,761.01	159,276	-	148,672.27	41,185	6,105.77	41,185	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	December 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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	58,657.63		38,391.16		-		8,427.33		-	46,818.48		1,975.27		-
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	18,464.18		12,084.72		-		2,652.74		-	14,737.47		621.77		-
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	272,348.17		178,660.40		-		39,218.14		-	217,878.54		8,947.97		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(185,446.16)		-		(121,652.68)		-		(26,704.25)	(148,356.93)		-		(6,092.82)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	246,322.30		161,587.43		-		35,470.41		-	197,057.84		8,092.90		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	6,574.44		4,312.83		-		946.72		-	5,259.55		216.00		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(56,110.74)		-		(36,808.65)		-		(8,079.95)	(44,888.59)		-		(1,843.51)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(302,321.97)		-		(198,323.21)		-		(43,534.36)	(241,857.58)		-		(9,932.76)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(41,261.96)		-		(27,067.85)		-		(5,941.72)	(33,009.57)		-		(1,355.66)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(9,804.50)		-		(6,431.75)		-		(1,411.85)	(7,843.60)		-		(322.13)
	FTR Guarantee Uplift Amount	55500-0055	9,804.50		6,431.75		-		1,411.85		-	7,843.60		322.13		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	48,479.13		31,802.31		-		6,980.99		-	38,783.30		1,592.78		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			65,705.02	744,265	433,270.60	744,265	(390,284.14)	159,276	95,108.18	159,276	(85,672.13)	52,422.52	41,185	21,768.82	41,185	(19,546.87)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	20,729.12		13,598.30		-		2,984.99		-	16,583.30		681.05		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(132.80)		-		(87.12)		-		(19.12)	(106.24)		-		(4.36)
	Real Time Price Volatility Make Whole Payment	55500-0057	(1,869.81)		-		(1,226.60)		-		(269.25)	(1,495.85)		-		(61.43)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	(2,247.17)		-		(1,474.14)		-		(323.59)	(1,797.74)		-		(73.83)
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-
Subtotal			16,479.34	744,265	13,598.30	744,265	(2,787.86)	159,276	2,984.99	159,276	(611.97)	13,183.47	41,185	681.05	41,185	(139.63)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	40,752.03		26,733.33		-		5,868.29		-	32,601.62		1,338.90		-
21	Real Time Net Inadvertent Distribution	55500-0044	12,785.61		8,387.36		-		1,841.13		-	10,228.49		420.07		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	267,822.03		175,691.25		-		38,566.37		-	214,257.62		8,799.27		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(31.52)		-		(20.68)		-		(4.54)	(25.22)		-		(1.04)
34	Real Time Ramp Capability Amount	55500-0080	(0.52)		-		(0.34)		-		(0.07)	(0.42)		-		(0.02)
Subtotal			321,327.63	744,265	210,811.94	744,265	(21.02)	159,276	46,275.79	159,276	(4.61)	257,062.10	41,185	10,558.24	41,185	(1.05)

MINNESOTA POWER		Account															
MISO MONTHLY ALLOCATION		Number	December 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																	
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-					
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-					
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-					
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-					
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-					
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-					
Subtotal			-	744,265	-	744,265	-	159,276	-	159,276	-	-	41,185	-	41,185	-	
ASM Charge Types (12 Other)																	
	Day Ahead Regulation Amount	55500-0062	(3,490.35)		-		(2,289.67)		-		(502.61)	(2,792.28)		-		(114.68)	
	Day Ahead Spinning Reserve Amount	55500-0063	(38,061.84)		-		(24,968.57)		-		(5,480.90)	(30,449.47)		-		(1,250.52)	
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-	
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-	
	Net Regulation Adjustment Amount	55500-0068	(454.74)		-		(298.31)		-		(65.48)	(363.79)		-		(14.94)	
	Real Time Regulation Amount	55500-0070	(800.96)		-		(525.43)		-		(115.34)	(640.77)		-		(26.32)	
	Regulation Reserve Cost Distribution Amount	55500-0071	27,465.50		18,017.37		-		3,955.03		-	21,972.40		902.38		-	
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,047.07		2,654.88		-		582.78		-	3,237.66		132.97		-	
	Real Time Spinning Reserve Amount	55500-0072	4,135.02		2,712.57		-		595.44		-	3,308.02		135.86		-	
	Spinning Reserve Cost Distribution Amount	55500-0073	19,100.83		12,530.14		-		2,750.52		-	15,280.66		627.56		-	
	Real Time Supplemental Reserve Amount	55500-0074	-		-		-		-		-	-		-		-	
	Supplemental Reserve Cost Distribution Amount	55500-0075	3,555.30		2,332.28		-		511.96		-	2,844.24		116.81		-	
Subtotal			15,495.83	744,265	38,247.24	744,265	(28,081.98)	159,276	8,395.74	159,276	(6,164.34)	12,396.66	41,185	1,915.56	41,185	(1,406.45)	
Grand Total			5,136,220.87	744,265	5,155,769.69	744,265	(666,166.41)	159,276	1,131,754.32	159,276	(146,231.65)	5,475,125.94	41,185	88,046.01	41,185	(33,394.17)	

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		Account	December 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	4,764,872.30 (1,446,242.35)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(25,833.35)																
	Excessive Energy Amount	55500-0066	34,710.72																
	Non-Excessive Energy Amount	55500-0069	78,086.18																
22	Real Time Non-Asset Energy	55500-0043	96,749.49																
Subtotal			3,502,342.99	35,033				37,200				51,000				238,271			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,140,994.71										47,578.68		-		144,291.14		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	261,574.66										10,641.97		-		33,078.95		-
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(33,624.08)										-		(1,402.10)		-		(4,252.13)
	Real Time Distribution of Losses	55500-0041	(339,915.57)										-		(13,829.21)		-		(42,986.01)
	Real Time Financial Bilateral Transaction Loss	55500-0038	-										-		-		-		-
Subtotal			1,029,029.72	35,033	-	35,033	-	37,200	-	37,200	-	51,000	58,220.65	51,000	(15,231.32)	238,271	177,370.09	238,271	(47,238.13)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	35,033	-	35,033	-	37,200	-	37,200	-	51,000	-	51,000	-	238,271	-	238,271	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	169,272.91										6,886.74		-		21,406.39		-
	Real Time Market Administration (Schedule 17)	55500-0036	13,349.68										543.12		-		1,688.21		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,217.75										130.91		-		406.92		-
Subtotal			185,840.34	35,033	-	35,033	-	37,200	-	37,200	-	51,000	7,560.78	51,000	-	238,271	23,501.52	238,271	-

MINNESOTA POWER		Account																		
MISO MONTHLY ALLOCATION		Number	December 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																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	58,657.63										2,445.98		-		7,417.89		-	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	18,464.18										769.94		-		2,335.00		-	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	272,348.17										11,080.28		-		34,441.38		-	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(185,446.16)										-		(7,544.74)		-		(23,451.68)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	246,322.30										10,021.44		-		31,150.12		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	6,574.44										267.48		-		831.41		-	
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(56,110.74)										-		(2,282.82)		-		(7,095.81)	
28	Financial Transmission Rights Hourly Allocation	55500-0032	(302,321.97)										-		(12,299.75)		-		(38,231.89)	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(41,261.96)										-		(1,678.71)		-		(5,218.02)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(9,804.50)										-		(398.89)		-		(1,239.89)	
	FTR Guarantee Uplift Amount	55500-0055	9,804.50										398.89		-		1,239.89		-	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	48,479.13										1,972.34		-		6,130.71		-	
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal			65,705.02	35,033	-	35,033	-	37,200	-	37,200	-	51,000	26,956.35	51,000	(24,204.91)	238,271	83,546.39	238,271	(75,237.28)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	20,729.12										843.35		-		2,621.42		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(132.80)										-		(5.40)		-		(16.79)	
	Real Time Price Volatility Make Whole Payment	55500-0057	(1,869.81)										-		(76.07)		-		(236.46)	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	(2,247.17)										-		(91.42)		-		(284.18)	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-	
Subtotal			16,479.34	35,033	-	35,033	-	37,200	-	37,200	-	51,000	843.35	51,000	(172.90)	238,271	2,621.42	238,271	(537.43)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	40,752.03										1,657.97		-		5,153.54		-	
21	Real Time Net Inadvertent Distribution	55500-0044	12,785.61										520.17		-		1,616.88		-	
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	267,822.03										10,896.14		-		33,869.00		-	
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
33	Day Ahead Ramp Capability Amount	55500-0079	(31.52)										-		(1.28)		-		(3.99)	
34	Real Time Ramp Capability Amount	55500-0080	(0.52)										-		(0.02)		-		(0.07)	
Subtotal			321,327.63	35,033	-	35,033	-	37,200	-	37,200	-	51,000	13,074.28	51,000	(1.30)	238,271	40,639.41	238,271	(4.05)	

MINNESOTA POWER		Account	December 2017																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	35,033	-	35,033	-	37,200	-	37,200	-	51,000	-	51,000	-	238,271	-	238,271	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(3,490.35)										-		(142.00)		-		(441.39)
	Day Ahead Spinning Reserve Amount	55500-0063	(38,061.84)										-		(1,548.52)		-		(4,813.33)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	(454.74)										-		(18.50)		-		(57.51)
	Real Time Regulation Amount	55500-0070	(800.96)										-		(32.59)		-		(101.29)
	Regulation Reserve Cost Distribution Amount	55500-0071	27,465.50										1,117.41		-		3,473.31		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,047.07										164.65		-		511.80		-
	Real Time Spinning Reserve Amount	55500-0072	4,135.02										168.23		-		522.92		-
	Spinning Reserve Cost Distribution Amount	55500-0073	19,100.83										777.10		-		2,415.51		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	3,555.30										144.64		-		449.61		-
Subtotal			15,495.83	35,033	-	35,033	-	37,200	-	37,200	-	51,000	2,372.04	51,000	(1,741.61)	238,271	7,373.14	238,271	(5,413.52)
Grand Total			5,136,220.87	35,033	-	35,033	-	37,200	-	37,200	-	51,000	109,027.46	51,000	(41,352.04)	238,271	335,051.97	238,271	(128,430.42)

MINNESOTA POWER		Account	January 2018	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
MISO MONTHLY ALLOCATION		Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Day Ahead and Real Time Energy																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	6,165,476.48 (2,267,192.34)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(906,068.03) 22,217.47									-				
	Excessive Energy Amount	55500-0066														
22	Non-Excessive Energy Amount	55500-0069	(401,561.76) 129,323.14									-				
	Real Time Non-Asset Energy	55500-0043														
Subtotal			2,742,194.96	755,734	3,544,057.92			160,273	768,590.87			4,312,648.80	40,200			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,700,305.50 295,726.03				-		241,628.43 42,052.24		-	1,355,803.96 235,959.80		51,416.06 8,881.37		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(231,018.61) (656,432.11)			-		(151,381.78) (430,422.53)	-		(32,829.78) (93,344.65)	(184,211.57) (523,767.18)		-		(6,985.84) (19,714.25)
	Real Time Distribution of Losses	55500-0041														
16	Real Time Financial Bilateral Transaction Loss	55500-0038	2,268.17		1,487.24		-		322.53		-	1,809.77		68.12		-
Subtotal			1,110,848.98	755,734	1,309,570.33	755,734	(581,804.32)	160,273	284,003.20	160,273	(126,174.43)	885,594.78	40,200	60,365.55	40,200	(26,700.09)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	755,734	-	755,734	-	160,273	-	160,273	-	-	40,200	-	40,200	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	127,078.05 11,128.87				-		18,070.50 1,582.53		-	101,395.58 8,879.73		3,816.46 334.23		-
	Real Time Market Administration (Schedule 17)	55500-0036														
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,610.32		1,711.59		-		371.19		-	2,082.77		78.39		-
Subtotal			140,817.24	755,734	92,333.86	755,734	-	160,273	20,024.21	160,273	-	112,358.08	40,200	4,229.08	40,200	-

MINNESOTA POWER		Account															
MISO MONTHLY ALLOCATION		Number	January 2018	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																	
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	72,127.23		47,263.50		-		10,249.92		-	57,513.42		2,181.08		-	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(24,729.73)		-		(16,204.89)		-		(3,514.31)	(19,719.20)		-		(747.81)	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	79,976.53		52,440.61		-		11,372.66		-	63,813.27		2,401.89		-	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	7,066.71		4,633.64		-		1,004.89		-	5,638.53		212.23		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(185,446.16)		-		(121,597.05)		-		(26,370.44)	(147,967.49)		-		(5,569.40)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	246,322.30		161,513.53		-		35,027.03		-	196,540.56		7,397.66		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	6,574.89		4,311.16		-		934.95		-	5,246.10		197.46		-	
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(56,003.29)		-		(36,721.36)		-		(7,963.67)	(44,685.03)		-		(1,681.91)	
28	Financial Transmission Rights Hourly Allocation	55500-0032	122,546.11		80,353.48		-		17,426.06		-	97,779.54		3,680.36		-	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(4,994.35)		-		(3,274.80)		-		(710.20)	(3,984.99)		-		(149.99)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(908.25)		-		(595.54)		-		(129.15)	(724.69)		-		(27.28)	
	FTR Guarantee Uplift Amount	55500-0055	1,456.18		954.82		-		207.07		-	1,161.89		43.73		-	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	28,394.62		18,618.35		-		4,037.71		-	22,656.07		852.76		-	
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-	
Subtotal			292,382.79	755,734	370,089.10	755,734	(178,393.63)	160,273	80,260.29	160,273	(38,687.77)	233,267.98	40,200	16,967.16	40,200	(8,176.39)	
RSG & Make Whole Payments																	
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	48,606.80		31,871.48		-		6,911.89		-	38,783.37		1,459.78		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(238.33)		-		(156.27)		-		(33.89)	(190.16)		-		(7.16)	
	Real Time Price Volatility Make Whole Payment	55500-0057	(2,276.54)		-		(1,492.73)		-		(323.72)	(1,816.45)		-		(68.37)	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	98,599.49		64,651.69		-		14,020.85		-	78,672.53		2,961.18		-	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-	
Subtotal			144,691.42	755,734	96,523.16	755,734	(1,649.00)	160,273	20,932.73	160,273	(357.61)	115,449.28	40,200	4,420.96	40,200	(75.53)	
RNU & Misc Charges																	
20	Real Time Miscellaneous	55500-0042	26,151.29		17,147.40		-		3,718.71		-	20,866.11		785.39		-	
21	Real Time Net Inadvertent Distribution	55500-0044	8,411.46		5,515.39		-		1,196.11		-	6,711.50		252.62		-	
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	8,208.28		5,382.17		-		1,167.22		-	6,549.39		246.51		-	
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-	
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-	
33	Day Ahead Ramp Capability Amount	55500-0079	(1,483.15)		-		(972.50)		-		(210.90)	(1,183.41)		-		(44.54)	
34	Real Time Ramp Capability Amount	55500-0080	607.24		398.17		-		86.35		-	484.52		18.24		-	
Subtotal			41,895.12	755,734	28,443.13	755,734	(972.50)	160,273	6,168.39	160,273	(210.90)	33,428.12	40,200	1,302.75	40,200	(44.54)	

MINNESOTA POWER		Account															
MISO MONTHLY ALLOCATION		Number	January 2018	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																	
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-					
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-					
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-					
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-					
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-					
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-					
Subtotal			-	755,734	-	755,734	-	160,273	-	160,273	-	-	40,200	-	40,200	-	
ASM Charge Types (12 Other)																	
	Day Ahead Regulation Amount	55500-0062	(16,104.67)		-		(10,559.83)		-		(2,290.08)	(12,849.92)		-		(483.66)	
	Day Ahead Spinning Reserve Amount	55500-0063	(71,989.75)		-		(47,203.68)		-		(10,236.94)	(57,440.62)		-		(2,162.03)	
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-	
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-	
	Net Regulation Adjustment Amount	55500-0068	(317.69)		-		(208.31)		-		(45.18)	(253.48)		-		(9.54)	
	Real Time Regulation Amount	55500-0070	(1,873.57)		-		(1,228.50)		-		(266.42)	(1,494.92)		-		(56.27)	
	Regulation Reserve Cost Distribution Amount	55500-0071	46,763.81		30,663.03		-		6,649.81		-	37,312.84		1,404.43		-	
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	7,173.09		4,703.40		-		1,020.01		-	5,723.41		215.43		-	
	Real Time Spinning Reserve Amount	55500-0072	36,552.47		23,967.45		-		5,197.76		-	29,165.22		1,097.76		-	
	Spinning Reserve Cost Distribution Amount	55500-0073	50,106.02		32,854.52		-		7,125.08		-	39,979.59		1,504.81		-	
	Real Time Supplemental Reserve Amount	55500-0074	-		-		-		-		-	-		-		-	
	Supplemental Reserve Cost Distribution Amount	55500-0075	23,146.06		15,176.87		-		3,291.37		-	18,468.24		695.13		-	
Subtotal			73,455.77	755,734	107,365.27	755,734	(59,200.32)	160,273	23,284.03	160,273	(12,838.62)	58,610.36	40,200	4,917.55	40,200	(2,711.50)	
Grand Total			4,546,286.28	755,734	5,548,382.77	755,734	(822,019.77)	160,273	1,203,263.73	160,273	(178,269.35)	5,751,357.39	40,200	92,203.06	40,200	(37,708.05)	

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		Account	January 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	6,165,476.48 (2,267,192.34)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(906,068.03)																
	Excessive Energy Amount	55500-0066	22,217.47																
	Non-Excessive Energy Amount	55500-0069	(401,561.76)																
	Real Time Non-Asset Energy	55500-0043	129,323.14																
Subtotal			2,742,194.96	48,866				38,981				59,202				231,505			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,700,305.50										75,720.52		-		217,364.96		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	295,726.03										13,079.61		-		37,805.25		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(231,018.61)										-		(10,288.06)		-		(29,533.13)
	Real Time Distribution of Losses	55500-0041	(656,432.11)										-		(29,033.21)		-		(83,917.47)
	Real Time Financial Bilateral Transaction Loss	55500-0038	2,268.17										100.32		-		289.96		-
Subtotal			1,110,848.98	48,866	-	48,866	-	38,981	-	38,981	-	59,202	88,900.45	59,202	(39,321.27)	231,505	255,460.17	231,505	(113,450.61)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	48,866	-	48,866	-	38,981	-	38,981	-	59,202	-	59,202	-	231,505	-	231,505	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	127,078.05										5,620.51		-		16,245.50		-
	Real Time Market Administration (Schedule 17)	55500-0036	11,128.87										492.22		-		1,422.70		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,610.32										115.45		-		333.70		-
Subtotal			140,817.24	48,866	-	48,866	-	38,981	-	38,981	-	59,202	6,228.18	59,202	-	231,505	18,001.90	231,505	-

MINNESOTA POWER		Account	January 2018		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
MISO MONTHLY ALLOCATION		Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	
Congestion, FTRs & ARRs																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	72,127.23										3,212.08		-		9,220.66		-	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(24,729.73)										-		(1,101.30)		-		(3,161.42)	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	79,976.53										3,537.27		-		10,224.10		-	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	7,066.71										312.55		-		903.40		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(185,446.16)										-		(8,202.06)		-		(23,707.21)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	246,322.30										10,894.54		-		31,489.54		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	6,574.89										290.80		-		840.53		-	
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(56,003.29)										-		(2,476.96)		-		(7,159.39)	
28	Financial Transmission Rights Hourly Allocation	55500-0032	122,546.11										5,420.07		-		15,666.14		-	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(4,994.35)										-		(220.89)		-		(638.47)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(908.25)										-		(40.17)		-		(116.11)	
	FTR Guarantee Uplift Amount	55500-0055	1,456.18										64.41		-		186.16		-	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	28,394.62										1,255.86		-		3,629.93		-	
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal			292,382.79	48,866	-	48,866	-	38,981	-	38,981	-	59,202	24,987.57	59,202	(12,041.39)	231,505	72,160.46	231,505	(34,782.60)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	48,606.80										2,149.82		-		6,213.83		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(238.33)										-		(10.54)		-		(30.47)	
	Real Time Price Volatility Make Whole Payment	55500-0057	(2,276.54)										-		(100.69)		-		(291.03)	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	98,599.49										4,360.94		-		12,604.84		-	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-	
Subtotal			144,691.42	48,866	-	48,866	-	38,981	-	38,981	-	59,202	6,510.76	59,202	(111.23)	231,505	18,818.67	231,505	(321.50)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	26,151.29										1,156.64		-		3,343.15		-	
21	Real Time Net Inadvertent Distribution	55500-0044	8,411.46										372.03		-		1,075.31		-	
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	8,208.28										363.04		-		1,049.34		-	
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
33	Day Ahead Ramp Capability Amount	55500-0079	(1,483.15)										-		(65.60)		-		(189.60)	
34	Real Time Ramp Capability Amount	55500-0080	607.24										26.86		-		77.63		-	
Subtotal			41,895.12	48,866	-	48,866	-	38,981	-	38,981	-	59,202	1,918.57	59,202	(65.60)	231,505	5,545.42	231,505	(189.60)	

MINNESOTA POWER		Account	January 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	48,866	-	48,866	-	38,981	-	38,981	-	59,202	-	59,202	-	231,505	-	231,505	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(16,104.67)										-		(712.29)		-		(2,058.80)
	Day Ahead Spinning Reserve Amount	55500-0063	(71,989.75)										-		(3,184.02)		-		(9,203.08)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	(317.69)										-		(14.05)		-		(40.61)
	Real Time Regulation Amount	55500-0070	(1,873.57)										-		(82.87)		-		(239.51)
	Regulation Reserve Cost Distribution Amount	55500-0071	46,763.81										2,068.31		-		5,978.23		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	7,173.09										317.26		-		917.00		-
	Real Time Spinning Reserve Amount	55500-0072	36,552.47										1,616.67		-		4,672.82		-
	Spinning Reserve Cost Distribution Amount	55500-0073	50,106.02										2,216.13		-		6,405.49		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	23,146.06										1,023.72		-		2,958.96		-
Subtotal			73,455.77	48,866	-	48,866	-	38,981	-	38,981	-	59,202	7,242.09	59,202	(3,993.23)	231,505	20,932.51	231,505	(11,542.01)
Grand Total			4,546,286.28	48,866	-	48,866	-	38,981	-	38,981	-	59,202	135,787.61	59,202	(55,532.71)	231,505	390,919.13	231,505	(160,286.32)

MINNESOTA POWER			Account															
MISO MONTHLY ALLOCATION			Number	February 2018	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																		
1a	5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,608,074.47 (1,286,215.80)									-					
		Day Ahead Non-Asset Energy	55500-0027															
13a		Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	88,475.21 46,061.10 (833,653.93) (74,635.93)									-					
	Excessive Energy Amount	55500-0066																
	Non-Excessive Energy Amount	55500-0069																
22		Real Time Non-Asset Energy	55500-0043										-					
Subtotal				3,548,105.12		717,090	3,033,610.70		142,106	613,945.02		3,647,555.72		14,256				
Day Ahead and Real Time Energy Loss																		
1c	3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	923,993.58						126,270.45		-	750,195.05		10,878.97		-	
		Day Ahead Financial Bilateral Transaction Loss	55500-0022															
13c		Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(122,142.04) (332,516.68) (512.17)						-		(16,691.60) (45,222.27) (69.66)	(99,167.74) (268,673.48) (413.83)		-		(1,438.08) (4,175.84) (6.43)	
	14	Real Time Distribution of Losses	55500-0041															
	16	Real Time Financial Bilateral Transaction Loss	55500-0038															
Subtotal				627,712.10		717,090	730,698.28	717,090	(306,271.53)	142,106	147,879.41	142,106	(61,983.52)	510,322.64	14,256	12,874.35	14,256	(5,620.36)
Virtual Energy																		
12		Day Ahead Virtual Energy	55500-0030	-			-		-		-		-					
27		Real Time Virtual Energy	55500-0049	-			-		-		-		-					
Subtotal				-		717,090	-	717,090	-	142,106	-	142,106	-	-	14,256	-	14,256	-
Schedule 16 & 17 1/																		
4	19	Day Ahead Market Administration (Schedule 17)	55500-0020	107,695.49 8,823.83			-		14,646.59		-	87,017.96		1,352.47		-		
		Real Time Market Administration (Schedule 17)	55500-0036															
29		Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,814.27			-		518.74		-	3,081.93		47.90		-		
Subtotal				120,333.59		717,090	80,864.17	717,090	-	142,106	16,365.37	142,106	-	97,229.54	14,256	1,511.18	14,256	-

MINNESOTA POWER		Account	February 2018	FPE Retail				FAC Resale				Subtotal FPE and FAC	MISO Non-Liquidation			
MISO MONTHLY ALLOCATION		Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Cost/(Revenue)	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	7,895.24		5,331.24		-		1,078.94		-	6,410.18		92.96		-
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	28,263.33		19,084.75		-		3,862.39		-	22,947.14		332.77		-
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	185,394.91		124,585.38		-		25,213.71		-	149,799.09		2,328.24		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	(1,595.71)		-		(1,072.32)		-		(217.02)	(1,289.33)		-		(20.04)
	Auction Revenue Rights Transaction Amount	55500-0058	(185,446.16)		-		(124,619.82)		-		(25,220.68)	(149,840.50)		-		(2,328.89)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	246,322.30		165,528.59		-		33,499.83		-	199,028.42		3,093.39		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	6,575.34		4,418.63		-		894.25		-	5,312.87		82.58		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(56,029.42)		-		(37,651.77)		-		(7,620.00)	(45,271.77)		-		(703.63)
	Financial Transmission Rights Hourly Allocation	55500-0032	(88,222.52)		-		(59,285.53)		-		(11,998.26)	(71,283.80)		-		(1,107.92)
28	Financial Transmission Rights Monthly Allocation	55500-0033	(6,932.28)		-		(4,658.49)		-		(942.79)	(5,601.28)		-		(87.06)
30	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
32	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(5,663.07)		-		(3,805.58)		-		(770.18)	(4,575.76)		-		(71.12)
	FTR Guarantee Uplift Amount	55500-0055	5,663.07		3,805.58		-		770.18		-	4,575.76		71.12		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	17,474.88		11,743.12		-		2,376.58		-	14,119.70		219.45		-
	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			153,699.91	717,090	334,497.29	717,090	(231,093.52)	142,106	67,695.88	142,106	(46,768.93)	124,330.73	14,256	6,220.50	14,256	(4,318.66)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	9,348.00		6,281.86		-		1,271.33		-	7,553.18		117.39		-
	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	26.55		17.84		-		3.61		-	21.45		0.33		-
11	Real Time Price Volatility Make Whole Payment	55500-0057	(123.42)		-		(82.94)		-		(16.79)	(99.72)		-		(1.55)
	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	(5,437.49)		-		(3,653.99)		-		(739.50)	(4,393.49)		-		(68.29)
24	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-
Subtotal			3,813.64	717,090	6,299.70	717,090	(3,736.93)	142,106	1,274.94	142,106	(756.28)	3,081.42	14,256	117.73	14,256	(69.84)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	25,574.40		17,186.00		-		3,478.12		-	20,664.12		321.17		-
21	Real Time Net Inadvertent Distribution	55500-0044	10,313.04		6,930.36		-		1,402.57		-	8,332.94		129.51		-
	Real Time Revenue Neutrality Uplift Amount	55500-0045	78,850.53		52,987.56		-		10,723.67		-	63,711.23		990.23		-
23	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
26	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
27	Day Ahead Ramp Capability Amount	55500-0079	-		-		-		-		-	-		-		-
33	Real Time Ramp Capability Amount	55500-0080	(1.93)		-		(1.30)		-		(0.26)	(1.56)		-		(0.02)
34																
Subtotal			114,736.04	717,090	77,103.92	717,090	(1.30)	142,106	15,604.36	142,106	(0.26)	92,706.72	14,256	1,440.91	14,256	(0.02)

MINNESOTA POWER		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	February 2018	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	717,090	-	717,090	-	142,106	-	142,106	-	-	14,256	-	14,256	-
ASM Charge Types (12 Other)																
	Day Ahead Regulation Amount	55500-0062	403.00		270.82		-		54.81		-	325.62		5.06		-
	Day Ahead Spinning Reserve Amount	55500-0063	(9,067.18)		-		(6,093.14)		-		(1,233.14)	(7,326.28)		-		(113.87)
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-
	Net Regulation Adjustment Amount	55500-0068	(387.88)		-		(260.66)		-		(52.75)	(313.41)		-		(4.87)
	Real Time Regulation Amount	55500-0070	(891.71)		-		(599.23)		-		(121.27)	(720.50)		-		(11.20)
	Regulation Reserve Cost Distribution Amount	55500-0071	24,620.42		16,544.92		-		3,348.38		-	19,893.30		309.19		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,892.63		3,287.85		-		665.40		-	3,953.25		61.44		-
	Real Time Spinning Reserve Amount	55500-0072	(258.35)		-		(173.61)		-		(35.14)	(208.75)		-		(3.24)
	Spinning Reserve Cost Distribution Amount	55500-0073	18,501.73		12,433.16		-		2,516.24		-	14,949.40		232.35		-
	Real Time Supplemental Reserve Amount	55500-0074	-		-		-		-		-	-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	663.15		445.64		-		90.19		-	535.83		8.33		-
Subtotal			38,475.81	717,090	32,982.38	717,090	(7,126.64)	142,106	6,675.01	142,106	(1,442.30)	31,088.45	14,256	616.37	14,256	(133.18)
Grand Total			4,606,876.21	717,090	4,296,056.43	717,090	(548,229.91)	142,106	869,439.99	142,106	(110,951.29)	4,506,315.22	14,256	22,781.05	14,256	(10,142.06)

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		Account	February 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,608,074.47 (1,286,215.80)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	88,475.21 46,061.10 (833,653.93) (74,635.93)																
	Excessive Energy Amount	55500-0066																	
	Non-Excessive Energy Amount	55500-0069																	
	Real Time Non-Asset Energy	55500-0043																	
Subtotal			3,548,105.12	48,533				35,465				56,712				211,615			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	923,993.58 158,889.41										43,278.54		-		119,641.02		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022											7,937.99		-		20,573.40		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(122,142.04) (332,516.68) (512.17)												(5,720.96) (16,612.26)		-		(15,815.26) (43,055.10)
	Real Time Distribution of Losses	55500-0041													-		-		-
	Real Time Financial Bilateral Transaction Loss	55500-0038													(25.59)		-		(66.32)
Subtotal			627,712.10	48,533	-	48,533	-	35,465	-	35,465	-	56,712	51,216.53	56,712	(22,358.81)	211,615	140,214.43	211,615	(58,936.68)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	48,533	-	48,533	-	35,465	-	35,465	-	56,712	-	56,712	-	211,615	-	211,615	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	107,695.49 8,823.83										5,380.38		-		13,944.68		-
	Real Time Market Administration (Schedule 17)	55500-0036											440.83		-		1,142.53		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	3,814.27										190.56		-		493.88		-
Subtotal			120,333.59	48,533	-	48,533	-	35,465	-	35,465	-	56,712	6,011.77	56,712	-	211,615	15,581.10	211,615	-

MINNESOTA POWER		Account																	
MISO MONTHLY ALLOCATION		Number	February 2018	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																			
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	7,895.24										369.80		-		1,022.29		-
13b	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	28,263.33										1,323.81		-		3,659.61		-
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	185,394.91										9,262.18		-		24,005.40		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	(1,595.71)										-		(79.72)		-		(206.62)
	Auction Revenue Rights Transaction Amount	55500-0058	(185,446.16)										-		(9,264.74)		-		(24,012.04)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	246,322.30										12,306.06		-		31,894.43		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	6,575.34										328.50		-		851.39		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(56,029.42)										-		(2,799.18)		-		(7,254.83)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(88,222.52)										-		(4,407.53)		-		(11,423.27)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(6,932.28)										-		(346.33)		-		(897.61)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(5,663.07)										-		(282.92)		-		(733.27)
	FTR Guarantee Uplift Amount	55500-0055	5,663.07										282.92		-		733.27		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	17,474.88										873.03		-		2,262.69		-
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-
Subtotal			153,699.91	48,533	-	48,533	-	35,465	-	35,465	-	56,712	24,746.31	56,712	(17,180.42)	211,615	64,429.09	211,615	(44,527.64)
RSG & Make Whole Payments																			
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	9,348.00										467.02		-		1,210.40		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	26.55										1.33		-		3.44		-
	Real Time Price Volatility Make Whole Payment	55500-0057	(123.42)										-		(6.17)		-		(15.98)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	(5,437.49)										-		(271.65)		-		(704.06)
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-
Subtotal			3,813.64	48,533	-	48,533	-	35,465	-	35,465	-	56,712	468.34	56,712	(277.82)	211,615	1,213.84	211,615	(720.04)
RNU & Misc Charges																			
20	Real Time Miscellaneous	55500-0042	25,574.40										1,277.68		-		3,311.44		-
21	Real Time Net Inadvertent Distribution	55500-0044	10,313.04										515.23		-		1,335.36		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	78,850.53										3,939.31		-		10,209.77		-
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	-										-		-		-		-
34	Real Time Ramp Capability Amount	55500-0080	(1.93)										-		(0.10)		-		(0.25)
Subtotal			114,736.04	48,533	-	48,533	-	35,465	-	35,465	-	56,712	5,732.22	56,712	(0.10)	211,615	14,856.56	211,615	(0.25)

MINNESOTA POWER		Account	February 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	48,533	-	48,533	-	35,465	-	35,465	-	56,712	-	56,712	-	211,615	-	211,615	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	403.00									20.13		-			52.18		-
	Day Ahead Spinning Reserve Amount	55500-0063	(9,067.18)									-		(452.99)			-		(1,174.04)
	Day Ahead Supplemental Reserve Amount	55500-0064	-									-		-			-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-									-		-			-		-
	Net Regulation Adjustment Amount	55500-0068	(387.88)									-		(19.38)			-		(50.22)
	Real Time Regulation Amount	55500-0070	(891.71)									-		(44.55)			-		(115.46)
	Regulation Reserve Cost Distribution Amount	55500-0071	24,620.42									1,230.02		-			3,187.91		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	4,892.63									244.43		-			633.51		-
	Real Time Spinning Reserve Amount	55500-0072	(258.35)									-		(12.91)			-		(33.45)
	Spinning Reserve Cost Distribution Amount	55500-0073	18,501.73									924.33		-			2,395.65		-
	Real Time Supplemental Reserve Amount	55500-0074	-									-		-			-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	663.15									33.13		-			85.87		-
Subtotal			38,475.81	48,533	-	48,533	-	35,465	-	35,465	-	56,712	2,452.04	56,712	(529.82)	211,615	6,355.12	211,615	(1,373.18)
Grand Total			4,606,876.21	48,533	-	48,533	-	35,465	-	35,465	-	56,712	90,627.21	56,712	(40,346.97)	211,615	242,650.14	211,615	(105,557.78)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	March 2018	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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	4,267,050.54 (1,460,177.04)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	88,166.78									-				
	Excessive Energy Amount	55500-0066	26,266.27													
	Non-Excessive Energy Amount	55500-0069	479,353.76													
22	Real Time Non-Asset Energy	55500-0043	118,661.96									-				
Subtotal			3,519,322.26	736,290	2,705,917.22			143,965	515,412.80			3,221,330.02	6,809			
Day Ahead and Real Time Energy Loss																
1c	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,054,762.22		712,487.37		-		135,711.88		-	848,199.25		6,353.15		-
3	Day Ahead Financial Bilateral Transaction Loss	55500-0022	284,577.97		191,236.40		-		36,425.98		-	227,662.38		1,834.06		-
13c	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(143,234.21)		-		(96,754.10)		-		(18,429.35)	(115,183.45)		-		(862.74)
14	Real Time Distribution of Losses	55500-0041	(176,757.38)		-		(118,780.96)		-		(22,624.94)	(141,405.90)		-		(1,139.17)
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal			1,019,348.60	736,290	903,723.77	736,290	(215,535.06)	143,965	172,137.86	143,965	(41,054.30)	819,272.28	6,809	8,187.20	6,809	(2,001.91)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	736,290	-	736,290	-	143,965	-	143,965	-	-	6,809	-	6,809	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	177,961.88		119,590.38		-		22,779.12		-	142,369.50		1,146.93		-
19	Real Time Market Administration (Schedule 17)	55500-0036	14,026.21		9,425.61		-		1,795.35		-	11,220.97		90.40		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,096.01		1,408.52		-		268.29		-	1,676.81		13.51		-
Subtotal			194,084.10	736,290	130,424.52	736,290	-	143,965	24,842.76	143,965	-	155,267.28	6,809	1,250.84	6,809	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	March 2018	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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(121,104.44)		-		(81,805.53)		-		(15,582.01)	(97,387.53)		-		(729.45)
13b	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(2,517.82)		-		(1,700.78)		-		(323.96)	(2,024.73)		-		(15.17)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	342,649.51		230,260.47		-		43,859.14		-	274,119.61		2,208.32		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(122,611.20)		-		(82,394.73)		-		(15,694.23)	(98,088.96)		-		(790.21)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	276,790.70		186,003.35		-		35,429.21		-	221,432.56		1,783.87		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,873.04		3,274.68		-		623.75		-	3,898.43		31.41		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(39,940.78)		-		(26,840.20)		-		(5,112.42)	(31,952.62)		-		(257.41)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(156,896.28)		-		(105,434.30)		-		(20,082.72)	(125,517.02)		-		(1,011.17)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(6,839.23)		-		(4,595.96)		-		(875.42)	(5,471.38)		-		(44.08)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(20,051.36)		-		(13,474.51)		-		(2,566.57)	(16,041.09)		-		(129.23)
	FTR Guarantee Uplift Amount	55500-0055	19,655.98		13,208.82		-		2,515.97		-	15,724.78		126.68		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	67,067.39		45,069.29		-		8,584.63		-	53,653.91		432.24		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			241,075.52	736,290	477,816.61	736,290	(316,246.01)	143,965	91,012.69	143,965	(60,237.34)	192,345.95	6,809	4,582.51	6,809	(2,976.71)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	23,014.45		15,465.71		-		2,945.85		-	18,411.56		148.32		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(16.97)		-		(11.40)		-		(2.17)	(13.58)		-		(0.11)
	Real Time Price Volatility Make Whole Payment	55500-0057	-		-		-		-		-	-		-		-
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	20,019.79		13,453.30		-		2,562.53		-	16,015.83		129.02		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-
Subtotal			43,017.27	736,290	28,919.01	736,290	(11.40)	143,965	5,508.38	143,965	(2.17)	34,413.82	6,809	277.35	6,809	(0.11)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	35,380.77		23,775.88		-		4,528.74		-	28,304.62		228.02		-
21	Real Time Net Inadvertent Distribution	55500-0044	23,076.26		15,507.25		-		2,953.76		-	18,461.01		148.72		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	167,414.91		112,502.82		-		21,429.11		-	133,931.93		1,078.96		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	-		-		-		-		-	-		-		-
34	Real Time Ramp Capability Amount	55500-0080	(77.37)		-		(51.99)		-		(9.90)	(61.90)		-		(0.50)
Subtotal			225,794.57	736,290	151,785.94	736,290	(51.99)	143,965	28,911.61	143,965	(9.90)	180,635.66	6,809	1,455.71	6,809	(0.50)

MINNESOTA POWER		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	March 2018	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	736,290	-	736,290	-	143,965	-	143,965	-	-	6,809	-	6,809	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount		55500-0062	(1,083.93)		-		(728.40)		-		(138.74)	(867.14)		-		(6.99)
Day Ahead Spinning Reserve Amount		55500-0063	(25,957.22)		-		(17,443.25)		-		(3,322.52)	(20,765.78)		-		(167.29)
Day Ahead Supplemental Reserve Amount		55500-0064	-		-		-		-		-	-		-		-
Contingency Reserve Deployment Failure Charge Amount		55500-0065	-		-		-		-		-	-		-		-
Net Regulation Adjustment Amount		55500-0068	33.72		22.66		-		4.32		-	26.98		0.22		-
Real Time Regulation Amount		55500-0070	(1,272.14)		-		(854.88)		-		(162.83)	(1,017.71)		-		(8.20)
Regulation Reserve Cost Distribution Amount		55500-0071	27,766.20		18,658.89		-		3,554.07		-	22,212.96		178.95		-
Real-Time Excessive Deficient Deployment Charge Amount		55500-0067	3,007.46		2,021.01		-		384.95		-	2,405.97		19.38		-
Real Time Spinning Reserve Amount		55500-0072	(1,076.05)		-		(723.11)		-		(137.73)	(860.84)		-		(6.93)
Spinning Reserve Cost Distribution Amount		55500-0073	33,399.36		22,444.37		-		4,275.12		-	26,719.49		215.25		-
Real Time Supplemental Reserve Amount		55500-0074	-		-		-		-		-	-		-		-
Supplemental Reserve Cost Distribution Amount		55500-0075	5,579.19		3,749.22		-		714.14		-	4,463.35		35.96		-
Subtotal			40,396.59	736,290	46,896.14	736,290	(19,749.64)	143,965	8,932.60	143,965	(3,761.84)	32,317.27	6,809	449.76	6,809	(189.41)
Grand Total			5,283,038.91	736,290	4,445,483.21	736,290	(551,594.10)	143,965	846,758.71	143,965	(105,065.54)	4,635,582.27	6,809	16,203.36	6,809	(5,168.64)

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		Account	March 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	4,267,050.54 (1,460,177.04)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	88,166.78																
	Excessive Energy Amount	55500-0066	26,266.27																
	Non-Excessive Energy Amount	55500-0069	479,353.76																
22	Real Time Non-Asset Energy	55500-0043	118,661.96																
Subtotal			3,519,322.26	36,224				42,688				60,411				218,313			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,054,762.22										56,368.27		-		143,841.56		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	284,577.97										16,272.66		-		38,808.88		-
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(143,234.21) (176,757.38)										-		(7,654.68) (10,107.29)		-		(19,533.34) (24,105.01)
	Real Time Distribution of Losses	55500-0041											-				-		
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-										-		-		-		-
Subtotal			1,019,348.60	36,224	-	36,224	-	42,688	-	42,688	-	60,411	72,640.93	60,411	(17,761.97)	218,313	182,650.43	218,313	(43,638.35)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	36,224	-	36,224	-	42,688	-	42,688	-	60,411	-	60,411	-	218,313	-	218,313	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	177,961.88										10,176.17		-		24,269.27		-
	Real Time Market Administration (Schedule 17)	55500-0036	14,026.21										802.04		-		1,912.80		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,096.01										119.85		-		285.84		-
Subtotal			194,084.10	36,224	-	36,224	-	42,688	-	42,688	-	60,411	11,098.06	60,411	-	218,313	26,467.92	218,313	-

MINNESOTA POWER		Account	March 2018	MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
MISO MONTHLY ALLOCATION		Number		Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
Congestion, FTRs & ARRs																			
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(121,104.44)										-		(6,472.02)		-		(16,515.43)
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(2,517.82)										-		(134.56)		-		(343.36)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	342,649.51										19,593.29		-		46,728.29		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(122,611.20)										-		(7,011.12)		-		(16,720.91)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	276,790.70										15,827.37		-		37,746.90		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,873.04										278.65		-		664.55		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(39,940.78)										-		(2,283.88)		-		(5,446.86)
	Financial Transmission Rights Hourly Allocation	55500-0032	(156,896.28)										-		(8,971.60)		-		(21,396.49)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(6,839.23)										-		(391.08)		-		(932.69)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(20,051.36)										-		(1,146.57)		-		(2,734.47)
	FTR Guarantee Uplift Amount	55500-0055	19,655.98										1,123.96		-		2,680.55		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	67,067.39										3,835.03		-		9,146.21		-
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-
Subtotal			241,075.52	36,224	-	36,224	-	42,688	-	42,688	-	60,411	40,658.30	60,411	(26,410.83)	218,313	96,966.51	218,313	(64,090.21)
RSG & Make Whole Payments																			
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	23,014.45										1,316.01		-		3,138.56		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(16.97)										-		(0.97)		-		(2.31)
	Real Time Price Volatility Make Whole Payment	55500-0057	-										-		-		-		-
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	20,019.79										1,144.77		-		2,730.17		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-
Subtotal			43,017.27	36,224	-	36,224	-	42,688	-	42,688	-	60,411	2,460.77	60,411	(0.97)	218,313	5,868.73	218,313	(2.31)
RNU & Misc Charges																			
20	Real Time Miscellaneous	55500-0042	35,380.77										2,023.13		-		4,825.00		-
21	Real Time Net Inadvertent Distribution	55500-0044	23,076.26										1,319.54		-		3,146.99		-
	Real Time Revenue Neutrality Uplift Amount	55500-0045	167,414.91										9,573.07		-		22,830.95		-
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-
	Day Ahead Ramp Capability Amount	55500-0079	-										-		-		-		-
34	Real Time Ramp Capability Amount	55500-0080	(77.37)										-		(4.42)		-		(10.55)
Subtotal			225,794.57	36,224	-	36,224	-	42,688	-	42,688	-	60,411	12,915.75	60,411	(4.42)	218,313	30,802.93	218,313	(10.55)

MINNESOTA POWER		Account	March 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	36,224	-	36,224	-	42,688	-	42,688	-	60,411	-	60,411	-	218,313	-	218,313	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(1,083.93)										-		(61.98)		-		(147.82)
	Day Ahead Spinning Reserve Amount	55500-0063	(25,957.22)										-		(1,484.28)		-		(3,539.88)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	33.72										1.93		-		4.60		-
	Real Time Regulation Amount	55500-0070	(1,272.14)										-		(72.74)		-		(173.49)
	Regulation Reserve Cost Distribution Amount	55500-0071	27,766.20										1,587.72		-		3,786.57		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	3,007.46										171.97		-		410.14		-
	Real Time Spinning Reserve Amount	55500-0072	(1,076.05)										-		(61.53)		-		(146.74)
	Spinning Reserve Cost Distribution Amount	55500-0073	33,399.36										1,909.83		-		4,554.79		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	5,579.19										319.03		-		760.85		-
Subtotal			40,396.59	36,224	-	36,224	-	42,688	-	42,688	-	60,411	3,990.48	60,411	(1,680.53)	218,313	9,516.95	218,313	(4,007.93)
Grand Total			5,283,038.91	36,224	-	36,224	-	42,688	-	42,688	-	60,411	143,764.29	60,411	(45,858.73)	218,313	352,273.47	218,313	(111,749.36)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	April 2018	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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,256,289.38 (1,751,097.42)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	108,540.46 35,909.26 (193,833.02)									-				
	Excessive Energy Amount	55500-0066														
22	Non-Excessive Energy Amount	55500-0069	282,814.19									-				
	Real Time Non-Asset Energy	55500-0043														
Subtotal			3,738,622.85	688,749	3,296,496.79			134,181	627,904.15			3,924,400.94	25,748			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,012,274.31		667,269.98		-		127,099.04		-	794,369.02		23,787.43		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(57,451.02) (303,473.59)		-		(37,870.50) (198,835.90)		-		(7,213.43) (37,873.50)	(45,083.93) (236,709.40)		-		(1,350.04) (7,554.37)
	Real Time Distribution of Losses	55500-0041														
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal			971,028.57	688,749	876,723.57	688,749	(236,706.40)	134,181	166,994.97	134,181	(45,086.93)	761,925.21	25,748	31,745.19	25,748	(8,904.41)
Virtual Energy																
12 27	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
	Real Time Virtual Energy	55500-0049														
Subtotal			-	688,749	-	688,749	-	134,181	-	134,181	-	-	25,748	-	25,748	-
Schedule 16 & 17 1/																
4 19 29	Day Ahead Market Administration (Schedule 17)	55500-0020	192,415.43		126,070.59		-		24,013.45		-	150,084.04		4,789.80		-
	Real Time Market Administration (Schedule 17)	55500-0036														
	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,536.80		2,972.51		-		566.19		-	3,538.70		112.93		-
Subtotal			209,994.59	688,749	137,588.46	688,749	-	134,181	26,207.32	134,181	-	163,795.78	25,748	5,227.40	25,748	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	April 2018	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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(54,869.30)		-		(36,168.69)		-		(6,889.27)	(43,057.97)		-		(1,289.37)
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	15,740.88		10,376.05		-		1,976.39		-	12,352.45		369.89		-
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	178,506.39		116,957.39		-		22,277.60		-	139,234.98		4,443.56		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(122,611.20)		-		(80,334.86)		-		(15,301.88)	(95,636.74)		-		(3,052.16)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	276,790.70		181,353.27		-		34,543.48		-	215,896.75		6,890.15		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,873.49		3,193.11		-		608.21		-	3,801.32		121.32		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(39,847.35)		-		(26,107.98)		-		(4,972.95)	(31,080.93)		-		(991.92)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(200,106.16)		-		(131,109.56)		-		(24,973.25)	(156,082.80)		-		(4,981.24)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(15,092.39)		-		(9,888.53)		-		(1,883.53)	(11,772.06)		-		(375.69)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(11,147.24)		-		(7,303.67)		-		(1,391.18)	(8,694.85)		-		(277.49)
	FTR Guarantee Uplift Amount	55500-0055	8,697.08		5,698.33		-		1,085.40		-	6,783.72		216.50		-
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	21,129.45		13,844.02		-		2,636.96		-	16,480.97		525.98		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			62,064.34	688,749	331,422.16	688,749	(290,913.30)	134,181	63,128.03	134,181	(55,412.06)	48,224.84	25,748	12,567.40	25,748	(10,967.88)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	31,542.57		20,666.69		-		3,936.51		-	24,603.20		785.19		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(14.00)		-		(9.17)		-		(1.75)	(10.92)		-		(0.35)
	Real Time Price Volatility Make Whole Payment	55500-0057	-		-		-		-		-	-		-		-
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	45,546.90		29,842.33		-		5,684.25		-	35,526.58		1,133.80		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-
Subtotal			77,075.47	688,749	50,509.02	688,749	(9.17)	134,181	9,620.77	134,181	(1.75)	60,118.87	25,748	1,918.99	25,748	(0.35)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	24,300.02		15,921.37		-		3,032.64		-	18,954.02		604.90		-
21	Real Time Net Inadvertent Distribution	55500-0044	20,189.16		13,227.94		-		2,519.61		-	15,747.54		502.57		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	49,004.88		32,108.00		-		6,115.81		-	38,223.81		1,219.88		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(503.49)		-		(329.89)		-		(62.84)	(392.72)		-		(12.53)
34	Real Time Ramp Capability Amount	55500-0080	(2.43)		-		(1.59)		-		(0.30)	(1.90)		-		(0.06)
Subtotal			92,988.14	688,749	61,257.31	688,749	(331.48)	134,181	11,668.06	134,181	(63.14)	72,530.75	25,748	2,327.35	25,748	(12.59)

MINNESOTA POWER		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	April 2018	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	688,749	-	688,749	-	134,181	-	134,181	-	-	25,748	-	25,748	-
ASM Charge Types (12 Other)																
	Day Ahead Regulation Amount	55500-0062	(5,809.72)		-		(3,806.53)		-		(725.05)	(4,531.58)		-		(144.62)
	Day Ahead Spinning Reserve Amount	55500-0063	(49,004.42)		-		(32,107.70)		-		(6,115.75)	(38,223.45)		-		(1,219.87)
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	992.05		649.99		-		123.81		-	773.80		24.70		-
	Net Regulation Adjustment Amount	55500-0068	(1,296.78)		-		(849.65)		-		(161.84)	(1,011.49)		-		(32.28)
	Real Time Regulation Amount	55500-0070	(2,644.54)		-		(1,732.70)		-		(330.04)	(2,062.74)		-		(65.83)
	Regulation Reserve Cost Distribution Amount	55500-0071	36,409.01		23,855.18		-		4,543.84		-	28,399.03		906.33		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	5,911.07		3,872.93		-		737.70		-	4,610.63		147.14		-
	Real Time Spinning Reserve Amount	55500-0072	7,731.25		5,065.52		-		964.86		-	6,030.38		192.45		-
	Spinning Reserve Cost Distribution Amount	55500-0073	41,468.49		27,170.15		-		5,175.27		-	32,345.42		1,032.28		-
	Real Time Supplemental Reserve Amount	55500-0074	(130.43)		-		(85.46)		-		(16.28)	(101.74)		-		(3.25)
	Supplemental Reserve Cost Distribution Amount	55500-0075	5,157.46		3,379.17		-		643.65		-	4,022.82		128.38		-
Subtotal			38,783.44	688,749	63,992.95	688,749	(38,582.04)	134,181	12,189.13	134,181	(7,348.96)	30,251.08	25,748	2,431.28	25,748	(1,465.85)
Grand Total			5,190,557.41	688,749	4,817,990.26	688,749	(566,542.38)	134,181	917,712.43	134,181	(107,912.83)	5,061,247.47	25,748	56,217.61	25,748	(21,351.08)

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		Account	April 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	5,256,289.38 (1,751,097.42)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	108,540.46 35,909.26 (193,833.02) 282,814.19																
	Excessive Energy Amount	55500-0066																	
	Non-Excessive Energy Amount	55500-0069																	
Real Time Non-Asset Energy		55500-0043																	
Subtotal			3,738,622.85	29,434				39,017				61,744				230,461			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,012,274.31 319,678.87										57,042.97		-		137,074.89		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022											19,082.97		-		43,288.61		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(57,451.02) (303,473.59) -										-		(3,237.44) (18,115.61)		-		(7,779.60) (41,094.21)
	Real Time Distribution of Losses	55500-0041											-		-		-		-
	Real Time Financial Bilateral Transaction Loss	55500-0038											-		-		-		-
Subtotal			971,028.57	29,434	-	29,434	-	39,017	-	39,017	-	61,744	76,125.94	61,744	(21,353.05)	230,461	180,363.50	230,461	(48,873.81)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	29,434	-	29,434	-	39,017	-	39,017	-	61,744	-	61,744	-	230,461	-	230,461	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	192,415.43 13,042.36										11,486.08		-		26,055.51		-
	Real Time Market Administration (Schedule 17)	55500-0036											778.55		-		1,766.10		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	4,536.80										270.82		-		614.34		-
Subtotal			209,994.59	29,434	-	29,434	-	39,017	-	39,017	-	61,744	12,535.46	61,744	-	230,461	28,435.95	230,461	-

MINNESOTA POWER		Account																		
MISO MONTHLY ALLOCATION		Number	April 2018	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																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(54,869.30)										-		(3,091.96)		-		(7,430.01)	
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	15,740.88										887.02		-		2,131.52		-	
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	178,506.39										10,655.80		-		24,172.05		-	
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-	
	Auction Revenue Rights Transaction Amount	55500-0058	(122,611.20)										-		(7,319.18)		-		(16,603.13)	
	Financial Transmission Rights Annual Transaction Amount	55500-0059	276,790.70										16,522.80		-		37,481.00		-	
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,873.49										290.92		-		659.93		-	
28	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(39,847.35)										-		(2,378.66)		-		(5,395.84)	
	Financial Transmission Rights Hourly Allocation	55500-0032	(200,106.16)										-		(11,945.18)		-		(27,096.93)	
30	Financial Transmission Rights Monthly Allocation	55500-0033	(15,092.39)										-		(900.93)		-		(2,043.70)	
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-	
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(11,147.24)										-		(665.43)		-		(1,509.48)	
31	FTR Guarantee Uplift Amount	55500-0055	8,697.08										519.17		-		1,177.70		-	
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	21,129.45										1,261.31		-		2,861.20		-	
	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-	
Subtotal			62,064.34	29,434	-	29,434	-	39,017	-	39,017	-	61,744	30,137.00	61,744	(26,301.32)	230,461	68,483.40	230,461	(60,079.09)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	31,542.57										1,882.91		-		4,271.27		-	
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(14.00)										-		(0.84)		-		(1.90)	
	Real Time Price Volatility Make Whole Payment	55500-0057	-										-		-		-		-	
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	45,546.90										2,718.89		-		6,167.63		-	
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-										-		-		-		-	
Subtotal			77,075.47	29,434	-	29,434	-	39,017	-	39,017	-	61,744	4,601.79	61,744	(0.84)	230,461	10,438.90	230,461	(1.90)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	24,300.02										1,450.57		-		3,290.53		-	
21	Real Time Net Inadvertent Distribution	55500-0044	20,189.16										1,205.18		-		2,733.87		-	
	Real Time Revenue Neutrality Uplift Amount	55500-0045	49,004.88										2,925.31		-		6,635.89		-	
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-	
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-	
	Day Ahead Ramp Capability Amount	55500-0079	(503.49)										-		(30.06)		-		(68.18)	
34	Real Time Ramp Capability Amount	55500-0080	(2.43)										-		(0.15)		-		(0.33)	
Subtotal			92,988.14	29,434	-	29,434	-	39,017	-	39,017	-	61,744	5,581.05	61,744	(30.20)	230,461	12,660.29	230,461	(68.51)	

MINNESOTA POWER		Account	April 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
7	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
9	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	29,434	-	29,434	-	39,017	-	39,017	-	61,744	-	61,744	-	230,461	-	230,461	-
ASM Charge Types (12 Other)																			
Day Ahead Regulation Amount		55500-0062	(5,809.72)										-		(346.81)		-		(786.71)
Day Ahead Spinning Reserve Amount		55500-0063	(49,004.42)										-		(2,925.28)		-		(6,635.83)
Day Ahead Supplemental Reserve Amount		55500-0064	-										-		-		-		-
Contingency Reserve Deployment Failure Charge Amount		55500-0065	992.05										59.22		-		134.34		-
Net Regulation Adjustment Amount		55500-0068	(1,296.78)										-		(77.41)		-		(175.60)
Real Time Regulation Amount		55500-0070	(2,644.54)										-		(157.86)		-		(358.10)
Regulation Reserve Cost Distribution Amount		55500-0071	36,409.01										2,173.41		-		4,930.25		-
Real-Time Excessive Deficient Deployment Charge Amount		55500-0067	5,911.07										352.86		-		800.43		-
Real Time Spinning Reserve Amount		55500-0072	7,731.25										461.51		-		1,046.91		-
Spinning Reserve Cost Distribution Amount		55500-0073	41,468.49										2,475.43		-		5,615.36		-
Real Time Supplemental Reserve Amount		55500-0074	(130.43)										-		(7.79)		-		(17.66)
Supplemental Reserve Cost Distribution Amount		55500-0075	5,157.46										307.87		-		698.39		-
Subtotal			38,783.44	29,434	-	29,434	-	39,017	-	39,017	-	61,744	5,830.29	61,744	(3,515.15)	230,461	13,225.68	230,461	(7,973.90)
Grand Total			5,190,557.41	29,434	-	29,434	-	39,017	-	39,017	-	61,744	134,811.54	61,744	(51,200.55)	230,461	313,607.72	230,461	(116,997.21)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	May 2018	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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	2,898,053.23 (1,736,629.02)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(51,607.74) 63,697.41									-				
	Excessive Energy Amount	55500-0066														
22	Non-Excessive Energy Amount	55500-0069	482,658.93 145,748.28									-				
	Real Time Non-Asset Energy	55500-0043														
Subtotal			1,801,921.09	684,969	1,895,343.53			123,959	334,472.39			2,229,815.92	25,453			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,163,039.32 448,924.27				-		135,242.63 52,524.14		-	901,617.57 350,160.93		27,308.65 9,937.72		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022														
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(95,735.63) (184,694.51)			-		-		(11,132.50) (21,609.26)	(74,216.69) (144,061.72)		-		(2,247.91) (4,088.53)	
	Real Time Distribution of Losses	55500-0041														
16	Real Time Financial Bilateral Transaction Loss	55500-0038	-				-		-		-	-		-		-
Subtotal			1,331,533.45	684,969	1,064,011.72	684,969	(185,536.64)	123,959	187,766.77	123,959	(32,741.76)	1,033,500.09	25,453	37,246.37	25,453	(6,336.45)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	684,969	-	684,969	-	123,959	-	123,959	-	-	25,453	-	25,453	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	128,832.29 12,401.67				-		15,073.38 1,451.00		-	100,489.19 9,673.30		2,851.93 274.53		-
	Real Time Market Administration (Schedule 17)	55500-0036														
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,098.31				-		245.50		-	1,636.68		46.45		-
Subtotal			143,332.27	684,969	95,029.30	684,969	-	123,959	16,769.88	123,959	-	111,799.17	25,453	3,172.91	25,453	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	May 2018	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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(176,495.09)		-		(116,299.95)		-		(20,523.52)	(136,823.47)		-		(4,144.18)
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(845.28)		-		(556.99)		-		(98.29)	(655.28)		-		(19.85)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	331,772.68		219,965.29		-		38,817.40		-	258,782.69		7,344.36		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(122,611.20)		-		(81,291.23)		-		(14,345.51)	(95,636.74)		-		(2,714.21)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	276,790.70		183,512.23		-		32,384.51		-	215,896.75		6,127.24		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,873.94		3,231.42		-		570.25		-	3,801.67		107.89		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(39,467.79)		-		(26,167.14)		-		(4,617.73)	(30,784.88)		-		(873.69)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(81,448.87)		-		(54,000.60)		-		(9,529.52)	(63,530.12)		-		(1,803.01)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(8,260.17)		-		(5,476.49)		-		(966.44)	(6,442.93)		-		(182.85)
32	Financial Transmission Rights Yearly Allocation	55500-0035	(47,313.29)		-		(31,368.71)		-		(5,535.65)	(36,904.37)		-		(1,047.36)
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	43,166.09		28,619.12		-		5,050.43		-	33,669.55		955.56		-
	FTR Guarantee Uplift Amount	55500-0055	(27,542.61)		-		(18,260.75)		-		(3,222.49)	(21,483.24)		-		(609.70)
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	81,253.08		53,870.79		-		9,506.61		-	63,377.40		1,798.68		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			233,872.19	684,969	489,198.85	684,969	(333,421.86)	123,959	86,329.21	123,959	(58,839.15)	183,267.05	25,453	16,333.73	25,453	(11,394.85)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	15,539.42		10,302.64		-		1,818.11		-	12,120.75		343.99		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(190.76)		-		(126.47)		-		(22.32)	(148.79)		-		(4.22)
	Real Time Price Volatility Make Whole Payment	55500-0057	(246.66)		-		(163.54)		-		(28.86)	(192.39)		-		(5.46)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	28,560.88		18,935.86		-		3,341.62		-	22,277.49		632.24		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-		-		-		-		-	-		-		-
Subtotal			43,662.88	684,969	29,238.50	684,969	(290.01)	123,959	5,159.74	123,959	(51.18)	34,057.05	25,453	976.24	25,453	(9.68)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	(148,451.49)		-		(98,423.34)		-		(17,368.82)	(115,792.16)		-		(3,286.23)
21	Real Time Net Inadvertent Distribution	55500-0044	3,884.08		2,575.15		-		454.44		-	3,029.58		85.98		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	53,205.57		35,275.29		-		6,225.05		-	41,500.34		1,177.80		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(49.87)		-		(33.06)		-		(5.83)	(38.90)		-		(1.10)
34	Real Time Ramp Capability Amount	55500-0080	2.22		1.47		-		0.26		-	1.73		0.05		-
Subtotal			(91,409.49)	684,969	37,851.91	684,969	(98,456.40)	123,959	6,679.75	123,959	(17,374.66)	(71,299.40)	25,453	1,263.83	25,453	(3,287.33)

MINNESOTA POWER		Account										Subtotal FPE and FAC				
MISO MONTHLY ALLOCATION		Number	May 2018	FPE Retail				FAC Resale				Cost/(Revenue)	MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	684,969	-	684,969	-	123,959	-	123,959	-	-	25,453	-	25,453	-
ASM Charge Types (12 Other)																
	Day Ahead Regulation Amount	55500-0062	(4,834.13)		-		(3,205.03)		-		(565.59)	(3,770.62)		-		(107.01)
	Day Ahead Spinning Reserve Amount	55500-0063	(25,026.60)		-		(16,592.64)		-		(2,928.11)	(19,520.75)		-		(554.01)
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-
	Net Regulation Adjustment Amount	55500-0068	856.25		567.69		-		100.18		-	667.88		18.95		-
	Real Time Regulation Amount	55500-0070	(33,588.70)		-		(22,269.31)		-		(3,929.88)	(26,199.19)		-		(743.54)
	Regulation Reserve Cost Distribution Amount	55500-0071	31,910.35		21,156.56		-		3,733.51		-	24,890.07		706.39		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	16,664.50		11,048.56		-		1,949.75		-	12,998.31		368.90		-
	Real Time Spinning Reserve Amount	55500-0072	(6,263.67)		-		(4,152.81)		-		(732.85)	(4,885.66)		-		(138.66)
	Spinning Reserve Cost Distribution Amount	55500-0073	30,913.36		20,495.56		-		3,616.86		-	24,112.42		684.32		-
	Real Time Supplemental Reserve Amount	55500-0074	30.43		20.18		-		3.56		-	23.74		0.67		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	8,655.17		5,738.38		-		1,012.65		-	6,751.03		191.60		-
Subtotal			19,316.96	684,969	59,026.93	684,969	(46,219.79)	123,959	10,416.52	123,959	(8,156.43)	15,067.23	25,453	1,970.83	25,453	(1,543.22)
Grand Total			3,482,229.35	684,969	3,669,700.74	684,969	(663,924.70)	123,959	647,594.25	123,959	(117,163.18)	3,536,207.10	25,453	60,963.90	25,453	(22,571.54)

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		Account	May 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	2,898,053.23 (1,736,629.02)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	(51,607.74) 63,697.41 482,658.93 145,748.28																
	Excessive Energy Amount	55500-0066																	
	Non-Excessive Energy Amount	55500-0069																	
22	Real Time Non-Asset Energy	55500-0043																	
Subtotal			1,801,921.09	42,878				37,821				64,991				237,923			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	1,163,039.32 448,924.27										69,729.61		-		164,383.49		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022											25,374.86		-		63,450.77		-
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(95,735.63) (184,694.51)										-		(5,739.80) (10,439.61)		-		(13,531.23) (26,104.64)
	Real Time Distribution of Losses	55500-0041											-		-		-		-
	Real Time Financial Bilateral Transaction Loss	55500-0038											-		-		-		-
Subtotal			1,331,533.45	42,878	-	42,878	-	37,821	-	37,821	-	64,991	95,104.47	64,991	(16,179.41)	237,923	227,834.26	237,923	(39,635.88)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	42,878	-	42,878	-	37,821	-	37,821	-	64,991	-	64,991	-	237,923	-	237,923	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	128,832.29 12,401.67										7,282.08		-		18,209.10		-
	Real Time Market Administration (Schedule 17)	55500-0036											700.99		-		1,752.85		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,098.31										118.60		-		296.57		-
Subtotal			143,332.27	42,878	-	42,878	-	37,821	-	37,821	-	64,991	8,101.67	64,991	-	237,923	20,258.52	237,923	-

MINNESOTA POWER		Account																		
MISO MONTHLY ALLOCATION			Number	May 2018	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																				
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	(176,495.09)											-		(10,581.70)		-		(24,945.74)
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(845.28)											-		(50.68)		-		(119.47)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	331,772.68											18,753.02		-		46,892.61		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-											-		-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(122,611.20)											-		(6,930.44)		-		(17,329.82)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	276,790.70											15,645.23		-		39,121.48		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	4,873.94											275.49		-		688.88		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(39,467.79)											-		(2,230.87)		-		(5,578.36)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(81,448.87)											-		(4,603.79)		-		(11,511.95)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(8,260.17)											-		(466.90)		-		(1,167.49)
32	Financial Transmission Rights Yearly Allocation	55500-0035	(47,313.29)											-		(2,674.32)		-		(6,687.24)
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	43,166.09											2,439.91		-		6,101.08		-
	FTR Guarantee Uplift Amount	55500-0055	(27,542.61)											-		(1,556.81)		-		(3,892.86)
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	81,253.08											4,592.72		-		11,484.28		-
31	Financial Transmission Rights Transaction	55500-0034	-											-		-		-		-
Subtotal			233,872.19	42,878	-	42,878	-	37,821	-	37,821	-	64,991	41,706.37	64,991	(29,095.50)	237,923	104,288.33	237,923	(71,232.93)	
RSG & Make Whole Payments																				
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	15,539.42											878.35		-		2,196.34		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(190.76)											-		(10.78)		-		(26.96)
	Real Time Price Volatility Make Whole Payment	55500-0057	(246.66)											-		(13.94)		-		(34.86)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	28,560.88											1,614.37		-		4,036.78		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	-											-		-		-		-
Subtotal			43,662.88	42,878	-	42,878	-	37,821	-	37,821	-	64,991	2,492.71	64,991	(24.72)	237,923	6,233.12	237,923	(61.82)	
RNU & Misc Charges																				
20	Real Time Miscellaneous	55500-0042	(148,451.49)											-		(8,391.03)		-		(20,982.07)
21	Real Time Net Inadvertent Distribution	55500-0044	3,884.08											219.54		-		548.97		-
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	53,205.57											3,007.38		-		7,520.05		-
26	Real Time Uninstructed Deviation	55500-0048	-											-		-		-		-
27	Demand Response Allocation Uplift Amount	55500-0077	-											-		-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(49.87)											-		(2.82)		-		(7.05)
34	Real Time Ramp Capability Amount	55500-0080	2.22											0.13		-		0.31		-
Subtotal			(91,409.49)	42,878	-	42,878	-	37,821	-	37,821	-	64,991	3,227.04	64,991	(8,393.84)	237,923	8,069.34	237,923	(20,989.12)	

MINNESOTA POWER		Account	May 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	42,878	-	42,878	-	37,821	-	37,821	-	64,991	-	64,991	-	237,923	-	237,923	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(4,834.13)										-		(273.24)		-		(683.25)
	Day Ahead Spinning Reserve Amount	55500-0063	(25,026.60)										-		(1,414.60)		-		(3,537.25)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	856.25										48.40		-		121.02		-
	Real Time Regulation Amount	55500-0070	(33,588.70)										-		(1,898.56)		-		(4,747.41)
	Regulation Reserve Cost Distribution Amount	55500-0071	31,910.35										1,803.69		-		4,510.20		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	16,664.50										941.94		-		2,355.35		-
	Real Time Spinning Reserve Amount	55500-0072	(6,263.67)										-		(354.05)		-		(885.30)
	Spinning Reserve Cost Distribution Amount	55500-0073	30,913.36										1,747.34		-		4,369.28		-
	Real Time Supplemental Reserve Amount	55500-0074	30.43										1.72		-		4.30		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	8,655.17										489.22		-		1,223.32		-
Subtotal			19,316.96	42,878	-	42,878	-	37,821	-	37,821	-	64,991	5,032.31	64,991	(3,940.44)	237,923	12,583.47	237,923	(9,853.22)
Grand Total			3,482,229.35	42,878	-	42,878	-	37,821	-	37,821	-	64,991	155,664.57	64,991	(57,633.92)	237,923	379,267.04	237,923	(141,772.97)

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	June 2018	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																
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	3,071,585.65 (1,409,262.48)									-				
	Day Ahead Non-Asset Energy	55500-0027														
13a	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	356,270.80									-				
	Excessive Energy Amount	55500-0066	36,996.82													
	Non-Excessive Energy Amount	55500-0069	1,062,555.06													
22	Real Time Non-Asset Energy	55500-0043	109,031.51									-				
Subtotal			3,227,177.36	664,724	2,781,135.98			121,396	490,788.70			3,271,924.68	24,010			
Day Ahead and Real Time Energy Loss																
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	989,300.99		657,141.08		-		115,966.07		-	773,107.15		22,642.47		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	461,418.93		305,920.75		-		53,986.01		-	359,906.77		10,761.76		-
13c 14	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(74,666.04)		-		(49,596.76)		-		(8,752.37)	(58,349.12)		-		(1,708.91)
	Real Time Distribution of Losses	55500-0041	(336,140.54)		-		(222,861.18)		-		(39,328.44)	(262,189.62)		-		(7,839.87)
	Real Time Financial Bilateral Transaction Loss	55500-0038	-		-		-		-		-	-		-		-
Subtotal			1,039,913.35	664,724	963,061.83	664,724	(272,457.93)	121,396	169,952.09	121,396	(48,080.81)	812,475.17	24,010	33,404.23	24,010	(9,548.77)
Virtual Energy																
12	Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
27	Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal			-	664,724	-	664,724	-	121,396	-	121,396	-	-	24,010	-	24,010	-
Schedule 16 & 17 1/																
4	Day Ahead Market Administration (Schedule 17)	55500-0020	141,562.64		93,856.03		-		16,562.83		-	110,418.86		3,301.69		-
19	Real Time Market Administration (Schedule 17)	55500-0036	11,964.94		7,932.76		-		1,399.90		-	9,332.65		279.06		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,915.84		1,933.20		-		341.15		-	2,274.36		68.01		-
Subtotal			156,443.42	664,724	103,721.99	664,724	-	121,396	18,303.88	121,396	-	122,025.87	24,010	3,648.76	24,010	-

MINNESOTA POWER		Account														
MISO MONTHLY ALLOCATION		Number	June 2018	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																
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	189,319.93		125,755.36		-		22,192.12		-	147,947.49		4,333.03		-
	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(39,307.16)		-		(26,109.70)		-		(4,607.59)	(30,717.29)		-		(899.64)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	380,933.41		252,558.85		-		44,569.21		-	297,128.06		8,884.58		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-		-		-		-		-	-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(204,548.06)		-		(135,615.36)		-		(23,932.12)	(159,547.49)		-		(4,770.71)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	304,815.60		202,092.74		-		35,663.43		-	237,756.17		7,109.27		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	7,439.18		4,932.18		-		870.38		-	5,802.56		173.51		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(92,397.22)		-		(61,259.36)		-		(10,810.47)	(72,069.83)		-		(2,155.00)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(389,160.46)		-		(258,013.38)		-		(45,531.77)	(303,545.16)		-		(9,076.46)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(4,731.97)		-		(3,137.30)		-		(553.64)	(3,690.94)		-		(110.36)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-		-		-		-		-	-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	2,120.17		1,405.67		-		248.06		-	1,653.73		49.45		-
	FTR Guarantee Uplift Amount	55500-0055	(2,258.40)		-		(1,497.32)		-		(264.23)	(1,761.55)		-		(52.67)
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	799.68		530.19		-		93.56		-	623.75		18.65		-
31	Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-	-		-		-
Subtotal			153,024.70	664,724	587,274.99	664,724	(485,632.42)	121,396	103,636.76	121,396	(85,699.84)	119,579.50	24,010	20,568.49	24,010	(17,064.85)
RSG & Make Whole Payments																
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	20,438.09		13,550.45		-		2,391.26		-	15,941.71		476.68		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(10,144.00)		-		(6,725.47)		-		(1,186.85)	(7,912.32)		-		(236.59)
	Real Time Price Volatility Make Whole Payment	55500-0057	(1,802.10)		-		(1,194.79)		-		(210.85)	(1,405.64)		-		(42.03)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	52,896.40		35,070.31		-		6,188.88		-	41,259.19		1,233.71		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(57,688.65)		-		(38,247.57)		-		(6,749.57)	(44,997.15)		-		(1,345.48)
Subtotal			3,699.74	664,724	48,620.77	664,724	(46,167.84)	121,396	8,580.14	121,396	(8,147.27)	2,885.80	24,010	1,710.39	24,010	(1,624.10)
RNU & Misc Charges																
20	Real Time Miscellaneous	55500-0042	25,652.30		17,007.47		-		3,001.32		-	20,008.79		598.29		-
21	Real Time Net Inadvertent Distribution	55500-0044	(20,160.11)		-		(13,366.15)		-		(2,358.73)	(15,724.89)		-		(470.20)
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	400,308.24		265,404.36		-		46,836.06		-	312,240.43		9,336.46		-
26	Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
	Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(948.28)		-		(628.71)		-		(110.95)	(739.66)		-		(22.12)
34	Real Time Ramp Capability Amount	55500-0080	(187.66)		-		(124.42)		-		(21.96)	(146.37)		-		(4.38)
Subtotal			404,664.49	664,724	282,411.84	664,724	(14,119.28)	121,396	49,837.38	121,396	(2,491.64)	315,638.30	24,010	9,934.76	24,010	(496.69)

MINNESOTA POWER		Account										Subtotal FPE and FAC Cost/(Revenue)				
MISO MONTHLY ALLOCATION		Number	June 2018	FPE Retail				FAC Resale					MISO Non-Liquidation			
				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue		Mwh	Cost	Mwh	Revenue
Grandfathered Charge Types																
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-									-				
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-									-				
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-									-				
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-									-				
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-									-				
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-									-				
Subtotal			-	664,724	-	664,724	-	121,396	-	121,396	-	-	24,010	-	24,010	-
ASM Charge Types (12 Other)																
	Day Ahead Regulation Amount	55500-0062	(4,121.74)		-		(2,732.71)		-		(482.24)	(3,214.96)		-		(96.13)
	Day Ahead Spinning Reserve Amount	55500-0063	(24,478.28)		-		(16,229.10)		-		(2,863.96)	(19,093.06)		-		(570.91)
	Day Ahead Supplemental Reserve Amount	55500-0064	-		-		-		-		-	-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-		-		-		-		-	-		-		-
	Net Regulation Adjustment Amount	55500-0068	932.11		617.99		-		109.06		-	727.05		21.74		-
	Real Time Regulation Amount	55500-0070	(33,359.30)		-		(22,117.22)		-		(3,903.04)	(26,020.25)		-		(778.05)
	Regulation Reserve Cost Distribution Amount	55500-0071	26,914.47		17,844.29		-		3,148.99		-	20,993.29		627.73		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	22,143.85		14,681.37		-		2,590.83		-	17,272.20		516.47		-
	Real Time Spinning Reserve Amount	55500-0072	(12,134.40)		-		(8,045.11)		-		(1,419.72)	(9,464.83)		-		(283.01)
	Spinning Reserve Cost Distribution Amount	55500-0073	30,553.82		20,257.18		-		3,574.80		-	23,831.98		712.61		-
	Real Time Supplemental Reserve Amount	55500-0074	-		-		-		-		-	-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	14,163.55		9,390.43		-		1,657.14		-	11,047.57		330.34		-
Subtotal			20,614.08	664,724	62,791.27	664,724	(49,124.14)	121,396	11,080.81	121,396	(8,668.97)	16,078.98	24,010	2,208.89	24,010	(1,728.10)
Grand Total			5,005,537.14	664,724	4,829,018.67	664,724	(867,501.61)	121,396	852,179.76	121,396	(153,088.52)	4,660,608.30	24,010	71,475.51	24,010	(30,462.52)

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		Account	June 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Day Ahead and Real Time Energy				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
1a 5	Day Ahead Asset Energy	44700-0000 or 55500-0000 or 55500-0050	3,071,585.65 (1,409,262.48)																
	Day Ahead Non-Asset Energy	55500-0027																	
13a 22	Real Time Asset Energy	44700-0000 or 55500-0000 or 55500-0050	356,270.80																
	Excessive Energy Amount	55500-0066	36,996.82																
	Non-Excessive Energy Amount	55500-0069	1,062,555.06																
	Real Time Non-Asset Energy	55500-0043	109,031.51																
Subtotal			3,227,177.36	14,685				47,323				56,864				221,031			
Day Ahead and Real Time Energy Loss																			
1c 3	Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	989,300.99										53,624.98		-		139,926.39		-
	Day Ahead Financial Bilateral Transaction Loss	55500-0022	461,418.93										25,487.47		-		65,262.94		-
13c 14 16	Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(74,666.04)										-		(4,047.27)		-		(10,560.74)
	Real Time Distribution of Losses	55500-0041	(336,140.54)										-		(18,567.45)		-		(47,543.60)
	Real Time Financial Bilateral Transaction Loss	55500-0038	-										-		-		-		-
Subtotal			1,039,913.35	14,685	-	14,685	-	47,323	-	47,323	-	56,864	79,112.45	56,864	(22,614.71)	221,031	205,189.33	221,031	(58,104.34)
Virtual Energy																			
12	Day Ahead Virtual Energy	55500-0030	-																
27	Real Time Virtual Energy	55500-0049	-																
Subtotal			-	14,685	-	14,685	-	47,323	-	47,323	-	56,864	-	56,864	-	221,031	-	221,031	-
Schedule 16 & 17 1/																			
4 19	Day Ahead Market Administration (Schedule 17)	55500-0020	141,562.64										7,819.52		-		20,022.57		-
	Real Time Market Administration (Schedule 17)	55500-0036	11,964.94										660.91		-		1,692.32		-
29	Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	2,915.84										161.06		-		412.42		-
Subtotal			156,443.42	14,685	-	14,685	-	47,323	-	47,323	-	56,864	8,641.49	56,864	-	221,031	22,127.30	221,031	-

MINNESOTA POWER		Account																	
MISO MONTHLY ALLOCATION		Number	June 2018	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																			
1b	Day Ahead Congestion	44700-0000 or 55500-0000 or 55500-0050	189,319.93										10,262.07		-		26,777.35		-
13b	Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(39,307.16)										-		(2,130.64)		-		(5,559.59)
2	Day Ahead Financial Bilateral Transaction Congestion	55500-0021	380,933.41										21,041.68		-		53,879.09		-
15	Real Time Financial Bilateral Transaction Congestion	55500-0037	-										-		-		-		-
	Auction Revenue Rights Transaction Amount	55500-0058	(204,548.06)										-		(11,298.65)		-		(28,931.21)
	Financial Transmission Rights Annual Transaction Amount	55500-0059	304,815.60										16,837.15		-		43,113.01		-
	Auction Revenue Rights Infeasible Uplift Amount	55500-0060	7,439.18										410.92		-		1,052.20		-
	Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(92,397.22)										-		(5,103.76)		-		(13,068.63)
28	Financial Transmission Rights Hourly Allocation	55500-0032	(389,160.46)										-		(21,496.12)		-		(55,042.72)
30	Financial Transmission Rights Monthly Allocation	55500-0033	(4,731.97)										-		(261.38)		-		(669.29)
32	Financial Transmission Rights Yearly Allocation	55500-0035	-										-		-		-		-
	Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	2,120.17										117.11		-		299.88		-
	FTR Guarantee Uplift Amount	55500-0055	(2,258.40)										-		(124.75)		-		(319.43)
	Financial Transmission Rights Monthly Transaction Amount	55500-0056	799.68										44.17		-		113.11		-
31	Financial Transmission Rights Transaction	55500-0034	-										-		-		-		-
Subtotal			153,024.70	14,685	-	14,685	-	47,323	-	47,323	-	56,864	48,713.10	56,864	(40,415.30)	221,031	125,234.63	221,031	(103,590.87)
RSG & Make Whole Payments																			
10	Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	20,438.09										1,128.94		-		2,890.76		-
11	Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(10,144.00)										-		(560.33)		-		(1,434.76)
	Real Time Price Volatility Make Whole Payment	55500-0057	(1,802.10)										-		(99.54)		-		(254.89)
24	Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	52,896.40										2,921.85		-		7,481.65		-
25	Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(57,688.65)										-		(3,186.56)		-		(8,159.46)
Subtotal			3,699.74	14,685	-	14,685	-	47,323	-	47,323	-	56,864	4,050.79	56,864	(3,846.43)	221,031	10,372.41	221,031	(9,849.12)
RNU & Misc Charges																			
20	Real Time Miscellaneous	55500-0042	25,652.30										1,416.96		-		3,628.25		-
21	Real Time Net Inadvertent Distribution	55500-0044	(20,160.11)										-		(1,113.59)		-		(2,851.44)
23	Real Time Revenue Neutrality Uplift Amount	55500-0045	400,308.24										22,111.89		-		56,619.46		-
26	Real Time Uninstructed Deviation	55500-0048	-										-		-		-		-
27	Demand Response Allocation Uplift Amount	55500-0077	-										-		-		-		-
33	Day Ahead Ramp Capability Amount	55500-0079	(948.28)										-		(52.38)		-		(134.12)
34	Real Time Ramp Capability Amount	55500-0080	(187.66)										-		(10.37)		-		(26.54)
Subtotal			404,664.49	14,685	-	14,685	-	47,323	-	47,323	-	56,864	23,528.85	56,864	(1,176.33)	221,031	60,247.71	221,031	(3,012.11)

MINNESOTA POWER		Account	June 2018																
MISO MONTHLY ALLOCATION		Number		MISO - Liquidation				Others - Liquidation				Others - Non-Liquidation				Contract Sales			
Grandfathered Charge Types				Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue	Mwh	Cost	Mwh	Revenue
6	Day Ahead Congestion Rebate on Carve-Out Grandfathered	55500-0023	-														-		-
7	Day Ahead Losses Rebate on Carve-Out Grandfathered	55500-0024	-														-		-
8	Day Ahead Congestion Rebate on Option B Grandfathered	55500-0025	-														-		-
9	Day Ahead Losses Rebate on Option B Grandfathered	55500-0026	-														-		-
17	Real Time Losses Rebate on Carve-Out Grandfathered	55500-0040	-														-		-
18	Real Time Congestion Rebate on Carve-Out Grandfathered	55500-0039	-														-		-
Subtotal			-	14,685	-	14,685	-	47,323	-	47,323	-	56,864	-	56,864	-	221,031	-	221,031	-
ASM Charge Types (12 Other)																			
	Day Ahead Regulation Amount	55500-0062	(4,121.74)										-		(227.67)		-		(582.98)
	Day Ahead Spinning Reserve Amount	55500-0063	(24,478.28)										-		(1,352.11)		-		(3,462.20)
	Day Ahead Supplemental Reserve Amount	55500-0064	-										-		-		-		-
	Contingency Reserve Deployment Failure Charge Amount	55500-0065	-										-		-		-		-
	Net Regulation Adjustment Amount	55500-0068	932.11										51.49		-		131.84		-
	Real Time Regulation Amount	55500-0070	(33,359.30)										-		(1,842.67)		-		(4,718.33)
	Regulation Reserve Cost Distribution Amount	55500-0071	26,914.47										1,486.68		-		3,806.77		-
	Real-Time Excessive Deficient Deployment Charge Amount	55500-0067	22,143.85										1,223.16		-		3,132.02		-
	Real Time Spinning Reserve Amount	55500-0072	(12,134.40)										-		(670.27)		-		(1,716.29)
	Spinning Reserve Cost Distribution Amount	55500-0073	30,553.82										1,687.71		-		4,321.52		-
	Real Time Supplemental Reserve Amount	55500-0074	-										-		-		-		-
	Supplemental Reserve Cost Distribution Amount	55500-0075	14,163.55										782.35		-		2,003.29		-
Subtotal			20,614.08	14,685	-	14,685	-	47,323	-	47,323	-	56,864	5,231.39	56,864	(4,092.73)	221,031	13,395.44	221,031	(10,479.79)
Grand Total			5,005,537.14	14,685	-	14,685	-	47,323	-	47,323	-	56,864	169,278.07	56,864	(72,145.50)	221,031	436,566.82	221,031	(185,036.22)

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	56,004,166.31 (22,361,050.92)									-				
Day Ahead Non-Asset Energy	55500-0027										-				
Real Time Asset Energy	4470-0000 or 55500-0000 or 55500-0050										-				
Excessive Energy Amount	55500-0066	399,372.23									-				
Non-Excessive Energy Amount	55500-0069	512,717.42									-				
Real Time Non-Asset Energy	55500-0043	641,932.01 293,139.71									-				
Subtotal		35,490,276.77	8,476,607	34,017,722			1,664,400	6,714,889			40,732,610	357,987			

Day Ahead and Real Time Energy Loss

Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	12,684,708.12		8,370,999		-		1,653,815		-	10,024,813.79		332,976		-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	4,100,219.47		2,703,782		-		524,574		-	3,228,355.44		109,393		-
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(900,047.44)		82,915		(679,782)		16,166		(135,253)	(715,953.94)		3,835		(24,461)
Real Time Distribution of Losses	55500-0041	(3,754,941.47)		-		(2,476,390)		-		(493,122)	(2,969,511.86)		-		(100,565)
Real Time Financial Bilateral Transaction Loss	55500-0038	1,756.00		1,487		(344)		323		(70)	1,395.94		68		(6)
Subtotal		12,131,694.68	8,476,607	11,159,183.60	8,476,607	(3,156,516.71)	1,664,400	2,194,876.75	1,664,400	(628,444.28)	9,569,099.37	357,987	446,272.64	357,987	(125,032.29)

Virtual Energy

Day Ahead Virtual Energy	55500-0030	-		-		-		-		-	-				
Real Time Virtual Energy	55500-0049	-		-		-		-		-	-				
Subtotal		-	8,476,607	-	8,476,607	-	1,664,400	-	1,664,400	-	-	357,987	-	357,987	-

Schedule 16 & 17 1/

Day Ahead Market Administration (Schedule 17)	55500-0020	1,745,360.62		1,152,696		-		225,847		-	1,378,543.32		44,528		-
Real Time Market Administration (Schedule 17)	55500-0036	133,682.08		88,316		-		17,281		-	105,597.72		3,364		-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	41,163.94		27,148		-		5,334		-	32,481.57		1,099		-
Subtotal		1,920,206.64	8,476,607	1,268,159.72	8,476,607	-	1,664,400	248,462.88	1,664,400	-	1,516,622.61	357,987	48,991.13	357,987	-

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	910,072.80		978,209		(383,050)		193,230		(71,333)	717,056.53		45,822		(12,597)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(371,224.70)													
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	4,056,252.72		101,586		(343,221)		20,505		(66,209)	(287,338.67)		4,157		(16,390)
Real Time Financial Bilateral Transaction Congestion	55500-0037	5,471.00		2,680,114		(6,030)		516,153		(1,235)	3,189,002.83		107,709		(278)
Auction Revenue Rights Transaction Amount	55500-0058	(2,199,519.57)		4,634		(1,072)		1,005		(217)	4,349.19		212		(20)
Financial Transmission Rights Annual Transaction Amount	55500-0059	3,562,527.00		-		(1,451,824)		-		(285,644)	(1,737,467.73)		-		(58,686)
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	86,306.11		2,352,468		-		459,739		-	2,812,207.10		92,878		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(524,198.26)		56,806		-		11,184		-	67,989.79		2,417		-
Financial Transmission Rights Hourly Allocation	55500-0032	(2,546,946.14)		-		(345,759)		-		(67,768)	(413,527.01)		-		(13,514)
Financial Transmission Rights Monthly Allocation	55500-0033	(206,929.67)		105,482		(1,782,471)		22,573		(343,969)	(1,998,385.07)		4,838		(74,347)
Financial Transmission Rights Yearly Allocation	55500-0035	(47,313.29)		-		(136,377)		-		(27,147)	(163,524.18)		-		(5,950)
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(36,345.87)		-		(31,369)		-		(5,536)	(36,904.37)		-		(1,047)
FTR Guarantee Uplift Amount	55500-0055	38,814.81		47,058		(70,941)		8,760		(13,932)	(29,055.98)		1,790		(2,623)
Financial Transmission Rights Monthly Transaction Amount	55500-0056	439,859.08		69,429		(43,908)		13,654		(8,406)	30,769.28		2,576		(1,775)
Financial Transmission Rights Transaction	55500-0034	-		290,915		-		56,688		-	347,603.80		10,808		-
Subtotal		3,166,826.02	8,476,607	6,686,701.38	8,476,607	(4,596,021.71)	1,664,400	1,303,491.13	1,664,400	(891,395.30)	2,502,775.50	357,987	273,207.25	357,987	(187,227.55)

RSG & Make Whole Payments

Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	266,550.95		175,839		-		34,800		-	210,638.88		6,981		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(20,541.35)		185		(13,745)		35		(2,539)	(16,062.84)		9		(552)
Real Time Price Volatility Make Whole Payment	55500-0057	(62,603.39)		-		(41,080)		-		(8,060)	(49,139.95)		-		(1,975)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	461,962.80		309,226		(5,128)		60,581		(1,063)	363,615.67		13,062		(142)
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(87,590.20)		-		(57,834)		-		(10,541)	(68,375.48)		-		(2,289)
Subtotal		557,778.81	8,476,607	485,249.86	8,476,607	(117,787.31)	1,664,400	95,416.51	1,664,400	(22,202.79)	440,676.28	357,987	20,051.89	357,987	(4,958.61)

RNU & Misc Charges

Real Time Miscellaneous	55500-0042	193,773.46		233,449		(105,564)		46,096		(18,729)	155,251.83		9,091		(3,614)
Real Time Net Inadvertent Distribution	55500-0044	88,815.29		89,347		(30,748)		17,746		(5,670)	70,675.79		3,427		(1,212)
Real Time Revenue Neutrality Uplift Amount	55500-0045	1,764,914.94		1,167,073		-		225,387		-	1,392,460.06		44,755		-
Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-	-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-	-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(31,611.51)		-		(20,774)		-		(3,989)	(24,763.14)		-		(945)
Real Time Ramp Capability Amount	55500-0080	7,593.98		5,358		(370)		1,031		(71)	5,947.15		246		(15)
Subtotal		2,023,486.16	8,476,607	1,495,227.32	8,476,607	(157,455.53)	1,664,400	290,259.10	1,664,400	(28,459.20)	1,599,571.69	357,987	57,519.51	357,987	(5,786.63)

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			-	8,476,607	-	8,476,607	-	1,664,400	-	1,664,400	-	-	357,987	-	357,987	-
ASM Charge Types (12 Other)																
Day Ahead Regulation Amount		55500-0062	(58,638.23)		271		(38,847)		55		(7,690)	(46,211.63)		5		(1,666)
Day Ahead Spinning Reserve Amount		55500-0063	(428,950.86)		-		(282,558)		-		(55,840)	(338,397.67)		-		(11,725)
Day Ahead Supplemental Reserve Amount		55500-0064	(30.33)		6		(25)		1		(5)	(23.66)		0		(1)
Contingency Reserve Deployment Failure Charge Amount		55500-0065	1,166.63		765		-		146		-	911.30		30		-
Net Regulation Adjustment Amount		55500-0068	(1,340.07)		1,371		(2,248)		245		(450)	(1,082.14)		48		(90)
Real Time Regulation Amount		55500-0070	(85,090.41)		2,094		(58,352)		399		(10,595)	(66,454.35)		85		(2,136)
Regulation Reserve Cost Distribution Amount		55500-0071	400,341.92		264,111		-		51,938		-	316,048.80		10,614		-
Real-Time Excessive Deficient Deployment Charge Amount		55500-0067	84,852.54		56,062		-		10,638		-	66,700.21		2,126		-
Real Time Spinning Reserve Amount		55500-0072	36,196.46		49,126		(25,392)		10,069		(4,806)	28,996.13		2,196		(1,113)
Spinning Reserve Cost Distribution Amount		55500-0073	400,887.53		264,485		-		51,792		-	316,276.72		10,531		-
Real Time Supplemental Reserve Amount		55500-0074	(76.72)		39		(90)		7		(17)	(59.84)		2		(3)
Supplemental Reserve Cost Distribution Amount		55500-0075	106,796.47		70,291		-		13,850		-	84,140.41		2,985		-
Subtotal			456,114.93	8,476,607	708,620.39	8,476,607	(407,511.20)	1,664,400	139,139.20	1,664,400	(79,404.10)	360,844.28	357,987	28,622.13	357,987	(16,733.80)
Grand Total			55,746,384.00	8,476,607	55,820,863.91	8,476,607	(8,435,292.47)	1,664,400	10,986,534.38	1,664,400	(1,649,905.68)	56,722,200.15	357,987	874,664.54	357,987	(339,738.89)

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

MISO MONTHLY ALLOCATION

Day Ahead and Real Time Energy

	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 Asset Energy	4470-0000 or 55500-0000 or 55500-0050	56,004,166.31 (22,361,050.92)																
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	399,372.23 512,717.42 641,932.01 293,139.71																
Subtotal		35,490,276.77	377,787				462,094				685,789				2,738,031			

Day Ahead and Real Time Energy Loss

Day Ahead Loss	44700-0000 or 55500-0000 or 55500-0050	12,684,708.12			-	-			-	-			632,029	-			1,694,889	-
Day Ahead Financial Bilateral Transaction Loss	55500-0022	4,100,219.47			-	-			-	-			208,716	-			553,755	-
Real Time Loss	44700-0000 or 55500-0000 or 55500-0050	(900,047.44)			-	-			-	-			6,052	(50,838)			17,217	(135,898)
Real Time Distribution of Losses	55500-0041	(3,754,941.47)			-	-			-	-			-	(184,930)			-	(499,934)
Real Time Financial Bilateral Transaction Loss	55500-0038	1,756.00			-	-			-	-			100	(26)			290	(66)
Subtotal		12,131,694.68	377,787	-	377,787	-	462,094	-	462,094	-	685,789	846,896.49	685,789	(235,793.92)	2,738,031	2,266,151.28	2,738,031	(635,898.89)

Virtual Energy

Day Ahead Virtual Energy	55500-0030	-																
Real Time Virtual Energy	55500-0049	-																
Subtotal		-	377,787	-	377,787	-	462,094	-	462,094	-	685,789	-	685,789	-	2,738,031	-	2,738,031	-

Schedule 16 & 17 1/

Day Ahead Market Administration (Schedule 17)	55500-0020	1,745,360.62			-	-			-	-			88,086	-			234,204	-
Real Time Market Administration (Schedule 17)	55500-0036	133,682.08			-	-			-	-			6,762	-			17,959	-
Financial Transmission Rights Market Administration (Schedule 16)	55500-0031	41,163.94			-	-			-	-			2,066	-			5,517	-
Subtotal		1,920,206.64	377,787	-	377,787	-	462,094	-	462,094	-	685,789	96,913.97	685,789	-	2,738,031	257,678.94	2,738,031	-

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	910,072.80		-		-		-		-		73,169		(31,140)		197,578		(79,817)
Real Time Congestion	44700-0000 or 55500-0000 or 55500-0050	(371,224.70)		-		-		-		-		7,184		(27,315)		20,004		(71,525)
Day Ahead Financial Bilateral Transaction Congestion	55500-0021	4,056,252.72		-		-		-		-		208,241		(383)		553,116		(1,155)
Real Time Financial Bilateral Transaction Congestion	55500-0037	5,471.00		-		-		-		-		313		(80)		903		(207)
Auction Revenue Rights Transaction Amount	55500-0058	(2,199,519.57)		-		-		-		-		-		(108,948)		-		(294,418)
Financial Transmission Rights Annual Transaction Amount	55500-0059	3,562,527.00		-		-		-		-		178,950		-		478,492		-
Auction Revenue Rights Infeasible Uplift Amount	55500-0060	86,306.11		-		-		-		-		4,328		-		11,572		-
Auction Revenue Rights Stage 2 Distribution Amount	55500-0061	(524,198.26)		-		-		-		-		-		(26,733)		-		(70,424)
Financial Transmission Rights Hourly Allocation	55500-0032	(2,546,946.14)		-		-		-		-		7,017		(138,777)		20,480		(367,773)
Financial Transmission Rights Monthly Allocation	55500-0033	(206,929.67)		-		-		-		-		-		(9,966)		-		(27,490)
Financial Transmission Rights Yearly Allocation	55500-0035	(47,313.29)		-		-		-		-		-		(2,674)		-		(6,687)
Financial Transmission Rights Full Funding Guarantee Amount	55500-0054	(36,345.87)		-		-		-		-		3,671		(5,345)		9,698		(14,481)
FTR Guarantee Uplift Amount	55500-0055	38,814.81		-		-		-		-		5,200		(3,248)		14,165		(8,873)
Financial Transmission Rights Monthly Transaction Amount	55500-0056	439,859.08		-		-		-		-		22,274		-		59,173		-
Financial Transmission Rights Transaction	55500-0034	-		-		-		-		-		-		-		-		-
Subtotal		3,166,826.02	377,787	-	377,787	-	462,094	-	462,094	-	685,789	510,347.21	685,789	(354,608.79)	2,738,031	1,365,181.47	2,738,031	(942,849.07)

RSG & Make Whole Payments

Day Ahead Revenue Sufficiency Guarantee Distribution	55500-0028	266,550.95		-		-		-		-		13,326		-		35,605		-
Day Ahead Revenue Sufficiency Guarantee Make Whole Payment	55500-0029	(20,541.35)		-		-		-		-		14		(1,093)		38		(2,895)
Real Time Price Volatility Make Whole Payment	55500-0057	(62,603.39)		-		-		-		-		-		(3,046)		-		(8,442)
Real Time Revenue Sufficiency Guarantee First Pass Dist	55500-0046	461,962.80		-		-		-		-		23,637		(363)		63,141		(988)
Real Time Revenue Sufficiency Guarantee Make Whole Payment	55500-0047	(87,590.20)		-		-		-		-		-		(4,692)		-		(12,233)
Subtotal		557,778.81	377,787	-	377,787	-	462,094	-	462,094	-	685,789	36,978.02	685,789	(9,194.88)	2,738,031	98,784.00	2,738,031	(24,557.87)

RNU & Misc Charges

Real Time Miscellaneous	55500-0042	193,773.46		-		-		-		-		17,199		(8,965)		47,289		(22,478)
Real Time Net Inadvertent Distribution	55500-0044	88,815.29		-		-		-		-		6,854		(2,404)		17,943		(6,469)
Real Time Revenue Neutrality Uplift Amount	55500-0045	1,764,914.94		-		-		-		-		88,415		-		239,284		-
Real Time Uninstructed Deviation	55500-0048	-		-		-		-		-		-		-		-		-
Demand Response Allocation Uplift Amount	55500-0077	-		-		-		-		-		-		-		-		-
Day Ahead Ramp Capability Amount	55500-0079	(31,611.51)		-		-		-		-		-		(1,593)		-		(4,310)
Real Time Ramp Capability Amount	55500-0080	7,593.98		-		-		-		-		412		(29)		1,110		(76)
Subtotal		2,023,486.16	377,787	-	377,787	-	462,094	-	462,094	-	685,789	112,880.11	685,789	(12,990.78)	2,738,031	305,626.08	2,738,031	(33,333.81)

MINNESOTA POWER

MISO MONTHLY ALLOCATION

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

ASM Charge Types (12 Other)

Day Ahead Regulation Amount	55500-0062
Day Ahead Spinning Reserve Amount	55500-0063
Day Ahead Supplemental Reserve Amount	55500-0064
Contingency Reserve Deployment Failure Charge Amount	55500-0065
Net Regulation Adjustment Amount	55500-0068
Real Time Regulation Amount	55500-0070
Regulation Reserve Cost Distribution Amount	55500-0071
Real-Time Excessive Deficient Deployment Charge Amount	55500-0067
Real Time Spinning Reserve Amount	55500-0072
Spinning Reserve Cost Distribution Amount	55500-0073
Real Time Supplemental Reserve Amount	55500-0074
Supplemental Reserve Cost Distribution Amount	55500-0075

Subtotal

Grand Total

July 2016 -
June 2017

MISO - Liquidation

Mwh Cost Mwh Revenue

Others - Liquidation

Mwh Cost Mwh Revenue

Others - Non-Liquidation

Mwh Cost Mwh Revenue

Contract Sales

Mwh Cost Mwh Revenue

-		-		-		-		-		-		-		-		-	
-		-		-		-		-		-		-		-		-	
-		-		-		-		-		-		-		-		-	
-		-		-		-		-		-		-		-		-	
-		-		-		-		-		-		-		-		-	
-		-		-		-		-		-		-		-		-	
-		-		-		-		-		-		-		-		-	

-	377,787	-	377,787	-	462,094	-	462,094	-	685,789	-	685,789	-	2,738,031	-	2,738,031	-
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(58,638.23)		-		-		-		-		20		(2,932)		52		(7,906)
(428,950.86)		-		-		-		-		-		(21,416)		-		(57,413)
(30.33)		-		-		-		-		0		(2)		1		(5)
1,166.63		-		-		-		-		67		-		158		-
(1,340.07)		-		-		-		-		115		(172)		291		(451)
(85,090.41)		-		-		-		-		146		(4,834)		434		(12,330)
400,341.92		-		-		-		-		20,037		-		53,642		-
84,852.54		-		-		-		-		4,437		-		11,589		-
36,196.46		-		-		-		-		3,590		(2,025)		9,872		(5,319)
400,887.53		-		-		-		-		20,254		-		53,826		-
(76.72)		-		-		-		-		3		(8)		8		(19)
106,796.47		-		-		-		-		5,316		-		14,354		-

456,114.93	377,787	-	377,787	-	462,094	-	462,094	-	685,789	53,986.58	685,789	(31,389.21)	2,738,031	144,228.35	2,738,031	(83,443.40)
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55,746,384.00	377,787	-	377,787	-	462,094	-	462,094	-	685,789	1,658,002.37	685,789	(643,977.59)	2,738,031	4,437,650.12	2,738,031	(1,720,083.05)
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**Minnesota Power's
ASM Cost and Benefit Compliance Filing
July 2017 through June 2018**

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. 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 10 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 \$7,592.35 for July 2017 through June 2018. The Spinning Reserve costs and revenues are provided in Table 10-A.

Supplemental Reserves

Minnesota Power's cost allocation for supplemental reserves was \$106,708.95 for July 2017 through June 2018. 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 had a net cost of \$252,623.34 for July 2017 through June 2018. The Regulation costs and revenues are provided in Table 10-A.

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 2017 through June 2018 summary of ASM hourly charges which had a net cost of \$457,228.70. 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 2017 through June 2018, a net cost of \$301,109.19 was allocated to the Retail FCA.

Table 10-B provides a summary of July 2017 through June 2018 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 2017 through June 2018.

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 2017

through June 2018, the Schedule 17 rate averaged \$0.08239 for an average monthly billing of \$156,586.89.

Daily Detail

Table 10-D provides the daily details supporting the monthly and quarterly benefits shown in Table 10-A. For the reporting period, 337 days or 92 percent show a net cost. With the exception of 26 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 2017 through June 2018, Minnesota Power incurred \$1,166.63 of CRDFC. This charge occurred on three operating days as shown in Table 10-E. The shortfall MWh totaled of 15.9 for an average cost of \$73.37 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 2017 through June 2018, Minnesota Power incurred \$91,031.47 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

	Jul-17	Aug-17	Sep-17	3rd Quarter 2017 Total	Oct-17	Nov-17	Dec-17	4th Quarter 2017 Total	Jan-18	Feb-18	Mar-18	1st Quarter 2018 Total	Apr-18	May-18	Jun-18	2nd Quarter 2018 Total	Period-to-date Total
Day Ahead Regulation Amount	(1,854.12)	(3,982.31)	(11,414.90)	\$ (17,251.33)	(5,545.79)	(2,831.20)	(4,873.95)	\$ (13,250.94)	(11,482.59)	(1,451.13)	(1,318.85)	\$ (14,252.57)	-5430.43	(7,693.51)	(2,033.63)	\$ (15,157.57)	\$ (59,912.41)
Real Time Regulation Amount	(3,068.42)	(846.80)	(6,138.87)	\$ (10,054.09)	875.18	(679.23)	(101.35)	\$ 94.60	(2,467.15)	(1,310.26)	(1,447.51)	\$ (5,224.92)	-1983.6	(27,173.05)	(44,576.20)	\$ (73,732.85)	\$ (88,917.26)
Regulation Cost Distribution Amount	33,467.48	31,884.59	37,271.97	\$ 102,624.04	41,502.95	36,211.77	31,450.60	\$ 109,165.32	39,816.59	26,738.04	28,074.34	\$ 94,628.97	35305.54	33,800.41	25,928.73	\$ 95,034.68	\$ 401,453.01
Regulation SubTotal	\$ 28,544.94	\$ 27,055.48	\$ (194.21)	\$ 75,318.62	\$ 36,832.34	\$ 32,701.34	\$ 26,475.30	\$ 96,008.98	\$ 25,866.85	\$ 23,976.65	\$ 25,307.98	\$ 75,151.48	\$ 27,891.51	\$ (1,066.15)	\$ (20,681.10)	\$ 6,144.26	\$ 252,623.34
Day Ahead Spinning Reserve Amount	(27,487.13)	(34,019.75)	(71,317.30)	\$ (132,824.18)	(33,593.37)	(30,691.36)	(42,731.48)	\$ (107,016.21)	(56,393.39)	(17,117.00)	(27,662.92)	\$ (101,173.31)	(41,508.30)	(38,437.27)	(18,081.22)	\$ (98,026.79)	\$ (439,040.49)
Real Time Spinning Reserve Amount	(12,234.04)	(3,292.99)	15,880.45	\$ 353.42	9,660.41	(357.40)	28,178.90	\$ 37,481.91	10,689.05	2,256.35	(1,515.89)	\$ 11,429.51	5,728.46	(654.76)	(12,918.48)	\$ (7,844.78)	\$ 41,420.06
Spinning Reserve Cost Distribution Amount	32,952.84	34,130.16	38,218.70	\$ 105,301.70	38,749.96	33,261.32	22,593.74	\$ 94,605.02	45,344.21	24,467.93	31,288.39	\$ 101,100.53	38,945.08	40,360.70	24,899.75	\$ 104,205.53	\$ 405,212.78
Spinning Reserve SubTotal	\$ (6,768.33)	\$ (3,182.58)	\$ (17,218.15)	\$ (27,169.06)	\$ 14,817.00	\$ 2,212.56	\$ 8,041.16	\$ 25,070.72	\$ (360.13)	\$ 9,607.28	\$ 2,109.58	\$ 11,356.73	\$ 3,165.24	\$ 1,268.67	\$ (6,099.95)	\$ (1,666.04)	\$ 7,592.35
Day Ahead Supplemental Reserve Amount	(30.33)	-	-	\$ (30.33)	-	-	-	\$ -	-	-	-	\$ -	-	-	-	\$ -	\$ (30.33)
Real Time Supplemental Reserve Amount	21.96	-	-	\$ 21.96	-	-	-	\$ -	-	-	-	\$ -	(100.00)	-	-	\$ (100.00)	\$ (78.04)
Supplemental Reserve Cost Distribution Amount	12,766.35	8,169.67	11,929.50	\$ 32,865.52	6,698.98	5,828.02	6,609.18	\$ 19,136.18	16,998.69	4,355.15	5,558.15	\$ 26,911.99	5,357.50	14,987.58	7,558.55	\$ 27,903.63	\$ 106,817.32
Supplemental Reserve SubTotal	\$ 12,757.98	\$ 8,169.67	\$ 11,929.50	\$ 32,857.15	\$ 6,698.98	\$ 5,828.02	\$ 6,609.18	\$ 19,136.18	\$ 16,998.69	\$ 4,355.15	\$ 5,558.15	\$ 26,911.99	\$ 5,257.50	\$ 14,987.58	\$ 7,558.55	\$ 27,803.63	\$ 106,708.95
Contingency Reserve Deployment Failure Charge Amount	42.06	-	132.52	\$ 174.58	-	-	-	\$ -	-	-	-	\$ -	992.05	-	-	\$ 992.05	\$ 1,166.63
Real Time Excessive Deficient Energy Deployment Charge Amount	4,044.53	2,421.36	6,535.24	\$ 13,001.13	4,064.16	3,813.94	3,528.70	\$ 11,406.80	7,905.98	4,251.98	2,896.64	\$ 15,054.60	6,526.85	19,123.84	25,918.25	\$ 51,568.94	\$ 91,031.47
Net Regulation Adjustment Amount	(111.24)	(36.19)	256.71	\$ 109.28	(479.49)	(387.75)	(366.19)	\$ (1,233.43)	(418.59)	(272.82)	(135.80)	\$ (827.21)	(1,040.65)	524.68	573.29	\$ 57.32	\$ (1,894.04)
Other Charge SubTotal	\$ 3,975.35	\$ 2,385.17	\$ 6,924.47	\$ 13,284.99	\$ 3,584.67	\$ 3,426.19	\$ 3,162.51	\$ 10,173.37	\$ 7,487.39	\$ 3,979.16	\$ 2,760.84	\$ 14,227.39	\$ 6,478.25	\$ 19,648.52	\$ 26,491.54	\$ 52,618.31	\$ 90,304.06
Total	\$ 38,509.94	\$ 34,427.74	\$ 1,441.61	\$ 94,291.70	\$ 61,932.99	\$ 44,168.11	\$ 44,288.15	\$ 150,389.25	\$ 49,992.80	\$ 41,918.24	\$ 35,736.55	\$ 127,647.59	\$ 42,792.50	\$ 34,838.62	\$ 7,269.04	\$ 84,900.16	\$ 457,228.70

Table 10-B: Summary of MWh of ASM products Purchased and Supplied

	Jul-17	Aug-17	Sep-17	3rd Quarter 2017 Total	Oct-17	Nov-17	Dec-17	4th Quarter 2017 Total	Jan-18	Feb-18	Mar-18	1st Quarter 2018 Total	Apr-18	May-18	Jun-18	2nd Quarter 2018 Total	Period-to-date Total
Total MISO Reg Procured (MWh)	294,526.83	295,135.72	285,253.68	874,916.23	294,871.41	285,554.35	294,588.74	875,014.50	295,141.28	266,379.23	294,881.90	856,402.41	285,249.43	295,150.37	285,296.63	865,696.43	3,472,029.57
MP Share of Reg Procured by MISO	4,385.22	4,726.12	4,764.18	13,875.52	5,254.47	5,405.62	5,225.14	15,885.23	4,797.55	4,726.13	5,337.14	14,860.82	5,214.41	4,716.38	4,165.97	14,096.76	58,718.33
MP Supplied Reg Volume	279.80	248.64	838.11	1,366.55	251.37	315.36	369.69	936.42	898.00	304.27	406.16	1,608.43	739.28	2,497.95	5,106.76	8,343.99	12,255.39
MP Net Buyer or (Seller) of Regulation	4,105.42	4,477.48	3,926.07	12,508.97	5,003.10	5,090.26	4,855.45	14,948.81	3,899.55	4,421.86	4,930.98	13,252.39	4,475.13	2,218.43	(940.79)	5,752.77	46,462.94
Total MISO Spin Procured (MWh)	744,200.25	712,374.01	701,585.32	2,158,159.58	700,541.06	682,137.45	722,003.74	2,104,682.25	749,047.19	644,389.10	705,382.64	2,098,818.93	675,501.05	707,815.44	681,840.80	2,065,157.29	8,426,818.05
MP Share of Spin Procured by MISO	11,167.52	11,481.03	11,730.61	34,379.16	12,541.80	12,961.69	12,850.41	38,353.90	12,116.60	11,474.95	12,806.55	36,398.10	12,387.92	11,348.85	10,006.31	33,743.08	142,874.24
MP Supplied Spin Volume	22,822.75	20,401.42	20,066.49	63,290.66	10,880.71	19,416.77	24,863.46	55,160.94	12,752.03	8,898.03	14,864.27	36,514.33	12,104.47	14,206.21	19,593.79	45,904.47	200,870.40
MP Net Buyer or (Seller) of Spinning Reserves	(11,655.23)	(8,920.39)	(8,335.88)	(28,911.50)	1,661.09	(6,455.08)	(12,013.05)	(16,807.04)	(635.43)	2,576.92	(2,057.72)	(116.23)	283.45	(2,857.36)	(9,587.48)	(12,161.39)	(57,996.16)
Total MISO Supp Procured (MWh)	775,901.91	808,471.99	769,960.64	2,354,334.54	820,045.19	789,661.50	798,275.10	2,407,981.79	771,830.71	729,125.38	815,280.17	2,316,236.26	796,148.04	813,030.38	789,668.28	2,398,846.70	9,477,399.29
MP Share of Supp Procured by MISO	11,588.52	12,996.84	12,984.83	37,570.19	14,670.76	14,986.56	14,179.80	43,837.12	12,652.89	12,954.60	14,796.92	40,404.41	14,612.31	13,088.63	11,589.75	39,290.69	161,102.41
MP Supplied Supp Volume	-	-	-	-	-	-	-	-	-	-	-	-	0.50	-	-	0.50	0.50
MP Net Buyer or (Seller) of Supplemental Reserves	11,588.52	12,996.84	12,984.83	37,570.19	14,670.76	14,986.56	14,179.80	43,837.12	12,652.89	12,954.60	14,796.92	40,404.41	14,611.81	13,088.63	11,589.75	39,290.19	161,101.91

Negative numbers indicate a payment from MISO
Positive numbers indicate a charge from MISO

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 2017 through June 2018	\$ 156,586.89	\$ 0.08239
Average Monthly Increase	\$ 15,664.39	\$ 0.01016

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC

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
7/1/2017	(51.68)	(614.62)	726.26	\$ 59.96	(426.03)	(490.52)	679.64	\$ (236.91)	-	-	174.79	\$ 174.79	-	286.30	(32.08)	\$ 254.22	\$ 252.06
7/2/2017	(56.06)	(207.93)	720.52	\$ 456.53	(415.51)	(440.15)	662.25	\$ (193.41)	-	-	179.56	\$ 179.56	-	254.45	(29.47)	\$ 224.98	\$ 667.66
7/3/2017	(56.31)	(59.41)	843.98	\$ 728.26	(526.54)	(122.55)	817.54	\$ 168.45	-	-	146.00	\$ 146.00	-	189.82	(27.00)	\$ 162.82	\$ 1,205.53
7/4/2017	(35.94)	(283.48)	695.93	\$ 376.51	(759.89)	(272.72)	708.63	\$ (323.98)	-	-	176.32	\$ 176.32	-	214.11	(11.85)	\$ 202.26	\$ 431.11
7/5/2017	(81.90)	27.14	1,185.02	\$ 1,130.26	(1,006.88)	(80.45)	1,353.86	\$ 266.53	-	-	713.22	\$ 713.22	-	85.42	(13.46)	\$ 71.96	\$ 2,181.97
7/6/2017	(130.40)	84.63	1,635.76	\$ 1,589.99	(1,046.91)	273.48	1,370.36	\$ 596.93	-	-	790.12	\$ 790.12	-	58.40	0.02	\$ 58.42	\$ 3,035.46
7/7/2017	-	(4.33)	969.45	\$ 965.12	(490.46)	(66.32)	1,030.29	\$ 473.51	-	-	167.17	\$ 167.17	-	43.16	(0.03)	\$ 43.13	\$ 1,648.93
7/8/2017	(42.60)	27.30	897.28	\$ 881.98	(348.14)	(256.99)	786.29	\$ 181.16	-	-	178.82	\$ 178.82	-	47.31	0.11	\$ 47.42	\$ 1,289.38
7/9/2017	-	(95.12)	865.54	\$ 770.42	(283.07)	(276.88)	866.35	\$ 306.40	-	-	175.99	\$ 175.99	-	78.97	1.66	\$ 80.63	\$ 1,333.44
7/10/2017	-	(6.14)	918.75	\$ 912.61	(477.17)	500.78	97.20	\$ 120.81	-	-	922.94	\$ 922.94	-	66.79	(0.03)	\$ 66.76	\$ 2,023.12
7/11/2017	-	(19.89)	1,643.84	\$ 1,623.95	(477.67)	(95.84)	1,351.95	\$ 778.44	-	-	796.38	\$ 796.38	-	149.28	(1.84)	\$ 147.44	\$ 3,346.21
7/12/2017	(40.85)	13.15	1,119.27	\$ 1,091.57	(481.29)	(102.76)	1,294.77	\$ 710.72	-	-	881.87	\$ 881.87	-	78.38	(2.15)	\$ 76.23	\$ 2,760.39
7/13/2017	(45.00)	17.60	1,023.55	\$ 996.15	(734.11)	(183.47)	1,037.13	\$ 119.55	-	-	726.70	\$ 726.70	-	49.10	(0.12)	\$ 48.98	\$ 1,891.38
7/14/2017	-	(47.66)	1,049.47	\$ 1,001.81	(787.75)	(298.00)	950.38	\$ (135.37)	-	-	179.55	\$ 179.55	-	117.79	(0.82)	\$ 116.97	\$ 1,162.96
7/15/2017	(42.85)	(29.13)	1,130.68	\$ 1,058.70	(577.47)	(665.38)	810.46	\$ (432.39)	-	-	186.39	\$ 186.39	-	103.73	1.17	\$ 104.90	\$ 917.60
7/16/2017	-	(594.11)	1,042.07	\$ 447.96	(221.66)	(1,687.70)	698.75	\$ (1,210.61)	-	-	178.87	\$ 178.87	-	143.28	(5.38)	\$ 137.90	\$ (445.88)
7/17/2017	-	(338.30)	785.82	\$ 447.52	(321.53)	(1,878.54)	512.75	\$ (1,687.32)	-	-	99.22	\$ 99.22	-	125.56	(13.63)	\$ 111.93	\$ (1,028.65)
7/18/2017	(45.00)	(212.22)	1,800.03	\$ 1,542.81	(518.80)	(3,751.62)	1,985.64	\$ (2,284.78)	-	-	(296.57)	\$ (296.57)	-	116.38	0.88	\$ 117.26	\$ (921.28)
7/19/2017	(42.65)	(395.90)	1,322.83	\$ 884.28	(2,870.52)	(420.97)	1,533.12	\$ (1,758.37)	-	-	992.52	\$ 992.52	-	288.20	26.97	\$ 315.17	\$ 433.60
7/20/2017	(859.35)	(5.91)	1,796.57	\$ 931.31	(1,674.13)	(202.77)	1,461.09	\$ (415.81)	-	-	926.93	\$ 926.93	42.06	591.38	(4.54)	\$ 628.90	\$ 2,071.33
7/21/2017	(19.63)	(262.11)	1,057.30	\$ 775.56	(2,251.69)	(135.30)	1,560.15	\$ (826.84)	-	-	1,174.04	\$ 1,174.04	-	233.05	2.64	\$ 235.69	\$ 1,358.45
7/22/2017	(100.40)	74.67	1,032.94	\$ 1,007.21	(2,499.09)	1,655.53	1,165.62	\$ 322.06	(30.33)	21.96	1,076.93	\$ 1,068.56	-	58.34	-	\$ 58.34	\$ 2,456.17
7/23/2017	(61.50)	33.47	925.30	\$ 897.27	(2,041.79)	384.90	995.82	\$ (661.07)	-	-	208.10	\$ 208.10	-	47.94	0.02	\$ 47.96	\$ 492.26
7/24/2017	-	(23.14)	965.71	\$ 942.57	(1,797.20)	482.17	931.74	\$ (383.29)	-	-	848.24	\$ 848.24	-	118.80	(1.02)	\$ 117.78	\$ 1,525.30
7/25/2017	(44.85)	(26.34)	854.53	\$ 783.34	(314.97)	(446.23)	627.58	\$ (133.62)	-	-	971.73	\$ 971.73	-	86.05	0.29	\$ 86.34	\$ 1,707.79
7/26/2017	(45.00)	28.14	1,041.65	\$ 1,024.79	(572.10)	(833.60)	1,356.81	\$ (48.89)	-	-	174.41	\$ 174.41	-	40.39	-	\$ 40.39	\$ 1,190.70
7/27/2017	-	(56.08)	885.14	\$ 829.06	(438.20)	(1,851.58)	1,434.94	\$ (854.84)	-	-	(342.08)	\$ (342.08)	-	171.12	(1.44)	\$ 169.68	\$ (198.18)
7/28/2017	-	(24.89)	815.63	\$ 790.74	(360.12)	(472.84)	1,018.97	\$ 186.01	-	-	143.62	\$ 143.62	-	50.83	(0.02)	\$ 50.81	\$ 1,171.18
7/29/2017	-	(90.36)	909.96	\$ 819.60	(676.16)	(26.90)	991.42	\$ 288.36	-	-	197.08	\$ 197.08	-	54.04	(0.12)	\$ 53.92	\$ 1,358.96
7/30/2017	(52.15)	27.55	996.58	\$ 971.98	(507.13)	(437.19)	1,182.93	\$ 238.61	-	-	35.60	\$ 35.60	-	43.99	-	\$ 43.99	\$ 1,290.18
7/31/2017	-	(5.00)	1,810.12	\$ 1,805.12	(1,583.15)	(33.63)	1,678.41	\$ 61.63	-	-	(18.11)	\$ (18.11)	-	52.17	-	\$ 52.17	\$ 1,900.81
July Total	\$ (1,854.12)	\$ (3,068.42)	\$ 33,467.48	\$ 28,544.94	\$ (27,487.13)	\$ (12,234.04)	\$ 32,952.84	\$ (6,768.33)	\$ (30.33)	\$ 21.96	\$ 12,766.35	\$ 12,757.98	\$ 42.06	\$ 4,044.53	\$ (111.24)	\$ 3,975.35	\$ 38,509.94
8/1/2017	(42.55)	24.74	1,278.59	\$ 1,260.78	(1,595.16)	(28.01)	1,531.04	\$ (92.13)	-	-	1,150.39	\$ 1,150.39	-	52.18	0.18	\$ 52.36	\$ 2,371.40
8/2/2017	(45.00)	31.99	1,016.38	\$ 1,003.37	(1,841.72)	46.26	1,379.76	\$ (415.70)	-	-	1,074.69	\$ 1,074.69	-	98.10	(0.01)	\$ 98.09	\$ 1,760.45
8/3/2017	-	(25.05)	850.48	\$ 825.43	(457.73)	(320.57)	986.28	\$ 207.98	-	-	177.79	\$ 177.79	-	66.29	(3.16)	\$ 63.13	\$ 1,274.33
8/4/2017	-	(13.14)	886.15	\$ 873.01	(190.51)	(381.21)	646.80	\$ 75.08	-	-	189.63	\$ 189.63	-	50.79	0.35	\$ 51.14	\$ 1,188.86
8/5/2017	(98.50)	(10.91)	951.55	\$ 842.14	(712.58)	(377.59)	601.76	\$ (488.41)	-	-	200.63	\$ 200.63	-	119.81	(0.16)	\$ 119.65	\$ 674.01
8/6/2017	-	(22.27)	931.67	\$ 909.40	(579.14)	(875.60)	502.33	\$ (952.41)	-	-	191.67	\$ 191.67	-	18.17	0.64	\$ 18.81	\$ 167.47
8/7/2017	(26.11)	(42.79)	986.90	\$ 918.00	(1,243.32)	(9.65)	987.13	\$ (265.84)	-	-	177.32	\$ 177.32	-	108.17	0.78	\$ 108.95	\$ 938.43
8/8/2017	-	(0.06)	978.08	\$ 978.02	(590.51)	(328.21)	1,132.10	\$ 213.38	-	-	193.82	\$ 193.82	-	45.04	-	\$ 45.04	\$ 1,430.26
8/9/2017	-	(11.68)	793.08	\$ 781.40	(493.48)	(155.82)	910.80	\$ 261.50	-	-	181.76	\$ 181.76	-	65.31	-	\$ 65.31	\$ 1,289.97
8/10/2017	-	(48.07)	952.08	\$ 904.01	(596.14)	(179.03)	1,131.88	\$ 356.71	-	-	132.53	\$ 132.53	-	55.90	(0.30)	\$ 55.60	\$ 1,448.85
8/11/2017	-	(44.11)	962.29	\$ 918.18	(623.49)	(180.43)	1,226.62	\$ 422.70	-	-	168.01	\$ 168.01	-	64.33	(2.48)	\$ 61.85	\$ 1,570.74
8/12/2017	(49.60)	(35.53)	1,093.19	\$ 1,008.06	(661.88)	(177.40)	946.46	\$ 107.18	-	-	193.01	\$ 193.01	-	138.73	(0.46)	\$ 138.27	\$ 1,446.52
8/13/2017	-	(266.62)	989.97	\$ 723.35	(401.61)	(1,220.11)	826.74	\$ (794.98)	-	-	197.71	\$ 197.71	-	18.43	11.25	\$ 29.68	\$ 155.76
8/14/2017	(11.40)	8.40	1,287.56	\$ 1,284.56	(833.81)	(72.27)	1,525.98	\$ 619.90	-	-	180.40	\$ 180.40	-	55.17	-	\$ 55.17	\$ 2,140.03
8/15/2017	-	(44.98)	990.13	\$ 945.15	(527.58)	(110.04)	1,330.73	\$ 693.11	-	-	176.94	\$ 176.94	-	58.93	(0.21)	\$ 58.72	\$ 1,873.92
8/16/2017	(285.88)	(246.74)	953.95	\$ 421.33	(940.39)	(503.51)	1,303.59	\$ (140.31)	-	-	169.92	\$ 169.92	-	146.89	(4.88)	\$ 142.01	\$ 592.95
8/17/2017	(116.70)	135.19	779.85	\$ 798.34	(2,693.53)	6,679.97	923.25	\$ 4,909.69	-	-	170.49	\$ 170.49	-	56.45	-	\$ 56.45	\$ 5,934.97
8/18/2017	(360.75)	(5.75)	1,114.52	\$ 748.02	(1,648.80)	(118.11)	1,170.15	\$ (596.76)	-	-	177.14	\$ 177.14	-	94.39	2.39	\$ 96.78	\$ 425.18
8/19/2017	(483.98)	21.47	982.79	\$ 520.28	(1,606.57)	(387.75)	1,127.86	\$ (866.46)	-	-	175.45	\$ 175.45	-	171.75	0.59	\$ 172.34	\$ 1.61
8/20/2017	(787.38)	(20.11)	1,102.70	\$ 295.21	(1,949.75)	(2,689.92)	1,493.66	\$ (3,146.01)	-	-	100.40	\$ 100.40	-	228.79	12.76	\$ 241.55	\$ (2,508.85)
8/21/2017	(1,147.14)	176.47	1,645.26	\$ 674.59	(3,973.77)	96.28	1,752.23	\$ (2,125.26)	-	-	1,244.81	\$ 1,244.81	-	231.06	3.62	\$ 234.68	\$ 28.82
8/22/2017	(425.10)	147.74	1,070.33	\$ 792.97	(1,517.49)	(27.95)	953.29	\$ (592.15)	-	-	172.05	\$ 172.05	-	18.06	(1.65)	\$ 16.41	\$ 389.28
8/23/2017	(59.72)	(54.89)	835.62	\$ 721.01	(1,645.22)	(33.31)	1,030.03	\$ (648.50)	-	-	177.41	\$ 177.41	-	36.28	(2.54)	\$ 33.74	\$ 283.66
8/24/2017	-	(117.74)	997.03	\$ 879.29	(414.19)	(286.83)	865.26	\$ 164.24	-	-	146.68	\$ 146.68	-	127.12	(17.15)	\$ 109.97	\$ 1,300.18
8/25/2017	-	(173.84)	1,090.44	\$ 916.60	(459.77)	(603.63)	1,001.95	\$ (61.45)	-	-	147.12	\$ 147.12	-	47.16	(29.57)	\$ 17.59	\$ 1,019.86
8/26/2017	(42.50)	(76.81)	1,031.24	\$ 911.93	(1,758.50)	(329.42)	1,151.84	\$ (936.08)	-	-	194.25	\$ 194.25	-	67.46	(2.92)	\$ 64.54	\$ 234.64
8/27/2017	-	(21.85)	1,049.43	\$ 1,027.58	(1,844.00)	18.15	1,240.87	\$ (584.98)	-	-	199.84	\$ 199.84	-	41.84	(1.01)	\$ 40.83	\$ 683.27
8/28/2017	-	-	1,136.51	\$ 1,136.51	(588.99)	(299.10)	1,167.77	\$ 279.68	-	-	178.39	\$ 178.39	-	24.90	-	\$ 24.90	\$ 1,619.48
8/29/2017	-	(0.92)	1,077.90	\$ 1,076.98	(599.24)	(235.86)	1,091.24	\$ 256.14	-	-	162.05	\$ 162.05	-	18.40	-	\$ 18.40	\$ 1,513.57
8/30/2017	-	(42.33)	1,025.91	\$ 983.58	(630.71)	115.35	1,141.83	\$ 626.47	-	-	(7.90)	\$ (7.90)	-	46.69	(1.91)	\$ 44.78	\$ 1,646.93
8/31/2017	-	(66.61)	1,043.01	\$ 976.40	(537.33)	(180.51)	1,048.93	\$ 331.09	-	-	175.27	\$ 175.27	-	48.77	(0.34)	\$ 48.43	\$ 1,531.19
Aug Total																	

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC

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
9/1/2017	-	(203.07)	1,042.54	\$ 839.47	(531.80)	(241.68)	1,147.99	\$ 374.51	-	-	198.12	\$ 198.12	-	237.13	5.74	\$ 242.87	\$ 1,654.97
9/2/2017	(56.85)	(205.79)	1,087.40	\$ 824.76	(1,670.23)	(650.79)	1,051.34	\$ (1,269.68)	-	-	216.31	\$ 216.31	-	249.34	14.64	\$ 263.98	\$ 35.37
9/3/2017	-	(231.76)	1,011.88	\$ 780.12	(1,695.83)	(725.55)	1,036.20	\$ (1,385.18)	-	-	209.43	\$ 209.43	-	308.45	14.77	\$ 323.22	\$ (72.41)
9/4/2017	(142.38)	(719.10)	954.55	\$ 93.07	(3,385.57)	658.29	1,063.50	\$ (1,663.78)	-	-	193.75	\$ 193.75	-	636.12	70.64	\$ 706.76	\$ (670.20)
9/5/2017	(112.80)	(91.88)	1,158.98	\$ 954.30	(380.68)	(500.30)	1,123.16	\$ 242.18	-	-	188.55	\$ 188.55	-	145.78	(17.88)	\$ 127.90	\$ 1,512.93
9/6/2017	(189.70)	(88.60)	1,545.43	\$ 1,267.13	(642.31)	(414.61)	1,424.84	\$ 367.92	-	-	211.96	\$ 211.96	-	171.16	(4.36)	\$ 166.80	\$ 2,013.81
9/7/2017	(113.15)	(83.59)	1,387.58	\$ 1,190.84	(481.27)	(252.37)	1,164.74	\$ 431.10	-	-	213.97	\$ 213.97	-	123.34	4.89	\$ 128.23	\$ 1,964.14
9/8/2017	-	(623.02)	1,104.15	\$ 481.13	(311.65)	122.58	983.55	\$ 794.48	-	-	214.94	\$ 214.94	-	243.40	(29.99)	\$ 213.41	\$ 1,703.96
9/9/2017	(93.74)	(121.23)	1,345.44	\$ 1,130.47	(1,085.81)	822.08	1,029.51	\$ 765.78	-	-	219.01	\$ 219.01	-	223.01	(15.71)	\$ 207.30	\$ 2,322.56
9/10/2017	(112.56)	77.80	1,217.95	\$ 1,183.19	(967.67)	191.75	977.24	\$ 201.32	-	-	219.42	\$ 219.42	-	70.33	(5.62)	\$ 64.71	\$ 1,668.64
9/11/2017	(120.73)	(16.28)	1,341.88	\$ 1,204.87	(601.22)	(34.25)	1,246.93	\$ 611.46	-	-	202.89	\$ 202.89	-	113.74	(6.88)	\$ 106.86	\$ 2,126.08
9/12/2017	(101.20)	(103.81)	1,264.36	\$ 1,059.35	(647.32)	218.65	1,026.97	\$ 598.30	-	-	194.28	\$ 194.28	-	136.73	0.25	\$ 136.98	\$ 1,988.91
9/13/2017	-	(357.57)	1,311.48	\$ 953.91	(402.52)	(1,638.51)	1,015.36	\$ (1,025.67)	-	-	204.92	\$ 204.92	-	198.10	(4.65)	\$ 193.45	\$ 326.61
9/14/2017	(244.73)	(216.54)	1,381.65	\$ 920.38	(551.34)	(1,808.88)	1,095.74	\$ (1,264.48)	-	-	200.59	\$ 200.59	-	183.43	(1.91)	\$ 181.52	\$ 38.01
9/15/2017	-	(319.93)	991.36	\$ 671.43	(3,312.88)	821.54	1,101.31	\$ (1,390.03)	-	-	200.96	\$ 200.96	-	381.27	(5.69)	\$ 375.58	\$ (142.06)
9/16/2017	-	(1,427.17)	957.60	\$ (469.57)	(300.91)	(552.32)	1,052.34	\$ 199.11	-	-	197.86	\$ 197.86	-	475.75	118.55	\$ 594.30	\$ 521.70
9/17/2017	(46.25)	(784.94)	818.55	\$ (12.64)	(1,973.11)	637.30	1,064.46	\$ (271.35)	-	-	196.00	\$ 196.00	-	90.88	(1.94)	\$ 88.94	\$ 0.95
9/18/2017	(381.15)	(404.60)	1,303.71	\$ 517.96	(3,445.47)	5,276.17	1,050.30	\$ 2,881.00	-	-	244.82	\$ 244.82	-	127.84	6.82	\$ 134.66	\$ 3,778.44
9/19/2017	(423.43)	267.22	1,103.11	\$ 946.90	(684.95)	(198.93)	1,163.74	\$ 279.86	-	-	185.42	\$ 185.42	-	224.07	0.60	\$ 224.67	\$ 1,636.85
9/20/2017	(365.92)	(540.26)	708.26	\$ (197.92)	(1,492.12)	1,068.48	1,912.38	\$ 1,488.74	-	-	(11.74)	\$ (11.74)	-	670.91	(7.85)	\$ 663.06	\$ 1,942.14
9/21/2017	(1,031.38)	(3,202.88)	1,229.75	\$ (3,004.51)	(5,273.02)	522.36	1,591.89	\$ (3,158.77)	-	-	1,037.30	\$ 1,037.30	-	420.48	15.06	\$ 435.54	\$ (4,690.44)
9/22/2017	(2,738.42)	2,445.78	1,607.31	\$ 1,314.67	(11,695.66)	11,015.19	2,573.11	\$ 1,892.64	-	-	1,142.76	\$ 1,142.76	-	187.19	34.11	\$ 221.30	\$ 4,571.37
9/23/2017	(1,589.86)	449.81	1,520.08	\$ 380.03	(4,673.01)	1,138.16	2,126.76	\$ (1,408.09)	-	-	692.98	\$ 692.98	-	112.65	12.26	\$ 124.91	\$ (210.17)
9/24/2017	(1,150.50)	(63.97)	1,061.59	\$ (152.88)	(2,700.89)	(181.32)	1,518.07	\$ (1,364.14)	-	-	1,301.33	\$ 1,301.33	-	397.69	158.54	\$ 556.23	\$ 340.54
9/25/2017	(873.64)	32.06	1,324.03	\$ 482.45	(10,255.45)	711.26	1,980.04	\$ (7,564.15)	-	-	1,546.99	\$ 1,546.99	132.52	58.25	(15.88)	\$ 174.89	\$ (5,359.82)
9/26/2017	(758.62)	123.72	2,613.27	\$ 1,978.37	(7,999.57)	648.90	1,372.97	\$ (5,977.70)	-	-	902.72	\$ 902.72	-	10.26	(41.44)	\$ (31.18)	\$ (3,127.79)
9/27/2017	(316.69)	13.06	1,328.43	\$ 1,024.80	(1,636.70)	(3.26)	1,120.43	\$ (519.53)	-	-	788.26	\$ 788.26	-	126.17	(30.55)	\$ 95.62	\$ 1,389.15
9/28/2017	(136.02)	48.86	1,373.50	\$ 1,286.34	(688.82)	44.46	1,200.71	\$ 556.35	-	-	208.67	\$ 208.67	-	31.39	(7.06)	\$ 24.33	\$ 2,075.69
9/29/2017	(72.67)	14.30	1,184.58	\$ 1,126.21	(418.14)	26.33	1,018.79	\$ 626.98	-	-	198.39	\$ 198.39	-	138.24	(2.86)	\$ 135.38	\$ 2,086.96
9/30/2017	(242.51)	194.51	991.57	\$ 943.57	(1,411.38)	(840.28)	984.33	\$ (1,267.33)	-	-	208.64	\$ 208.64	-	42.14	0.11	\$ 42.25	\$ (72.87)
Sept Total	\$ (11,414.90)	\$ (6,138.87)	\$ 37,271.97	\$ 19,718.20	\$ (71,317.30)	\$ 15,880.45	\$ 38,218.70	\$ (17,218.15)	\$ -	\$ -	\$ 11,929.50	\$ 11,929.50	132.52	6,535.24	256.71	\$ 6,924.47	\$ 21,354.02
10/1/2017	(253.99)	155.90	1,211.55	\$ 1,113.46	(863.91)	(522.72)	837.47	\$ (549.16)	-	-	210.38	\$ 210.38	-	135.63	-	\$ 135.63	\$ 910.31
10/2/2017	(296.26)	32.86	1,394.89	\$ 1,131.49	(5,605.83)	3,624.24	1,326.77	\$ (654.82)	-	-	199.43	\$ 199.43	-	250.05	(3.52)	\$ 246.53	\$ 922.63
10/3/2017	(94.78)	39.96	1,256.57	\$ 1,201.75	(1,292.82)	1,465.18	1,306.94	\$ 1,479.30	-	-	97.15	\$ 97.15	-	50.51	(2.90)	\$ 47.61	\$ 2,825.81
10/4/2017	(159.56)	30.71	2,095.02	\$ 1,966.17	(851.26)	17.34	1,702.11	\$ 868.19	-	-	176.47	\$ 176.47	-	41.71	(3.97)	\$ 37.74	\$ 3,048.57
10/5/2017	(185.20)	(8.19)	1,209.06	\$ 1,015.67	(765.48)	28.40	1,571.72	\$ 834.64	-	-	182.20	\$ 182.20	-	65.75	(42.06)	\$ 23.69	\$ 2,056.20
10/6/2017	(155.24)	15.25	1,363.93	\$ 1,223.94	(625.50)	(91.00)	1,381.68	\$ 665.18	-	-	180.38	\$ 180.38	-	91.92	(36.23)	\$ 55.69	\$ 2,125.19
10/7/2017	(1,000.72)	455.10	1,253.25	\$ 707.63	(6,201.22)	4,306.44	1,395.35	\$ (499.43)	-	-	196.95	\$ 196.95	-	217.17	(32.37)	\$ 184.80	\$ 589.95
10/8/2017	(97.23)	(58.96)	1,201.38	\$ 1,045.19	(1,343.69)	155.64	1,556.27	\$ 368.22	-	-	206.95	\$ 206.95	-	188.59	(21.04)	\$ 167.55	\$ 1,787.91
10/9/2017	(215.65)	(29.16)	1,574.09	\$ 1,329.28	(916.50)	6.83	2,123.21	\$ 1,213.54	-	-	131.53	\$ 131.53	-	326.18	(29.74)	\$ 296.44	\$ 2,970.79
10/10/2017	(155.34)	8.58	2,124.34	\$ 1,977.58	(538.52)	(87.44)	1,346.22	\$ 720.26	-	-	209.90	\$ 209.90	-	112.02	(10.82)	\$ 101.20	\$ 3,008.94
10/11/2017	(239.91)	100.74	1,544.22	\$ 1,405.05	(450.66)	49.07	1,215.43	\$ 813.84	-	-	228.30	\$ 228.30	-	180.01	(8.13)	\$ 171.88	\$ 2,619.07
10/12/2017	(79.96)	(7.52)	1,121.15	\$ 1,033.67	(410.36)	74.00	1,038.57	\$ 702.21	-	-	229.01	\$ 229.01	-	87.31	(8.27)	\$ 79.04	\$ 2,043.93
10/13/2017	(103.36)	11.43	1,500.84	\$ 1,408.91	(850.58)	(71.78)	1,975.54	\$ 1,053.18	-	-	224.21	\$ 224.21	-	127.19	(21.92)	\$ 105.27	\$ 2,791.57
10/14/2017	(93.69)	(14.36)	1,268.74	\$ 1,160.69	(737.10)	(36.86)	1,434.96	\$ 661.00	-	-	218.33	\$ 218.33	-	173.53	(21.30)	\$ 152.23	\$ 2,192.25
10/15/2017	(101.77)	(48.14)	1,055.11	\$ 905.20	(943.36)	983.25	933.18	\$ 973.07	-	-	377.38	\$ 377.38	-	155.37	(20.43)	\$ 134.94	\$ 2,390.59
10/16/2017	(84.99)	(32.60)	1,168.00	\$ 1,050.41	(583.33)	31.92	1,186.84	\$ 635.43	-	-	234.81	\$ 234.81	-	121.75	(26.44)	\$ 95.31	\$ 2,015.96
10/17/2017	(63.75)	2.69	984.23	\$ 923.17	(484.87)	6.73	912.53	\$ 434.39	-	-	230.69	\$ 230.69	-	51.98	1.66	\$ 53.64	\$ 1,641.89
10/18/2017	(39.89)	0.04	882.67	\$ 842.82	(496.54)	22.85	910.29	\$ 436.60	-	-	227.28	\$ 227.28	-	76.43	(10.31)	\$ 66.12	\$ 1,572.82
10/19/2017	(75.30)	(49.34)	1,121.84	\$ 997.20	(597.92)	113.03	904.82	\$ 419.93	-	-	237.53	\$ 237.53	-	149.31	(22.77)	\$ 126.54	\$ 1,781.20
10/20/2017	(114.17)	(153.81)	1,088.78	\$ 820.80	(578.52)	39.68	1,040.05	\$ 501.21	-	-	234.29	\$ 234.29	-	81.64	(15.02)	\$ 66.62	\$ 1,622.92
10/21/2017	(168.81)	57.58	1,327.88	\$ 1,216.65	(1,036.63)	(323.95)	1,063.71	\$ (296.87)	-	-	217.87	\$ 217.87	-	27.04	(17.48)	\$ 9.56	\$ 1,147.21
10/22/2017	(62.71)	(43.45)	1,247.80	\$ 1,141.64	(580.67)	(168.41)	1,252.78	\$ 503.70	-	-	221.74	\$ 221.74	-	210.90	(2.62)	\$ 208.28	\$ 2,075.36
10/23/2017	(237.54)	72.09	1,010.38	\$ 844.93	(421.61)	(618.67)	854.47	\$ (185.81)	-	-	233.98	\$ 233.98	-	62.66	(22.22)	\$ 40.44	\$ 933.54
10/24/2017	(167.57)	12.36	1,429.85	\$ 1,274.64	(703.66)	(62.16)	903.20	\$ 137.38	-	-	236.83	\$ 236.83	-	145.17	(4.96)	\$ 140.21	\$ 1,789.06
10/25/2017	(176.41)	(3.81)	1,397.45	\$ 1,217.23	(839.28)	116.36	1,059.71	\$ 336.79	-	-	225.33	\$ 225.33	-	198.94	(35.10)	\$ 163.84	\$ 1,943.19
10/26/2017	(113.37)	20.10	1,310.67	\$ 1,217.40	(1,036.52)	147.71	1,200.52	\$ 311.71	-	-	231.47	\$ 231.47	-	43.14	(10.01)	\$ 33.13	\$ 1,793.71
10/27/2017	(264.77)	107.00	1,561.62	\$ 1,403.85	(1,345.98)	359.68	1,260.14	\$ 273.84	-	-	216.19	\$ 216.19	-	134.28	(9.58)	\$ 124.70	\$ 2,018.58
10/28/2017	(170.93)	15.26	1,589.07	\$ 1,433.40	(655.78)	(62.56)	1,369.86	\$ 651.52	-	-	226.38	\$ 226.38	-	233.90	(23.69)	\$ 210.21	\$ 2,521.51
10/29/2017	(253.33)	141.21	1,462.06	\$ 1,349.94	(515.54)	(21.07)	1,102.81	\$ 566.20	-	-	224.26	\$ 224.26	-	55.30	0.46	\$ 55.76	\$ 2,196.16
10/30/2017	(239.68)	81.61	1,398.38	\$ 1,240.31	(664.86)	18.19	1,252.37	\$ 605.70	-	-	209.31	\$ 209.31	-	125.16			

Table 10-D: ASM Charge Daily Detail / CRDFC / EDED

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
11/1/2017	(84.24)	87.36	1,139.92	\$ 1,143.04	(607.00)	809.62	946.78	\$ 1,149.40	-	-	332.28	\$ 332.28	-	0.66	0.57	\$ 1.23	\$ 2,625.95
11/2/2017	-	-	1,288.11	\$ 1,288.11	(359.96)	131.39	1,269.33	\$ 1,040.76	-	-	211.83	\$ 211.83	-	7.53	-	\$ 7.53	\$ 2,548.23
11/3/2017	-	-	1,460.05	\$ 1,460.05	(419.82)	89.10	1,402.54	\$ 1,071.82	-	-	223.33	\$ 223.33	-	54.62	-	\$ 54.62	\$ 2,809.82
11/4/2017	-	-	1,136.74	\$ 1,136.74	(233.56)	6.33	910.21	\$ 682.98	-	-	223.67	\$ 223.67	-	14.43	-	\$ 14.43	\$ 2,057.82
11/5/2017	-	-	1,178.28	\$ 1,178.28	(233.89)	17.21	947.63	\$ 730.95	-	-	216.03	\$ 216.03	-	18.23	-	\$ 18.23	\$ 2,143.49
11/6/2017	-	-	1,473.72	\$ 1,473.72	(443.06)	2.76	1,615.71	\$ 1,175.41	-	-	207.79	\$ 207.79	-	3.17	-	\$ 3.17	\$ 2,860.09
11/7/2017	-	(24.70)	1,458.96	\$ 1,434.26	(806.41)	285.77	1,856.95	\$ 1,336.31	-	-	(129.22)	\$ (129.22)	-	108.55	(14.57)	\$ 93.98	\$ 2,735.33
11/8/2017	(84.76)	45.69	1,171.15	\$ 1,132.08	(1,051.41)	10.66	1,255.96	\$ 215.21	-	-	203.48	\$ 203.48	-	42.38	(4.56)	\$ 37.82	\$ 1,588.59
11/9/2017	(86.03)	4.70	1,566.03	\$ 1,484.70	(1,162.57)	(85.81)	1,054.55	\$ (193.83)	-	-	212.47	\$ 212.47	-	66.75	(3.57)	\$ 63.18	\$ 1,566.52
11/10/2017	(33.17)	12.13	1,192.16	\$ 1,171.12	(1,511.42)	(269.56)	1,132.38	\$ (648.60)	-	-	225.48	\$ 225.48	-	-	(1.33)	\$ (1.33)	\$ 746.67
11/11/2017	(80.51)	(145.51)	1,181.30	\$ 955.28	(2,199.81)	52.36	1,393.89	\$ (753.56)	-	-	215.46	\$ 215.46	-	128.30	(38.55)	\$ 89.75	\$ 506.93
11/12/2017	(106.19)	6.59	1,386.52	\$ 1,286.92	(2,098.77)	727.46	1,418.76	\$ 47.45	-	-	228.38	\$ 228.38	-	131.17	(27.89)	\$ 103.28	\$ 1,666.03
11/13/2017	(98.67)	(1.01)	1,474.41	\$ 1,374.73	(1,558.19)	225.19	1,165.04	\$ (167.96)	-	-	214.14	\$ 214.14	-	72.65	(16.01)	\$ 56.64	\$ 1,477.55
11/14/2017	(63.94)	29.10	1,288.54	\$ 1,253.70	(1,485.93)	386.44	1,043.15	\$ (56.34)	-	-	213.72	\$ 213.72	-	221.97	(4.67)	\$ 217.30	\$ 1,628.38
11/15/2017	(87.66)	(0.39)	1,325.84	\$ 1,237.79	(838.18)	(165.23)	1,239.73	\$ 236.32	-	-	216.12	\$ 216.12	-	63.83	(9.62)	\$ 54.21	\$ 1,744.44
11/16/2017	(81.77)	(51.02)	1,308.81	\$ 1,176.02	(923.22)	181.45	1,125.46	\$ 383.69	-	-	210.99	\$ 210.99	-	203.66	(22.52)	\$ 181.14	\$ 1,951.84
11/17/2017	(83.74)	8.21	1,419.58	\$ 1,344.05	(885.99)	352.50	1,094.11	\$ 560.62	-	-	215.98	\$ 215.98	-	106.29	(21.94)	\$ 84.35	\$ 2,205.00
11/18/2017	(100.79)	(42.48)	882.38	\$ 739.11	(467.84)	(440.77)	1,059.06	\$ 150.45	-	-	229.28	\$ 229.28	-	257.94	(21.11)	\$ 236.83	\$ 1,355.67
11/19/2017	(53.43)	(170.44)	899.36	\$ 675.49	(950.90)	165.38	1,140.87	\$ 355.35	-	-	230.87	\$ 230.87	-	300.28	(25.16)	\$ 275.12	\$ 1,536.83
11/20/2017	(64.89)	(118.08)	1,034.77	\$ 851.80	(488.43)	(676.31)	997.34	\$ (167.40)	-	-	188.55	\$ 188.55	-	111.59	(6.87)	\$ 104.72	\$ 977.67
11/21/2017	(114.70)	(128.54)	1,269.34	\$ 1,026.10	(942.90)	(409.93)	1,110.05	\$ (242.78)	-	-	189.15	\$ 189.15	-	94.11	(23.54)	\$ 70.57	\$ 1,043.04
11/22/2017	(140.86)	(24.13)	1,330.92	\$ 1,165.93	(1,307.71)	(295.49)	1,281.06	\$ (322.14)	-	-	191.99	\$ 191.99	-	290.54	(19.68)	\$ 270.86	\$ 1,306.64
11/23/2017	(80.15)	(165.53)	1,019.49	\$ 773.81	(907.48)	(334.64)	675.34	\$ (566.78)	-	-	181.02	\$ 181.02	-	238.28	(18.14)	\$ 220.14	\$ 608.19
11/24/2017	(175.21)	(126.59)	1,019.35	\$ 771.55	(1,308.70)	(196.81)	643.98	\$ (861.53)	-	-	181.39	\$ 181.39	-	142.14	(17.82)	\$ 124.32	\$ 161.73
11/25/2017	(159.79)	39.92	1,301.35	\$ 1,181.48	(1,185.84)	(181.04)	1,036.98	\$ (329.90)	-	-	181.25	\$ 181.25	-	160.26	(10.09)	\$ 150.17	\$ 1,183.00
11/26/2017	(137.46)	(30.76)	982.78	\$ 841.56	(713.45)	(302.18)	688.82	\$ (326.81)	-	-	187.68	\$ 187.68	-	176.32	(4.78)	\$ 171.54	\$ 846.97
11/27/2017	(266.14)	(35.51)	1,018.14	\$ 716.49	(1,292.55)	(119.16)	819.76	\$ (591.95)	-	-	172.75	\$ 172.75	-	300.21	(18.33)	\$ 281.88	\$ 579.17
11/28/2017	(131.72)	10.60	1,082.85	\$ 961.73	(1,008.14)	(141.20)	916.54	\$ (232.80)	-	-	159.81	\$ 159.81	-	156.56	(4.97)	\$ 151.59	\$ 1,040.33
11/29/2017	(386.16)	117.19	972.93	\$ 703.96	(1,395.30)	(213.44)	992.65	\$ (616.09)	-	-	175.59	\$ 175.59	-	257.08	(31.40)	\$ 225.68	\$ 489.14
11/30/2017	(129.22)	23.97	947.99	\$ 842.74	(1,902.93)	30.55	1,026.69	\$ (845.69)	-	-	116.76	\$ 116.76	-	84.44	(21.20)	\$ 63.24	\$ 177.05
Nov Total	\$ (2,831.20)	\$ (679.23)	\$ 36,211.77	\$ 32,701.34	\$ (30,691.36)	\$ (357.40)	\$ 33,261.32	\$ 2,212.56	\$ -	\$ -	\$ 5,828.02	\$ 5,828.02	\$ -	\$ 3,813.94	\$ (387.75)	\$ 3,426.19	\$ 44,168.11
12/1/2017	(125.91)	35.87	974.76	\$ 884.72	(1,202.14)	(481.36)	1,081.53	\$ (601.97)	-	-	113.05	\$ 113.05	-	185.09	(19.76)	\$ 165.33	\$ 561.13
12/2/2017	(89.39)	65.11	937.83	\$ 913.55	(799.58)	(467.57)	893.09	\$ (374.06)	-	-	113.11	\$ 113.11	-	64.18	(1.45)	\$ 62.73	\$ 715.33
12/3/2017	(20.59)	(134.04)	744.18	\$ 589.55	(808.20)	(312.86)	620.18	\$ (500.88)	-	-	114.75	\$ 114.75	-	115.81	(14.93)	\$ 100.88	\$ 304.30
12/4/2017	(91.58)	(537.72)	836.87	\$ 207.57	(777.47)	(135.61)	639.05	\$ (274.03)	-	-	104.45	\$ 104.45	-	238.57	(38.77)	\$ 199.80	\$ 237.79
12/5/2017	(135.22)	(104.38)	861.18	\$ 621.58	(1,297.01)	(98.36)	747.13	\$ (648.24)	-	-	109.37	\$ 109.37	-	175.76	(26.96)	\$ 148.80	\$ 231.51
12/6/2017	(24.76)	(119.53)	568.13	\$ 423.84	(1,024.99)	(182.33)	613.96	\$ (593.36)	-	-	99.80	\$ 99.80	-	169.87	(37.69)	\$ 132.18	\$ 62.46
12/7/2017	(48.83)	(185.52)	716.77	\$ 482.42	(1,836.18)	998.51	734.26	\$ (103.41)	-	-	134.14	\$ 134.14	-	137.10	(21.31)	\$ 115.79	\$ 628.94
12/8/2017	(55.68)	(42.72)	912.77	\$ 814.37	(3,100.85)	2,140.51	1,232.70	\$ 272.36	-	-	129.32	\$ 129.32	-	75.20	(11.04)	\$ 64.16	\$ 1,280.21
12/9/2017	(39.70)	15.75	943.73	\$ 919.78	(1,325.57)	269.35	634.02	\$ (422.20)	-	-	129.78	\$ 129.78	-	80.32	(0.05)	\$ 80.27	\$ 707.63
12/10/2017	(44.98)	26.14	822.51	\$ 803.67	(874.55)	55.11	428.96	\$ (390.48)	-	-	135.80	\$ 135.80	-	54.13	(2.13)	\$ 52.00	\$ 600.99
12/11/2017	(42.92)	(1.92)	875.97	\$ 831.13	(1,171.60)	245.51	414.07	\$ (512.02)	-	-	168.36	\$ 168.36	-	79.87	(14.60)	\$ 65.27	\$ 552.74
12/12/2017	(114.54)	44.38	1,271.23	\$ 1,201.07	(1,303.55)	446.75	605.40	\$ (251.40)	-	-	153.56	\$ 153.56	-	119.15	(0.48)	\$ 118.67	\$ 1,221.90
12/13/2017	(172.97)	174.66	1,016.96	\$ 1,018.65	(1,340.98)	348.90	479.82	\$ (512.26)	-	-	155.73	\$ 155.73	-	27.77	(8.61)	\$ 19.16	\$ 681.28
12/14/2017	(96.36)	29.13	1,203.25	\$ 1,136.02	(1,779.05)	1,209.82	746.81	\$ 177.58	-	-	124.51	\$ 124.51	-	90.94	(3.44)	\$ 87.50	\$ 1,525.61
12/15/2017	(57.13)	(28.65)	861.25	\$ 775.47	(1,546.46)	452.24	742.24	\$ (351.98)	-	-	165.71	\$ 165.71	-	126.24	(36.71)	\$ 89.53	\$ 678.73
12/16/2017	(63.10)	9.29	964.79	\$ 910.98	(1,134.71)	225.59	609.81	\$ (299.31)	-	-	108.92	\$ 108.92	-	69.18	(19.99)	\$ 49.19	\$ 769.78
12/17/2017	(48.45)	13.93	1,009.62	\$ 975.10	(1,177.01)	296.99	645.52	\$ (234.50)	-	-	112.31	\$ 112.31	-	37.71	(1.66)	\$ 36.05	\$ 888.96
12/18/2017	(37.29)	(127.56)	975.85	\$ 811.00	(470.78)	(211.66)	510.92	\$ (171.52)	-	-	106.57	\$ 106.57	-	101.40	(11.70)	\$ 89.70	\$ 835.75
12/19/2017	(114.23)	31.42	1,083.46	\$ 1,000.65	(770.62)	(75.79)	597.50	\$ (248.91)	-	-	107.00	\$ 107.00	-	99.11	(4.04)	\$ 95.07	\$ 953.81
12/20/2017	(195.22)	20.93	1,047.32	\$ 873.03	(887.39)	(535.38)	715.43	\$ (707.34)	-	-	113.83	\$ 113.83	-	327.28	(30.89)	\$ 296.39	\$ 575.91
12/21/2017	(108.22)	23.78	1,169.99	\$ 1,085.55	(1,155.62)	105.34	854.39	\$ (195.89)	-	-	118.57	\$ 118.57	-	78.25	(16.43)	\$ 61.82	\$ 1,070.05
12/22/2017	(115.00)	57.78	1,176.40	\$ 1,119.18	(820.73)	83.92	781.94	\$ 45.13	-	-	114.40	\$ 114.40	-	71.91	(5.85)	\$ 66.06	\$ 1,344.77
12/23/2017	(44.74)	24.76	882.74	\$ 862.76	(654.08)	(51.17)	670.54	\$ (34.71)	-	-	111.71	\$ 111.71	-	46.17	(2.42)	\$ 43.75	\$ 983.51
12/24/2017	(83.19)	(69.73)	807.75	\$ 654.83	(546.36)	(75.05)	552.06	\$ (69.35)	-	-	113.60	\$ 113.60	-	199.55	(3.33)	\$ 196.22	\$ 895.30
12/25/2017	(130.03)	(20.42)	887.96	\$ 737.51	(567.48)	(163.94)	618.32	\$ (113.10)	-	-	106.43	\$ 106.43	-	48.88	0.32	\$ 49.20	\$ 780.04
12/26/2017	(178.61)	(5.67)	1,224.21	\$ 1,039.93	(2,424.78)	614.25	1,057.75	\$ (752.78)	-	-	122.25	\$ 122.25	-	23.92	(10.18)	\$ 13.74	\$ 423.14
12/27/2017	(65.24)	(582.12)	586.89	\$ (60.47)	(1,712.00)	21,587.38	(1,056.37)	\$ 18,819.01	-	-	404.70	\$ 404.70	-	279.24	(8.38)	\$ 270.86	\$ 19,434.10
12/28/2017	(76.67)	6.44	1,413.40	\$ 1,343.17	(2,384.50)	400.26	1,349.68	\$ (634.56)	-	-	99.26	\$ 99.26	-	74.92	(8.40)	\$ 66.52	\$ 874.39
12/29/2017	(93.98)	27.41	1,573.17	\$ 1,506.60	(3,386.96)	1,023.38	1,568.85	\$ (794.73)	-	-	1,263.25	\$ 1,263.25	-	73.97	(0.98)	\$ 72.99	\$ 2,048.11
12/30/2017	(853.17)	613.87	1,368.06	\$ 1,128.76	(2,714.66)	544.01	1,160.93	\$ (1,009.72)	-	-	783.29	\$ 783.29	-	82.65	31.44	\$ 114.09	\$ 1,016.42
12/31/2017	(1,506.25)	637.98	1,731.60	\$ 863.33	(1,735.62)	(77.84)	1,343.25	\$ (470.21)	-	-	871.65	\$ 871.65	-	174.56	(35.77)	\$ 138.79	\$ 1,403.56
Dec Total	\$ (4,873.9																

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC

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
1/1/2018	(1,151.72)	(40.44)	1,382.26	\$ 190.10	(3,775.85)	1,673.72	2,032.21	\$ (69.92)	-	-	974.46	\$ 974.46	-	286.73	51.96	\$ 338.69	\$ 1,433.33
1/2/2018	(2,400.99)	192.00	1,668.71	\$ (540.28)	(4,980.16)	21.51	5,483.48	\$ 524.83	-	-	999.84	\$ 999.84	-	656.27	323.61	\$ 979.88	\$ 1,964.27
1/3/2018	(981.41)	(487.85)	2,249.44	\$ 780.18	(3,376.47)	514.25	2,640.32	\$ (221.90)	-	-	1,392.67	\$ 1,392.67	-	185.00	24.48	\$ 209.48	\$ 2,160.43
1/4/2018	(86.99)	(1,039.28)	2,473.95	\$ 1,347.68	(3,848.30)	1,270.12	3,028.90	\$ 450.72	-	-	2,326.15	\$ 2,326.15	-	465.17	(113.46)	\$ 351.71	\$ 4,476.26
1/5/2018	(67.46)	(898.51)	2,793.82	\$ 1,827.85	(8,505.57)	2,264.59	3,597.91	\$ (2,643.07)	-	-	2,628.64	\$ 2,628.64	-	316.12	93.33	\$ 409.45	\$ 2,222.87
1/6/2018	(1,114.61)	62.27	1,405.43	\$ 353.09	(2,053.87)	515.47	1,138.45	\$ (399.95)	-	-	513.96	\$ 513.96	-	527.63	(101.86)	\$ 425.77	\$ 892.87
1/7/2018	(90.03)	15.14	1,068.90	\$ 994.01	(1,893.50)	574.01	576.29	\$ (743.20)	-	-	104.19	\$ 104.19	-	150.33	(7.82)	\$ 142.51	\$ 497.51
1/8/2018	(109.38)	7.61	1,303.34	\$ 1,201.57	(2,594.40)	2,029.73	961.62	\$ 396.95	-	-	163.32	\$ 163.32	-	174.92	(53.52)	\$ 121.40	\$ 1,883.24
1/9/2018	(101.73)	(77.55)	1,045.11	\$ 865.83	(356.44)	(129.53)	829.35	\$ 343.38	-	-	141.13	\$ 141.13	-	210.99	(47.07)	\$ 163.92	\$ 1,514.26
1/10/2018	(109.26)	(57.01)	867.15	\$ 700.88	(394.33)	(146.59)	639.47	\$ 98.55	-	-	99.96	\$ 99.96	-	148.94	(32.33)	\$ 116.61	\$ 1,016.00
1/11/2018	(239.16)	23.14	1,139.57	\$ 923.55	(760.15)	87.02	787.81	\$ 114.68	-	-	203.53	\$ 203.53	-	194.81	(16.52)	\$ 178.29	\$ 1,420.05
1/12/2018	(105.33)	(79.19)	1,111.78	\$ 927.26	(1,062.69)	221.43	960.29	\$ 119.03	-	-	182.43	\$ 182.43	-	250.60	(24.12)	\$ 226.48	\$ 1,455.20
1/13/2018	(158.06)	33.44	1,958.81	\$ 1,834.19	(2,206.99)	13.87	2,092.76	\$ (100.36)	-	-	963.77	\$ 963.77	-	264.88	(39.95)	\$ 224.93	\$ 2,922.53
1/14/2018	(102.92)	116.72	1,166.34	\$ 1,180.14	(1,557.14)	915.26	1,315.14	\$ 673.26	-	-	231.25	\$ 231.25	-	116.23	-	\$ 116.23	\$ 2,200.88
1/15/2018	-	-	1,536.93	\$ 1,536.93	(1,052.52)	(16.12)	1,224.28	\$ 155.64	-	-	834.61	\$ 834.61	-	120.63	-	\$ 120.63	\$ 2,647.81
1/16/2018	(1,508.07)	370.47	1,656.22	\$ 518.62	(3,007.58)	363.82	3,245.71	\$ 601.95	-	-	2,116.32	\$ 2,116.32	-	342.34	(38.92)	\$ 303.42	\$ 3,540.31
1/17/2018	(1,051.15)	586.85	931.09	\$ 466.79	(1,965.09)	302.10	1,368.71	\$ (294.28)	-	-	404.82	\$ 404.82	-	362.35	(64.73)	\$ 297.62	\$ 874.95
1/18/2018	(256.59)	(223.46)	1,160.05	\$ 680.00	(1,328.45)	82.36	999.26	\$ (246.83)	-	-	482.44	\$ 482.44	-	353.42	(67.41)	\$ 286.01	\$ 1,201.62
1/19/2018	(250.60)	(62.56)	972.52	\$ 659.36	(1,627.14)	101.13	819.55	\$ (706.46)	-	-	195.35	\$ 195.35	-	461.08	(40.99)	\$ 420.09	\$ 568.34
1/20/2018	(208.89)	(82.42)	1,170.06	\$ 878.75	(1,006.60)	(14.87)	1,167.46	\$ 145.99	-	-	168.96	\$ 168.96	-	270.21	(18.36)	\$ 251.85	\$ 1,445.55
1/21/2018	(84.33)	(133.60)	949.82	\$ 731.89	(681.71)	(12.42)	824.62	\$ 130.49	-	-	173.84	\$ 173.84	-	130.00	(26.39)	\$ 103.61	\$ 1,139.83
1/22/2018	(132.17)	(226.58)	918.22	\$ 559.47	(663.03)	(20.47)	855.35	\$ 171.85	-	-	209.98	\$ 209.98	-	204.46	(37.58)	\$ 166.88	\$ 1,108.18
1/23/2018	(281.37)	(143.02)	1,120.93	\$ 696.54	(774.40)	139.49	845.84	\$ 210.93	-	-	191.33	\$ 191.33	-	155.11	(25.37)	\$ 129.74	\$ 1,228.54
1/24/2018	(72.53)	(6.79)	1,170.30	\$ 1,090.98	(984.66)	(15.72)	1,182.80	\$ 182.42	-	-	191.71	\$ 191.71	-	67.46	(19.16)	\$ 48.30	\$ 1,513.41
1/25/2018	(81.59)	(145.08)	937.77	\$ 711.10	(799.05)	(1.17)	1,152.66	\$ 352.44	-	-	24.45	\$ 24.45	-	226.11	(11.79)	\$ 214.32	\$ 1,302.31
1/26/2018	(224.44)	1.82	722.64	\$ 500.02	(634.71)	(160.74)	728.63	\$ (66.82)	-	-	185.23	\$ 185.23	-	259.40	(31.34)	\$ 228.06	\$ 846.49
1/27/2018	(134.75)	(53.54)	902.27	\$ 713.98	(736.62)	(84.28)	837.87	\$ 16.97	-	-	187.56	\$ 187.56	-	316.54	(23.70)	\$ 292.84	\$ 1,211.35
1/28/2018	(72.61)	(1.47)	1,067.85	\$ 993.77	(1,039.52)	30.38	1,083.98	\$ 74.84	-	-	170.36	\$ 170.36	-	94.12	(13.98)	\$ 80.14	\$ 1,319.11
1/29/2018	(85.40)	8.18	1,371.86	\$ 1,294.64	(1,227.42)	7.47	1,328.15	\$ 108.20	-	-	187.91	\$ 187.91	-	137.75	(29.18)	\$ 108.57	\$ 1,699.32
1/30/2018	(45.02)	(126.13)	725.93	\$ 554.78	(743.57)	164.56	805.92	\$ 226.91	-	-	180.15	\$ 180.15	-	168.56	(5.63)	\$ 162.93	\$ 1,124.77
1/31/2018	(174.03)	(0.31)	867.52	\$ 693.18	(755.46)	(1.33)	789.42	\$ 32.63	-	-	168.37	\$ 168.37	-	287.82	(20.79)	\$ 267.03	\$ 1,161.21
Jan Total	\$ (11,482.59)	\$ (2,467.15)	\$ 39,816.59	\$ 25,866.85	\$ (56,393.39)	\$ 10,689.05	\$ 45,344.21	\$ (360.13)	\$ -	\$ -	\$ 16,998.69	\$ 16,998.69	\$ -	\$ 7,905.98	\$ (418.59)	\$ 7,487.39	\$ 49,992.80
2/1/2018	(127.74)	(94.97)	1,343.33	\$ 1,120.62	(821.36)	(6.12)	865.60	\$ 38.12	-	-	118.74	\$ 118.74	-	168.95	(8.22)	\$ 160.73	\$ 1,438.21
2/2/2018	(79.56)	(4.74)	1,375.64	\$ 1,291.34	(1,238.07)	326.21	1,250.57	\$ 338.71	-	-	166.54	\$ 166.54	-	81.95	(5.95)	\$ 76.00	\$ 1,872.59
2/3/2018	(24.30)	7.92	809.87	\$ 793.49	(670.22)	34.87	653.29	\$ 17.94	-	-	149.95	\$ 149.95	-	124.99	(2.16)	\$ 122.83	\$ 1,084.21
2/4/2018	(414.38)	78.90	1,028.23	\$ 692.75	(465.37)	(30.31)	548.89	\$ 53.21	-	-	143.94	\$ 143.94	-	454.51	6.07	\$ 460.58	\$ 1,350.48
2/5/2018	(82.17)	20.47	1,305.95	\$ 1,244.25	(841.38)	9.59	1,091.31	\$ 259.52	-	-	162.49	\$ 162.49	-	151.15	(6.53)	\$ 144.62	\$ 1,810.88
2/6/2018	(58.94)	(33.06)	1,150.50	\$ 1,058.50	(997.39)	180.33	1,230.32	\$ 413.26	-	-	179.44	\$ 179.44	-	229.32	(22.93)	\$ 206.39	\$ 1,857.59
2/7/2018	(50.80)	(2.85)	991.57	\$ 937.92	(591.74)	(66.93)	731.74	\$ 73.07	-	-	178.86	\$ 178.86	-	83.99	(27.39)	\$ 56.60	\$ 1,246.45
2/8/2018	(70.44)	12.22	1,183.58	\$ 1,125.36	(957.41)	222.43	974.07	\$ 239.09	-	-	279.04	\$ 279.04	-	113.40	(9.64)	\$ 103.76	\$ 1,747.25
2/9/2018	(45.03)	(6.20)	1,139.83	\$ 1,088.60	(559.02)	11.94	861.11	\$ 314.03	-	-	193.20	\$ 193.20	-	137.73	(10.95)	\$ 126.78	\$ 1,722.61
2/10/2018	(52.50)	25.48	920.78	\$ 893.76	(497.10)	(22.25)	730.09	\$ 210.74	-	-	200.10	\$ 200.10	-	93.05	(0.99)	\$ 92.06	\$ 1,396.66
2/11/2018	(33.49)	5.45	876.37	\$ 848.33	(409.06)	75.20	635.85	\$ 301.99	-	-	190.13	\$ 190.13	-	153.93	(4.40)	\$ 149.53	\$ 1,489.98
2/12/2018	(81.11)	8.64	1,185.37	\$ 1,112.90	(992.54)	50.00	1,172.22	\$ 229.68	-	-	187.00	\$ 187.00	-	62.07	(3.12)	\$ 58.95	\$ 1,588.53
2/13/2018	(41.98)	18.17	1,001.12	\$ 977.31	(685.86)	56.25	797.21	\$ 167.60	-	-	195.52	\$ 195.52	-	17.56	(1.93)	\$ 15.63	\$ 1,356.06
2/14/2018	(42.82)	29.86	849.88	\$ 836.92	(394.38)	61.25	513.76	\$ 180.63	-	-	171.77	\$ 171.77	-	112.56	(0.22)	\$ 112.34	\$ 1,301.66
2/15/2018	-	(84.54)	779.26	\$ 694.72	(486.25)	(0.64)	643.70	\$ 156.81	-	-	163.45	\$ 163.45	-	238.16	(32.88)	\$ 205.28	\$ 1,220.26
2/16/2018	(71.08)	(171.58)	909.83	\$ 667.17	(517.40)	20.76	691.25	\$ 194.61	-	-	164.15	\$ 164.15	-	106.59	(78.04)	\$ 28.55	\$ 1,054.48
2/17/2018	(30.42)	(125.93)	644.00	\$ 487.65	(492.77)	88.75	562.92	\$ 158.90	-	-	140.14	\$ 140.14	-	187.62	(29.92)	\$ 157.70	\$ 944.39
2/18/2018	(33.94)	(139.32)	749.19	\$ 575.93	(444.54)	119.79	557.89	\$ 233.14	-	-	159.33	\$ 159.33	-	272.16	(3.90)	\$ 268.26	\$ 1,236.66
2/19/2018	-	(4.34)	283.66	\$ 279.32	(407.90)	872.98	797.28	\$ 1,262.36	-	-	(7.89)	\$ (7.89)	-	64.06	0.44	\$ 64.50	\$ 1,598.29
2/20/2018	(33.18)	(268.92)	828.53	\$ 526.43	(315.65)	105.41	667.23	\$ 456.99	-	-	148.73	\$ 148.73	-	391.60	(3.41)	\$ 388.19	\$ 1,520.34
2/21/2018	(43.40)	(172.55)	1,058.58	\$ 842.63	(600.19)	78.66	1,413.46	\$ 891.93	-	-	(117.25)	\$ (117.25)	-	162.24	(7.52)	\$ 154.72	\$ 1,772.03
2/22/2018	-	(2.84)	1,237.00	\$ 1,234.16	(636.96)	12.25	1,232.98	\$ 608.27	-	-	167.97	\$ 167.97	-	38.99	-	\$ 38.99	\$ 2,049.39
2/23/2018	-	-	859.32	\$ 859.32	(574.57)	55.86	1,021.12	\$ 502.41	-	-	205.59	\$ 205.59	-	83.09	-	\$ 83.09	\$ 1,650.41
2/24/2018	-	(110.26)	801.80	\$ 691.54	(488.12)	121.80	886.18	\$ 519.86	-	-	156.83	\$ 156.83	-	120.81	(11.46)	\$ 109.35	\$ 1,477.58
2/25/2018	-	(50.40)	813.06	\$ 762.66	(467.13)	(190.39)	990.32	\$ 332.80	-	-	117.94	\$ 117.94	-	121.79	(0.52)	\$ 121.27	\$ 1,334.67
2/26/2018	-	(35.21)	844.39	\$ 809.18	(525.86)	44.38	983.39	\$ 501.91	-	-	160.52	\$ 160.52	-	63.26	(0.52)	\$ 62.74	\$ 1,534.35
2/27/2018	-	(3.04)	914.11	\$ 911.07	(546.45)	23.83	1,096.94	\$ 574.32	-	-	186.02	\$ 186.02	-	21.57	(0.16)	\$ 21.41	\$ 1,692.82
2/28/2018	(33.85)	(206.62)	853.29	\$ 612.82	(492.31)	0.45	867.24	\$ 375.38	-	-	192.90	\$ 192.90	-	394.88	(6.57)	\$ 388.31	\$ 1,569.41
Feb Total	\$ (1,451.13)	\$ (1,310.26)	\$ 26,738.04	\$ 23,976.65	\$ (17,117.00)	\$ 2,256.35	\$ 24,467.93	\$ 9,607.28	\$ -	\$ -	\$ 4,355.15	\$ 4,355.15	\$ -	\$ 4,251.98	\$ (272.82)	\$ 3,979.16	\$ 41,918.24

Table 10-D: ASM Charge Daily Detail / CRDFC / EDEDC

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	
3/1/2018	-	(97.21)	961.55	\$ 864.34	(414.51)	(1.88)	804.01	\$ 387.62	-	-	203.43	\$ 203.43	-	-	34.24	(0.23)	\$ 34.01	\$ 1,489.40
3/2/2018	(98.10)	(141.48)	689.90	\$ 450.32	(775.60)	(182.88)	889.76	\$ (68.72)	-	-	201.79	\$ 201.79	-	-	235.49	(2.32)	\$ 233.17	\$ 816.56
3/3/2018	-	(88.67)	729.95	\$ 641.28	(584.97)	(118.65)	978.31	\$ 274.69	-	-	196.84	\$ 196.84	-	-	56.02	0.48	\$ 56.50	\$ 1,169.31
3/4/2018	-	(54.59)	909.67	\$ 855.08	(566.49)	3.26	929.70	\$ 366.47	-	-	189.21	\$ 189.21	-	-	45.14	(1.10)	\$ 44.04	\$ 1,454.80
3/5/2018	(176.49)	413.30	671.31	\$ 908.12	(621.66)	71.65	907.50	\$ 357.49	-	-	206.81	\$ 206.81	-	-	45.91	(2.63)	\$ 43.28	\$ 1,515.70
3/6/2018	-	(3.89)	682.87	\$ 678.98	(534.20)	(133.58)	930.51	\$ 262.73	-	-	130.49	\$ 130.49	-	-	-	(0.50)	\$ (0.50)	\$ 1,071.70
3/7/2018	(18.20)	11.77	893.23	\$ 886.80	(1,553.56)	(50.05)	1,365.58	\$ (238.03)	-	-	152.40	\$ 152.40	-	-	0.50	-	\$ 0.50	\$ 801.67
3/8/2018	-	(1.26)	1,021.98	\$ 1,020.72	(1,168.95)	(40.45)	1,222.82	\$ 13.42	-	-	164.18	\$ 164.18	-	-	5.09	0.02	\$ 5.11	\$ 1,203.43
3/9/2018	-	(39.57)	1,052.70	\$ 1,013.13	(993.95)	286.14	1,040.56	\$ 332.75	-	-	166.12	\$ 166.12	-	-	43.19	0.41	\$ 43.60	\$ 1,555.60
3/10/2018	(151.27)	9.66	1,087.62	\$ 946.01	(852.83)	109.31	915.02	\$ 171.50	-	-	147.13	\$ 147.13	-	-	111.32	(1.73)	\$ 109.59	\$ 1,374.23
3/11/2018	(36.65)	(49.76)	920.28	\$ 833.87	(540.13)	(170.04)	664.70	\$ (45.47)	-	-	219.68	\$ 219.68	-	-	65.60	(0.29)	\$ 65.31	\$ 1,073.39
3/12/2018	-	(0.66)	862.08	\$ 861.42	(696.70)	17.64	923.03	\$ 243.97	-	-	192.78	\$ 192.78	-	-	8.28	-	\$ 8.28	\$ 1,306.45
3/13/2018	(134.58)	54.09	935.29	\$ 854.80	(906.47)	126.31	1,137.66	\$ 357.50	-	-	180.84	\$ 180.84	-	-	67.52	0.40	\$ 67.92	\$ 1,461.06
3/14/2018	(158.73)	(255.22)	748.01	\$ 334.06	(633.51)	55.06	840.19	\$ 261.74	-	-	147.24	\$ 147.24	-	-	226.58	(1.75)	\$ 224.83	\$ 967.87
3/15/2018	(155.23)	135.15	778.72	\$ 758.64	(565.16)	144.30	864.17	\$ 443.31	-	-	180.40	\$ 180.40	-	-	47.69	(18.55)	\$ 29.14	\$ 1,411.49
3/16/2018	(36.15)	(104.57)	840.72	\$ 700.00	(322.75)	(11.18)	793.70	\$ 459.77	-	-	153.96	\$ 153.96	-	-	181.23	(2.00)	\$ 179.23	\$ 1,492.96
3/17/2018	-	(29.19)	1,012.78	\$ 983.59	(865.46)	100.33	1,233.48	\$ 468.35	-	-	146.48	\$ 146.48	-	-	23.20	0.08	\$ 23.28	\$ 1,621.70
3/18/2018	(39.38)	16.24	1,072.08	\$ 1,048.94	(653.22)	(10.16)	996.33	\$ 332.95	-	-	156.43	\$ 156.43	-	-	45.57	0.20	\$ 45.77	\$ 1,584.09
3/19/2018	(20.35)	(23.24)	1,051.43	\$ 1,007.84	(1,049.22)	29.63	1,207.60	\$ 188.01	-	-	153.55	\$ 153.55	-	-	7.16	(1.89)	\$ 5.27	\$ 1,354.67
3/20/2018	-	(5.59)	1,185.55	\$ 1,179.96	(1,302.01)	211.22	1,472.76	\$ 381.97	-	-	162.27	\$ 162.27	-	-	24.07	(0.17)	\$ 23.90	\$ 1,748.10
3/21/2018	-	(30.99)	1,121.48	\$ 1,090.49	(1,365.24)	(42.47)	1,608.50	\$ 200.79	-	-	192.31	\$ 192.31	-	-	46.94	(1.66)	\$ 45.28	\$ 1,528.87
3/22/2018	-	-	981.78	\$ 981.78	(1,183.85)	(24.34)	1,324.72	\$ 116.53	-	-	207.83	\$ 207.83	-	-	33.83	-	\$ 33.83	\$ 1,339.97
3/23/2018	(39.95)	(28.03)	925.39	\$ 857.41	(1,432.48)	(491.80)	988.73	\$ (935.55)	-	-	219.32	\$ 219.32	-	-	70.63	(0.12)	\$ 70.51	\$ 211.69
3/24/2018	(113.64)	(587.96)	740.22	\$ 38.62	(1,078.52)	(198.54)	863.44	\$ (413.62)	-	-	149.56	\$ 149.56	-	-	733.81	(2.63)	\$ 731.18	\$ 505.74
3/25/2018	(31.67)	(122.97)	603.99	\$ 449.35	(613.22)	(174.03)	602.62	\$ (184.63)	-	-	172.89	\$ 172.89	-	-	44.32	(21.60)	\$ 22.72	\$ 460.33
3/26/2018	(23.49)	(41.53)	1,024.43	\$ 959.41	(1,344.72)	(302.20)	1,433.07	\$ (213.85)	-	-	183.49	\$ 183.49	-	-	34.77	(24.82)	\$ 9.95	\$ 939.00
3/27/2018	(11.73)	(83.28)	997.26	\$ 902.25	(1,443.99)	(0.15)	1,167.06	\$ (277.08)	-	-	212.97	\$ 212.97	-	-	169.73	(17.96)	\$ 151.77	\$ 989.91
3/28/2018	(9.68)	(179.52)	821.12	\$ 631.92	(1,005.46)	(433.15)	875.85	\$ (562.76)	-	-	209.21	\$ 209.21	-	-	226.92	(27.46)	\$ 199.46	\$ 477.83
3/29/2018	(20.97)	12.23	996.86	\$ 988.12	(1,389.73)	24.07	1,210.29	\$ (155.37)	-	-	162.65	\$ 162.65	-	-	59.80	-	\$ 59.80	\$ 1,055.20
3/30/2018	(35.53)	(29.79)	1,043.54	\$ 978.22	(827.12)	(12.07)	757.96	\$ (81.23)	-	-	187.34	\$ 187.34	-	-	144.12	(2.76)	\$ 141.36	\$ 1,225.69
3/31/2018	(7.06)	(100.98)	710.55	\$ 602.51	(377.24)	(297.19)	338.76	\$ (335.67)	-	-	208.55	\$ 208.55	-	-	57.97	(5.22)	\$ 52.75	\$ 528.14
Mar Total	\$ (1,318.85)	\$ (1,447.51)	\$ 28,074.34	\$ 25,307.98	\$ (27,662.92)	\$ (1,515.89)	\$ 31,288.39	\$ 2,109.58	\$ -	\$ -	\$ 5,558.15	\$ 5,558.15	\$ -	\$ 2,896.64	\$ (135.80)	\$ 2,760.84	\$ 35,736.55	
4/1/2018	(111.25)	(190.61)	1,075.16	\$ 773.30	(874.37)	(104.36)	980.70	\$ 1.97	-	-	200.24	\$ 200.24	-	-	330.35	(5.42)	\$ 324.93	\$ 1,300.44
4/2/2018	(71.87)	(662.38)	1,039.09	\$ 304.84	(1,330.96)	(316.30)	1,331.85	\$ (315.41)	-	-	179.43	\$ 179.43	-	-	134.52	(6.88)	\$ 127.64	\$ 296.50
4/3/2018	(224.53)	33.42	897.19	\$ 706.08	(1,004.92)	57.36	1,057.10	\$ 109.54	-	-	169.04	\$ 169.04	-	-	59.22	(8.76)	\$ 50.46	\$ 1,035.12
4/4/2018	(18.25)	(23.54)	1,200.22	\$ 1,158.43	(1,211.89)	(74.65)	1,185.27	\$ (101.27)	-	-	177.78	\$ 177.78	-	-	45.36	(3.49)	\$ 41.87	\$ 1,276.81
4/5/2018	(134.54)	(43.72)	1,218.57	\$ 1,040.31	(1,393.18)	(250.33)	1,674.29	\$ 30.78	-	-	188.12	\$ 188.12	-	-	254.95	(11.99)	\$ 242.96	\$ 1,502.17
4/6/2018	(274.24)	1.87	974.79	\$ 702.42	(1,155.16)	178.33	958.74	\$ (18.09)	-	-	192.92	\$ 192.92	-	-	155.76	(229.81)	\$ (74.05)	\$ 803.20
4/7/2018	(103.07)	(72.48)	1,173.99	\$ 998.44	(2,176.26)	121.04	2,271.34	\$ 216.12	-	-	188.79	\$ 188.79	-	-	291.28	(51.29)	\$ 239.99	\$ 1,643.34
4/8/2018	(61.18)	(88.10)	1,097.62	\$ 948.34	(974.29)	(59.75)	1,248.30	\$ 214.26	-	-	237.04	\$ 237.04	-	-	168.91	(22.10)	\$ 146.81	\$ 1,546.45
4/9/2018	(34.97)	(407.29)	1,589.35	\$ 1,147.09	(1,822.80)	(110.05)	969.00	\$ (963.85)	-	(100.00)	(233.87)	\$ (333.87)	-	-	434.47	(16.63)	\$ 417.84	\$ 267.21
4/10/2018	(57.48)	11.42	1,573.73	\$ 1,527.67	(1,561.41)	(0.71)	1,912.95	\$ 350.83	-	-	221.56	\$ 221.56	-	-	46.76	(5.66)	\$ 41.10	\$ 2,141.16
4/11/2018	(86.62)	(11.30)	1,304.25	\$ 1,206.33	(1,269.46)	17.73	1,573.17	\$ 321.44	-	-	211.06	\$ 211.06	-	-	290.85	(24.82)	\$ 266.03	\$ 2,004.86
4/12/2018	(71.28)	1.18	1,156.43	\$ 1,086.33	(1,686.51)	595.90	1,345.03	\$ 254.42	-	-	217.05	\$ 217.05	-	-	216.28	(29.66)	\$ 186.62	\$ 1,744.42
4/13/2018	(61.70)	(27.32)	1,065.70	\$ 976.68	(4,034.42)	2,554.22	1,170.34	\$ (309.86)	-	-	220.79	\$ 220.79	-	-	135.69	(21.82)	\$ 113.87	\$ 1,001.48
4/14/2018	(52.82)	(648.37)	509.50	\$ (191.69)	(1,081.17)	2,864.11	1,242.17	\$ 3,025.11	-	-	(55.37)	\$ (55.37)	992.05	-	324.55	(107.17)	\$ 1,209.43	\$ 3,987.48
4/15/2018	(90.03)	(60.89)	972.70	\$ 821.78	(1,061.29)	381.07	1,198.07	\$ 517.85	-	-	152.52	\$ 152.52	-	-	220.91	(31.69)	\$ 189.22	\$ 1,681.37
4/16/2018	(189.54)	(324.35)	1,511.62	\$ 997.73	(2,335.10)	92.41	2,294.45	\$ 51.76	-	-	194.91	\$ 194.91	-	-	392.30	(123.96)	\$ 268.34	\$ 1,512.74
4/17/2018	(269.19)	135.61	1,608.21	\$ 1,474.63	(4,927.74)	1,115.90	2,222.67	\$ (1,589.17)	-	-	205.26	\$ 205.26	-	-	334.53	(17.13)	\$ 317.40	\$ 408.12
4/18/2018	(879.13)	947.13	993.57	\$ 1,061.57	(1,825.35)	497.20	1,287.65	\$ (40.50)	-	-	186.93	\$ 186.93	-	-	193.79	(39.57)	\$ 154.22	\$ 1,362.22
4/19/2018	(356.21)	227.20	1,403.01	\$ 1,274.00	(1,799.81)	103.66	1,666.20	\$ (29.95)	-	-	202.30	\$ 202.30	-	-	167.76	(22.40)	\$ 145.36	\$ 1,591.71
4/20/2018	(92.45)	(450.08)	1,479.15	\$ 936.62	(1,449.17)	(461.57)	1,633.75	\$ (276.99)	-	-	193.98	\$ 193.98	-	-	286.67	(28.74)	\$ 257.93	\$ 1,111.54
4/21/2018	(813.43)	(454.42)	1,230.68	\$ (37.17)	(860.67)	(39.85)	1,044.79	\$ 144.27	-	-	210.26	\$ 210.26	-	-	415.64	(76.64)	\$ 339.00	\$ 656.36
4/22/2018	(93.54)	(15.73)	1,218.82	\$ 1,109.55	(438.27)	(115.35)	896.70	\$ 343.08	-	-	198.29	\$ 198.29	-	-	62.96	(6.47)	\$ 56.49	\$ 1,707.41
4/23/2018	(462.94)	302.23	1,361.91	\$ 1,201.20	(548.18)	225.72	1,074.93	\$ 752.47	-	-	207.85	\$ 207.85	-	-	187.08	(33.61)	\$ 153.47	\$ 2,314.99
4/24/2018	(75.21)	50.05	1,106.89	\$ 1,081.73	(315.24)	139.51	826.75	\$ 651.02	-	-	208.10	\$ 208.10	-	-	123.63	(4.65)	\$ 118.98	\$ 2,059.83
4/25/2018	(125.92)	(14.74)	1,116.31	\$ 975.65	(473.33)	236.15	953.61	\$ 716.43	-	-	210.62	\$ 210.62	-	-	223.36	(34.16)	\$ 189.20	\$ 2,091.90
4/26/2018	(49.61)	(73.91)	1,035.47	\$ 911.95	(292.45)	(10.91)	881.49	\$ 578.13	-	-	204.71	\$ 204.71	-	-	172.97	(8.47)	\$ 164.50	\$ 1,859.29
4/27/2018	(80.60)	(70.43)	1,144.56	\$ 993.53	(458.35)	90.77	897.26	\$ 529.68	-	-	207.31	\$ 207.31	-	-	216.12	(40.78)	\$ 175.34	\$ 1,905.86
4/28/2018	(83.44)	29.84	1,152.50	\$ 1,098.90	(557.49)	(25.44)	1,003.15	\$ 420.22	-	-	214.37	\$ 214.37	-	-	95.27	(1.19)	\$ 94.08	\$ 1,827.57
4/29/2018	(88.24)	(188.43)	1,071.05	\$ 794.38	(1,087.15)	(1,017.37)	1,067.68	\$ (1,036.84)	-	-	215.06	\$ 215.06	-	-	261.71	(13.19)	\$	

Table 10-D: ASM Charge Daily Detail / CRDFC / EEDC

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
5/1/2018	(383.34)	71.45	1,152.39	\$ 840.50	(1,337.31)	(67.38)	1,463.30	\$ 58.61	-	-	245.50	\$ 245.50	-	73.83	(17.14)	\$ 56.69	\$ 1,201.30
5/2/2018	(236.73)	(6,990.60)	652.57	\$ (6,574.76)	(1,078.63)	385.21	268.77	\$ (424.65)	-	-	475.37	\$ 475.37	-	384.15	934.98	\$ 1,319.13	\$ (5,204.91)
5/3/2018	(107.12)	(451.12)	1,084.05	\$ 525.81	(731.92)	(129.68)	1,567.27	\$ 705.67	-	-	233.49	\$ 233.49	-	450.39	(20.75)	\$ 429.64	\$ 1,894.61
5/4/2018	(171.27)	(195.06)	1,178.54	\$ 812.21	(645.85)	(145.39)	1,460.66	\$ 669.42	-	-	274.30	\$ 274.30	-	450.82	(17.71)	\$ 433.11	\$ 2,189.04
5/5/2018	(129.80)	(134.15)	1,064.07	\$ 800.12	(615.39)	(514.28)	1,238.51	\$ 108.84	-	-	205.72	\$ 205.72	-	392.49	(32.37)	\$ 360.12	\$ 1,474.80
5/6/2018	(115.82)	(221.04)	835.85	\$ 498.99	(998.67)	(39.29)	883.96	\$ (154.00)	-	-	207.44	\$ 207.44	-	277.13	(41.33)	\$ 235.80	\$ 788.23
5/7/2018	(116.45)	(2,213.69)	1,008.65	\$ (1,321.49)	(864.40)	(65.99)	1,115.71	\$ 185.32	-	-	167.30	\$ 167.30	-	653.31	62.51	\$ 715.82	\$ (253.05)
5/8/2018	(71.19)	(1,466.58)	943.48	\$ (594.29)	(1,795.43)	148.39	972.84	\$ (674.20)	-	-	228.02	\$ 228.02	-	1,015.77	36.41	\$ 1,052.18	\$ 11.71
5/9/2018	(95.30)	(448.18)	1,151.49	\$ 608.01	(442.07)	(7.50)	1,027.29	\$ 577.72	-	-	204.26	\$ 204.26	-	474.37	(68.31)	\$ 406.06	\$ 1,796.05
5/10/2018	(265.45)	(835.57)	1,056.88	\$ (44.14)	(1,054.35)	569.33	1,245.82	\$ 760.80	-	-	222.92	\$ 222.92	-	292.48	(6.79)	\$ 285.69	\$ 1,225.27
5/11/2018	(135.34)	(1,119.98)	843.76	\$ (411.56)	(383.08)	(1,238.06)	882.04	\$ (739.10)	-	-	213.27	\$ 213.27	-	618.94	(68.61)	\$ 550.33	\$ (387.06)
5/12/2018	(91.02)	(1,016.14)	1,274.70	\$ 167.54	(881.46)	(131.36)	1,078.31	\$ 65.49	-	-	208.91	\$ 208.91	-	474.62	(23.31)	\$ 451.31	\$ 893.25
5/13/2018	(215.54)	(325.57)	1,308.30	\$ 767.19	(1,155.45)	(86.83)	1,270.02	\$ 27.74	-	-	207.02	\$ 207.02	-	223.71	(27.01)	\$ 196.70	\$ 1,198.65
5/14/2018	(128.71)	(342.85)	1,258.31	\$ 786.75	(1,226.91)	(1.28)	1,297.58	\$ 69.39	-	-	192.53	\$ 192.53	-	245.54	(32.79)	\$ 212.75	\$ 1,261.42
5/15/2018	(224.90)	(518.92)	768.28	\$ 24.46	(979.58)	324.63	931.94	\$ 276.99	-	-	183.52	\$ 183.52	-	596.00	(21.47)	\$ 574.53	\$ 1,059.50
5/16/2018	(226.41)	(302.37)	1,195.45	\$ 666.67	(1,151.28)	(63.67)	1,273.23	\$ 58.28	-	-	354.44	\$ 354.44	-	501.99	(53.62)	\$ 448.37	\$ 1,527.76
5/17/2018	(100.28)	(782.68)	1,051.35	\$ 168.39	(700.44)	(47.98)	848.98	\$ 100.56	-	-	234.82	\$ 234.82	-	870.50	26.07	\$ 896.57	\$ 1,400.34
5/18/2018	(143.27)	(1,623.14)	1,085.33	\$ (681.08)	(809.48)	(570.09)	730.71	\$ (648.86)	-	-	247.05	\$ 247.05	-	1,193.91	(68.82)	\$ 1,125.09	\$ 42.20
5/19/2018	(143.42)	(1,868.03)	1,052.79	\$ (958.66)	(874.81)	(117.87)	710.43	\$ (282.25)	-	-	241.12	\$ 241.12	-	1,179.94	(48.71)	\$ 1,131.23	\$ 131.44
5/20/2018	(201.49)	(2,822.12)	795.45	\$ (2,228.16)	(861.09)	(30.75)	690.43	\$ (201.41)	-	-	260.53	\$ 260.53	-	2,083.00	236.09	\$ 2,319.09	\$ 150.05
5/21/2018	(309.17)	(381.39)	1,299.09	\$ 608.53	(1,325.10)	(230.22)	1,354.66	\$ (200.66)	-	-	242.84	\$ 242.84	-	506.59	(33.02)	\$ 473.57	\$ 1,124.28
5/22/2018	(167.13)	(879.70)	1,126.34	\$ 79.51	(1,220.47)	(378.33)	1,330.24	\$ (268.56)	-	-	108.46	\$ 108.46	-	593.09	(40.57)	\$ 552.52	\$ 471.93
5/23/2018	(170.51)	(440.00)	990.43	\$ 379.92	(1,743.34)	255.10	1,318.77	\$ (169.47)	-	-	229.72	\$ 229.72	-	832.38	(84.19)	\$ 748.19	\$ 1,188.36
5/24/2018	(244.21)	(997.69)	1,175.63	\$ (66.27)	(1,547.35)	124.30	1,417.05	\$ (6.00)	-	-	1,069.79	\$ 1,069.79	-	878.27	(56.69)	\$ 821.58	\$ 1,819.10
5/25/2018	(224.41)	(556.39)	1,370.26	\$ 589.46	(1,685.33)	(461.08)	1,956.35	\$ (190.06)	-	-	1,616.26	\$ 1,616.26	-	869.54	(29.63)	\$ 839.91	\$ 2,855.57
5/26/2018	(1,028.63)	96.22	1,435.13	\$ 502.72	(3,608.03)	336.91	1,899.17	\$ (1,371.95)	-	-	1,386.62	\$ 1,386.62	-	565.17	17.13	\$ 582.30	\$ 1,099.69
5/27/2018	(657.83)	(241.53)	1,215.63	\$ 316.27	(1,333.14)	(111.40)	1,429.76	\$ (14.78)	-	-	1,250.06	\$ 1,250.06	-	1,038.53	14.62	\$ 1,053.15	\$ 2,604.70
5/28/2018	(489.25)	(359.60)	1,246.79	\$ 397.94	(1,988.19)	(147.06)	1,752.01	\$ (383.24)	-	-	1,570.76	\$ 1,570.76	-	583.16	(5.49)	\$ 577.67	\$ 2,163.13
5/29/2018	(943.14)	906.39	890.12	\$ 853.37	(2,125.72)	738.31	1,640.22	\$ 252.81	-	-	949.90	\$ 949.90	-	341.83	(4.94)	\$ 336.89	\$ 2,392.97
5/30/2018	(84.35)	(373.78)	1,056.67	\$ 598.54	(1,972.03)	674.49	1,578.60	\$ 281.06	-	-	1,126.90	\$ 1,126.90	-	195.81	(4.61)	\$ 191.20	\$ 2,197.70
5/31/2018	(72.03)	(339.24)	1,232.63	\$ 821.36	(1,300.97)	374.06	3,726.07	\$ 2,799.16	-	-	628.74	\$ 628.74	-	266.58	4.75	\$ 271.33	\$ 4,520.59
May Total	\$ (7,693.51)	\$ (27,173.05)	\$ 33,800.41	\$ (1,066.15)	\$ (38,437.27)	\$ (654.76)	\$ 40,360.70	\$ 1,268.67	\$ -	\$ -	\$ 14,987.58	\$ 14,987.58	\$ -	\$ 19,123.84	\$ 524.68	\$ 19,648.52	\$ 34,838.62
6/1/2018	-	(497.27)	1,038.60	\$ 541.33	(706.11)	(317.67)	1,409.77	\$ 385.99	-	-	1,039.94	\$ 1,039.94	-	342.55	(9.92)	\$ 332.63	\$ 2,299.89
6/2/2018	(47.00)	(1,564.62)	969.10	\$ (642.52)	(999.71)	45.81	847.90	\$ (106.00)	-	-	187.88	\$ 187.88	-	1,018.29	(28.82)	\$ 989.47	\$ 428.83
6/3/2018	(35.85)	(1,122.58)	681.87	\$ (476.56)	(328.93)	(53.12)	610.96	\$ 228.91	-	-	139.97	\$ 139.97	-	961.17	162.55	\$ 1,123.72	\$ 1,016.04
6/4/2018	-	(1,242.20)	952.86	\$ (289.34)	(387.84)	(539.39)	809.41	\$ (117.82)	-	-	179.97	\$ 179.97	-	1,029.32	(45.38)	\$ 983.94	\$ 756.75
6/5/2018	(112.61)	(969.90)	1,067.30	\$ (15.21)	(616.30)	(519.32)	658.85	\$ (476.77)	-	-	354.73	\$ 354.73	-	494.77	(22.32)	\$ 472.45	\$ 335.20
6/6/2018	(84.85)	(396.50)	1,073.61	\$ 592.26	(403.22)	(487.68)	646.57	\$ (244.33)	-	-	173.79	\$ 173.79	-	375.50	(4.30)	\$ 371.20	\$ 892.92
6/7/2018	(36.45)	(350.50)	998.11	\$ 611.16	(703.76)	(1,626.97)	1,496.10	\$ (834.63)	-	-	(101.79)	\$ (101.79)	-	472.33	6.34	\$ 478.67	\$ 153.41
6/8/2018	(87.85)	(572.44)	939.90	\$ 279.61	(386.66)	(442.21)	617.73	\$ (211.14)	-	-	115.95	\$ 115.95	-	414.89	2.59	\$ 417.48	\$ 601.90
6/9/2018	(43.80)	(355.68)	936.09	\$ 536.61	(371.68)	(220.12)	597.07	\$ 5.27	-	-	120.70	\$ 120.70	-	228.59	(5.92)	\$ 222.67	\$ 885.25
6/10/2018	-	(428.88)	962.35	\$ 533.47	(491.74)	7.09	471.63	\$ (13.02)	-	-	124.42	\$ 124.42	-	445.80	(6.30)	\$ 439.50	\$ 1,084.37
6/11/2018	(50.00)	(291.77)	1,056.24	\$ 714.47	(426.55)	(172.62)	646.51	\$ 47.34	-	-	260.82	\$ 260.82	-	240.12	(2.72)	\$ 237.40	\$ 1,260.03
6/12/2018	(126.50)	(913.39)	1,122.46	\$ 82.57	(653.18)	(539.82)	905.73	\$ (287.27)	-	-	126.28	\$ 126.28	-	406.33	(5.85)	\$ 400.48	\$ 322.06
6/13/2018	(92.10)	(1,216.38)	963.32	\$ (345.16)	(580.13)	(1,285.76)	1,057.89	\$ (808.00)	-	-	(179.57)	\$ (179.57)	-	644.13	44.79	\$ 688.92	\$ (643.81)
6/14/2018	-	(1,373.91)	726.62	\$ (647.29)	(465.83)	(452.02)	680.94	\$ (236.91)	-	-	100.16	\$ 100.16	-	642.59	13.52	\$ 656.11	\$ (127.93)
6/15/2018	(88.90)	(525.71)	909.85	\$ 295.24	(631.44)	(89.60)	901.57	\$ 180.53	-	-	666.43	\$ 666.43	-	371.53	5.74	\$ 377.27	\$ 1,519.47
6/16/2018	(43.00)	(758.77)	667.27	\$ (134.50)	(575.63)	(747.75)	628.37	\$ (695.01)	-	-	174.85	\$ 174.85	-	496.62	(23.01)	\$ 473.61	\$ (181.05)
6/17/2018	(37.85)	(828.03)	805.91	\$ (59.97)	(599.85)	(502.40)	829.58	\$ (272.67)	-	-	176.87	\$ 176.87	-	294.83	41.23	\$ 336.06	\$ 180.29
6/18/2018	(124.60)	(561.95)	1,112.52	\$ 425.97	(1,218.07)	(395.32)	1,714.26	\$ 100.87	-	-	1,288.96	\$ 1,288.96	-	159.07	(12.89)	\$ 146.18	\$ 1,961.98
6/19/2018	(71.03)	(1,953.23)	715.12	\$ (1,309.14)	(1,174.34)	(248.02)	613.41	\$ (808.95)	-	-	375.93	\$ 375.93	-	947.18	22.52	\$ 969.70	\$ (772.46)
6/20/2018	(44.60)	(2,985.93)	605.81	\$ (2,424.72)	(382.19)	(399.79)	561.98	\$ (220.00)	-	-	114.38	\$ 114.38	-	1,152.57	114.26	\$ 1,266.83	\$ (1,263.51)
6/21/2018	(75.70)	(2,945.67)	539.54	\$ (2,481.83)	(385.92)	(486.85)	605.12	\$ (267.65)	-	-	103.09	\$ 103.09	-	1,058.13	49.13	\$ 1,107.26	\$ (1,539.13)
6/22/2018	(119.15)	(3,945.22)	629.93	\$ (3,434.44)	(512.11)	(1,195.30)	683.81	\$ (1,023.60)	-	-	119.52	\$ 119.52	-	2,675.82	194.91	\$ 2,870.73	\$ (1,467.79)
6/23/2018	(92.90)	(4,983.47)	579.71	\$ (4,496.66)	(483.33)	(554.76)	792.69	\$ (245.40)	-	-	120.69	\$ 120.69	-	3,433.19	350.79	\$ 3,783.98	\$ (837.39)
6/24/2018	(54.33)	(3,465.60)	858.91	\$ (2,661.02)	(386.94)	(172.92)	628.18	\$ 68.32	-	-	121.70	\$ 121.70	-	2,009.47	55.99	\$ 2,065.46	\$ (405.54)
6/25/2018	(82.45)	(3,889.17)	789.32	\$ (3,182.30)	(434.37)	(502.39)	665.10	\$ (271.66)	-	-	120.20	\$ 120.20	-	1,328.55	259.42	\$ 1,587.97	\$ (1,745.79)
6/26/2018	(15.80)	(1,451.95)	931.25	\$ (536.50)	(347.57)	(262.78)	534.75	\$ (75.60)	-	-	138.11	\$ 138.11	-	1,101.83	45.02	\$ 1,146.85	\$ 672.86
6/27/2018	(57.75)	(1,144.28)	497.71	\$ (704.32)	(613.44)	(106.16)	794.84	\$ 75.24	-	-	129.98	\$ 129.98	-	913.23	8.18	\$ 921.41	\$ 422.31
6/28/2018	-	(1,572.68)	859.80	\$ (712.88)	(981.86)	(443.39)	1,260.17	\$ (165.08)	-	-	103.57	\$ 103.57	-	1,439.07	53.35	\$ 1,492.42	\$ 718.03
6/29/2018	(48.71)	(1,070.22)	974.61	\$ (144.32)	(1,052.26)	(181.92)	1,258.97	\$ 24.79	-	-	1,052.05	\$ 1,052.05	-	552.08	(114.88)	\$ 437.20	\$ 1,369.72
6/30/2018																	

Table 10-E: Contingency Reserve Deployment Events

Contingency Reserve Deployment Failure Charge Amount							
Date	Day of Week	Node		HE	Shortfall MW	Event MW Provided	Event MW Requested
7/20/2017	Thursday	Hibbard	\$ 42.06	5	2.0	1.6	3.6
9/25/2017	Monday	Laskin	\$ 41.12	23	1.7	8.3	10.0
9/25/2017	Monday	Young 2	\$ 91.40	23	4.0	0.0	4.0
4/14/2018	Saturday	Thomson	\$ 526.09	10	4.2	0.8	5.0
4/14/2018	Saturday	Young 2	\$ 465.96	10	4.0	0.0	4.0
Total				\$ 1,166.63 15.9			

**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**

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

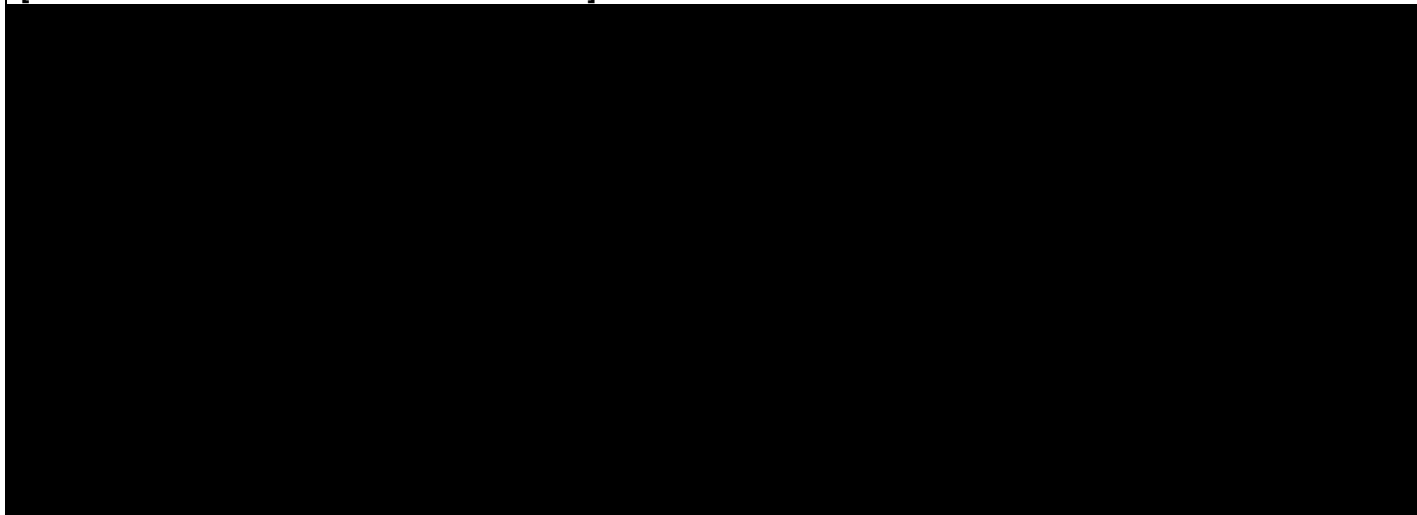
Minnesota Power's response to how the ARR process will be treated for retail and wholesale purposes:

[TRADE SECRET DATA HAS BEEN EXCISED]

Minnesota Power's Self Scheduled FTRs from the 2017/2018 and 2018/2019 Annual Allocation:

		2017 / 2018 Annual Allocation								2018 / 2019 Annual Allocation	
		Summer 2017		Fall 2017		Winter 2017 / 2018		Spring 2018		Summer 2018	
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-17	\$292,886.23	(\$512,003.22)
Aug-17	\$318,295.86	(\$531,743.99)
Sep-17	\$439,698.02	(\$998,233.46)
Oct-17	\$441,600.00	(\$471,835.68)
Nov-17	\$435,549.17	(\$576,261.20)
Dec-17	\$304,591.31	(\$322,040.90)
Jan-18	\$283,904.64	(\$170,159.08)
Feb-18	\$274,185.70	(\$310,042.46)
Mar-18	\$350,828.11	(\$343,133.83)
Apr-18	\$307,331.05	(\$346,736.68)
May-18	\$365,014.60	(\$293,750.95)
Jun-18	\$315,971.42	(\$617,025.35)

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.

[illegible]

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

		2017		Final Rates Test Year 2017		2016		Final Rates Test Year 2010	
<u>Steam Power Generation</u>	<u>FERC Acct</u>	<u>Actual Expenses</u>	1/	<u>Docket No. E015/GR-16-664</u>	2/	<u>Actual Expenses</u>	3/	<u>Docket No. E015/GR-09-1151</u>	4/
Maintenance Supervision and Engineering	510	4,074,056		5,403,455		3,800,414		6,911,666	
Maintenance of Structures	511	1,163,815		582,993		1,216,167		5,790,920	
Maintenance of Boiler Plant	512	11,731,724		16,051,910		13,662,565		10,366,204	
Maintenance of Electric Plant	513	3,226,061		2,143,926		2,707,237		1,386,050	
Maintenance of Misc. Steam Plant	514	4,725,423		5,109,261		3,634,873		5,977,730	
		<u>24,921,079</u>		<u>29,291,545</u>		<u>25,021,256</u>		<u>30,432,570</u>	
 <u>Hydraulic Power Generation</u>									
Maintenance Supervision and Engineering	541	474,160		514,969		448,677		1,255,984	
Maintenance of Structures	542	45,560		73,962		22,495		950,000	
Maintenance of Reservoirs, Dams and Waterways	543	1,152,771		604,374		923,691		-	
Maintenance of Electric Plant	544	1,016,865		1,581,601		1,127,196		980,640	
Maintenance of Misc. Hydraulic Plant	545	1,306,137		1,058,911		1,857,482		-	
		<u>3,995,493</u>		<u>3,833,817</u>		<u>4,379,541</u>		<u>3,186,624</u>	
 <u>Other Power Generation - Wind</u>									
Maintenance Supervision and Engineering	551	25,426		-		9,880		1,111,330	
Maintenance of Structures	552	32,835		15,000		189		-	
Maintenance of Generating and Electric Plant	553	8,000,197		9,116,984		7,318,474		-	
Maintenance of Misc. Other Pwr Generation Plt.	554	1,580,917		211,331		1,776,067		-	
		<u>9,639,375</u>		<u>9,343,315</u>		<u>9,104,610</u>		<u>1,111,330</u>	

1/ 2017 FERC Form 1, pages 320 and 321, column (b), Amount for the Current Year.

2/ Attachment 12, O&M Schedule page 3, column Total Company Compliance 2017 Cost of Service Model
or Docket E015/GR-16-664 Compliance Filing dated 6-28-18, Section VIII, CCOS, column Total Company.

3/ 2017 FERC Form 1, pages 320 and 321, column (c) Amount for the Previous Year.

4/ Attachment 12, O&M Schedule page 6, column Total Company Cost of Service Model
or Docket E-015/GR 09-1151 Compliance Filing dated March 7, 2011, Section IX, column Total Company.

**Docket GR-16-664, Compliance Filing dated 6-28-18, Section VIII, CCOSS,
Minnesota Power
FINAL 2017 General Rates**

				Total Company Compliance 2017 Cost of	
<u>Utility Operating Expense</u>	FERC	Total	Final	Service Model	Allocator
Operations & Maintenance Exp.	<u>Acct No.</u>	<u>Amounts</u>	<u>Adjustments</u>		
Steam Production Demand					
1 Supervision & Engineering	500	9,929,976	(2,721,120)	7,208,856	DPROD
2 Steam Expenses	502	11,420,955	(1,477,516)	9,943,439	DPROD
3 Steam from other sources	503	-		-	DPROD
4 Electric Expenses	505	1,269,686		1,269,686	DPROD
5 Miscellaneous	506	910,628		910,628	DPROD
6 Maint. Structures	511	582,993		582,993	DPROD
7 Misc Maint Plant	514	5,109,261		5,109,261	DPROD
8 Total Demand Steam Production		29,223,499	(4,198,636)	25,024,863	DPROD
9 Steam Production Energy:					
10 Maint. Supervision & Engineering	510	5,403,455		5,403,455	EPROD
11 Maint. Boiler Plant	512	16,051,910		16,051,910	EPROD
12 Main. Electric Plant	513	2,143,926		2,143,926	EPROD
13 Total Steam Energy		23,599,291	-	23,599,291	EPROD
14 MP Compliance Filing, Section VIII, pg 19		52,822,790	(4,198,636)	48,624,154	
Hydro Production:					
Demand					
15 Operations Supervision & Engineering	535	2,697,756	(1,196,209)	1,501,547	
16 Hydraulic Expenses	537	1,148,580		1,148,580	
17 Electric Expenses	538	-		-	
18 Miscellaneous	539	294,953		294,953	
19 Maintenance Supervision & Engineering	541	626,777	(111,808)	514,969	
20 Maint. Structures	542	73,962		73,962	
21 Total Demand Hydro		4,842,028	(1,308,017)	3,534,011	DPROD
Energy					
22 Maintenance of Reservoirs, Dams, and Waterways	543	604,374		604,374	EPROD
23 Electric Plant	544	1,581,601		1,581,601	EPROD
24 Maintenance of Misc Hydro Plant	545	1,058,911		1,058,911	EPROD
25 MP Compliance Filing, Section VIII, pg 19		8,086,914	(1,308,017)	6,778,897	
Other Power Generation (Wind Production)					
26 Operation & Engineering	546	3,031,660		3,031,660	
27 Generation Expenses	548	481,200		481,200	
28 Misc. Other Power Generation Expenses	549	258,931		258,931	
29 Rents	550	3,203,516		3,203,516	
30 Maintenance Supervision & Engineering	551	-		-	
31 Maintenance of Structures	552	15,000		15,000	
32 Maintenance of Generating and Electric Plant	553	9,116,984		9,116,984	
33 Maintenance of Misc. Other Power Generation Plt.	554	211,331		211,331	
34 MP Compliance Filing, Section VIII, pg 19		16,318,622	-	16,318,622	DPROD
Other Power Supply- Demand					
35 System Control & Load Dispatching	556	761,740		761,740	
36 Other Expenses	557	1,443,364	(2,759,893)	(1,316,529)	
37 Total		2,205,104	(2,759,893)	(554,789)	
38 MP Compliance Filing, Section VIII, pg 19					DPROD

Minnesota Power		FERC		Final	Cost of	
2017 Final General Rates		Acct No.	Amounts	Adjustments	Service Model	Allocator
39	Purchased Power					
40	Demand	555	56,837,152		56,837,152	DPROD
41	Energy	555	185,835,391		185,835,391	EPROD
42	Total Purchased Power		242,672,543	-	242,672,543	
43 MP Compliance Filing, Section VIII, pg 19						
44	Fuel	501	144,986,433		144,986,433	EPROD
45 MP Compliance Filing, Section VIII, pg 19						
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.						
Transmission						
46	Operation Supervision & Engineering	560	4,260,432	1,847,901	6,108,333	
47	Load Dispatching	561	-		-	
48	Load Dispatching -Reliability	561.1	2,747,008		2,747,008	
49	Load Disp.-monitoring/operate trans sys.	561.2	2,978,604		2,978,604	
50	Scheduling, system control & dispatch	561.4	1,453,260		1,453,260	
51	Reliability, Planning & Stds. Develop.	561.5	836,934		836,934	
52	Transmission Service Studies	561.6	-		-	
53	Generation Interconnection Studies	561.7	46,840		46,840	
54	Reliability, Planning & Stds. Develop.	561.8	104,495		104,495	
55	Station Expenses	562	-		-	
56	Overhead Line Expenses	563	-		-	
57	Transmission of Electricity by Others	565	70,410,144	(39,479,943)	30,930,201	
58	Miscellaneous Transmission Expenses	566	791,934		791,934	
59	Rents	567	1,809,998		1,809,998	
60	Total Operation		85,439,649	(37,632,042)	47,807,607	
Maintenance						
61	Supervision & Engineering	568	-		-	
62	Maint Computer Hardware	569.1	-		-	
63	Maint Computer Software	569.2	-		-	
64	Maint Communications Equip.	569.3	2,735,764		2,735,764	
65	Station Equipment	570	2,991,552		2,991,552	
66	Overhead Lines	571	3,564,854		3,564,854	
67	Maintenance of Misc. Transmission Plt.	573	140,594		140,594	
68	Total Maintenance		9,432,764	-	9,432,764	
69	Total Transmission Exp.		94,872,413	(37,632,042)	57,240,371	
70 MP Compliance Filing, Section VIII, pg 19						
71	Regional Market Expenses	575.7	-			DTRAN
Distribution						
72	Meters	586	1,067,176	(650,105)	417,071	
73	Bulk Delivery					
74	Other Distribution					
75	Supervision & Engineering	580	1,388,711		1,388,711	
76	Load Dispatching	581	-		-	
77	Overhead Line Expenses	583	155,344		155,344	
78	Underground Line Expenses	584	40,974		40,974	

Minnesota Power

		FERC		Rate		
		<u>Acct No.</u>	<u>Amounts</u>	<u>Adjustments</u>	<u>Service Model</u>	<u>Allocator</u>
79	Street Lighting & Signal Systems	585	185,897		185,897	
80	Customer Installations Expenses	587	-		-	
81	Miscellaneous	588	8,109,378		8,109,378	
82	Rents	589	-		-	
83	Total Operation		10,947,480	(650,105)	10,297,375	
84	Distribution Maintenance:					
85	Supervision & Engineering	590	805,544		805,544	
86	Station Equipment	592	-		-	
87	Overhead Lines	593	11,045,737		11,045,737	
88	Underground Lines	594	1,256,834		1,256,834	CMETERS
89	Maintenance of Line Transformers	595	-		-	DSUBTR
90	Street Lighting& Signal Systems	596	-		-	DISTPLMS
91	Meter Expenses	597	21,580		21,580	
92	Miscellaneous	598	1,265,330		1,265,330	
93	Total Maintenance		14,395,025		14,395,025	
94	Total Distribution		25,342,505	(650,105)	24,692,400	
95	Maintenance Supervision & Engineering					
Customer Accounts Expenses						
96	Meter Reading Expenses	902	1,138,982		1,138,982	CACCTS
97	Customer Records & Collection Exp	903	4,570,409		4,570,409	
98	Customer Accts -Credit Cards	903	350,000	-	350,000	
99	Uncollectible Accounts	904	750,996		750,996	
100	Total Customer Accting COSS, Vol I		6,810,387	-	6,810,387	
						CUSTSERV
Customer Service & Info						
101	Operation					CIPEXPE
102	Supervision	907	-		-	
103	Customer Assistance Expenses	908	3,359,758		3,359,758	
104	Misc Customer Service & Informational Exp	910	-		-	
105	Conserv Improve Prog-energy	908	10,572,615	(125,000)	10,447,625	
106	Total Customer Service & Info Expenses		13,932,373	(125,000)	13,807,383	
107	Maintenance Supervision & Engineering					CSALES
108	Sales	913	43,321		43,321	
109	Maintenance Supervision & Engineering		43,321	-	43,321	PLANT DTRAN
110	Administration & General					LABLAG
111	Property Insurance	924	8,002,236		8,002,236	LABLAG
112	Regulatory Expenses- see note below at 1	928	1,251,193		1,251,193	TOTRBR
113	Regulatory Expenses- see note below at 2.	928	1,084,000		1,084,000	LABLAG
114	Advertising	930.1	131,608		131,608	LABLAG
115	Miscellaneous General Expenses	930.2	173,414		173,414	
116	Franchise Requirement Duluth Ordinance Assessmt	927	-	-	-	CUSTDEP
117	General Plant	935	4,757,908		4,757,908	LABLAG
118	Other A&G 920, 921, 925, 926		48,151,117	(7,750,412)	40,400,705	
119	Total A&G		63,551,476	(7,750,412)	55,801,064	
120	Retail Interest Expense for Customer Deposits	431.0-1002	1,071,000		1,071,000	
121	Charitable Contributions	426.10	453,128		453,128	
			-			
122	Total Operations & Maintenance Exp.					
123	Maintenance Supervision & Engineering		673,169,009		618,744,914	

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

				Total Company Compliance 2010	
<u>Utility Operating Expense</u>		FERC	Total	Final	Cost of
Operations & Maintenance Exp.		Acct No.	Amounts	Adjustments	Service Model
Steam Production Demand					Allocator
1	Supervision & Engineering	500	1,629,651		1,629,651 DPROD
2	Steam Expenses	502	26,664,197		26,664,197 DPROD
3	09-1151	503	3,034,305		3,034,305 DPROD
4	Electric Expenses	505	7,624,740		7,624,740 DPROD
5	Miscellaneous	506	6,142,546		6,142,546 DPROD
6	Maint. Structures	511	5,790,920		5,790,920 DPROD
7	Misc Maint Plant	514	5,977,730		5,977,730 DPROD
8	Total Demand Steam Production		56,864,089		56,864,089 DPROD
9	Steam Production Energy:				
10	Maint. Supervision & Engineering	510	6,911,666		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		1,386,050 EPROD
13	Total Steam Energy		21,783,158		21,783,158 EPROD
14	Total Steam per COSS Vol I		78,647,247	(3,119,238)	78,647,247
15	MP Compliance Filing Section IX COSS page 10 line 3				75,528,009
Hydro Production:					
Demand					
16	Operations Supervision & Engineering	535	821,496		821,496
17	Hydraulic Expenses	537	442,590		442,590
18	Electric Expenses	538	575,380		575,380
19	Miscellaneous	539	739,947		739,947
20	Maintenance Supervision & Engineering	541	1,255,984		1,255,984
21	Maint. Structures	542	950,000		950,000
22	Total Demand Hydro		4,785,397		4,785,397 DPROD
Energy					
23	Electric Plant	544	980,640		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		1,902,042
31	Other Expenses	557	1,677,824		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		44,648,904 DPROD
36	Energy	555	120,580,037		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 Service Model	Allocator
41	Transmission					
42	Operation Supervision & Engineering	560	1,902,682		1,902,682	
43	Load Dispatching	561	-		-	
44	Load Dispatching -Reliability	561.1	2,611,659		2,611,659	
45	Load Disp.-monitoring/operate trans sys.	561.2	110,893		110,893	
46	Scheduling, system control & dispatch	561.4	1,496,009		1,496,009	
47	Reliability, Planning & Stds. Develop.	561.5	1,780,506		1,780,506	
48	Transmission Service Studies	561.6	229,702		229,702	
49	Generation Interconnection Studies	561.7	194,702		194,702	
50	Reliability, Planning & Stds. Develop.	561.8	90,310		90,310	
51	Overhead Line Expenses	563	-		-	
52	Transmission of Electricity by Others	565	22,375,224		22,375,224	
53	Rents	567	958,500		958,500	
54	Total Operation		31,750,187		31,750,187	
	Maintenance					
55	Supervision & Engineering	568	-			
56	Maint Computer Hardware	569.1	383,644		383,644	
57	Maint Computer Software	569.2	329,881		329,881	
58	Maint Communications Equip.	569.3	451,155		451,155	
59	Station Equipment	570	4,925,642		4,925,642	
60	Overhead Lines	571	1,464,707		1,464,707	
61	Total Maintenance		7,555,029		7,555,029	
62	Total Transmission Exp.		39,305,216	(5,899,008)	(5,899,008)	
63	Total Transmission 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		1,770,672	CMETERS
69	Bulk Delivery					DSUB46
70	Other Distribution					DISTPLMS
71	Supervision & Engineering	580	1,838,910		1,838,910	
72	Overhead Line Expenses	583	649,843		649,843	
73	Underground Line Expenses	584	-		-	
74	Miscellaneous	588	-		-	
75	Rents	589	-		-	
76	Total Operation		4,259,425		4,259,425	
	Distribution Maintenance:					
77	Supervision & Engineering	590	1,030,446		1,030,446	
78	Station Equipment	592	3,303,251		3,303,251	
79	Overhead Lines	593	11,382,501		11,382,501	
80	Underground Lines	594	2,061,119		2,061,119	
81	Street Lighting& Signal Systems	596	150,148		150,148	
82	Meter Expenses	597	-		-	
83	Miscellaneous	598	-		-	
84	Total Maintenance		17,927,465		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>	<u>Final Adjustments</u>	Total Company <u>Cost of Service Model</u>	<u>Allocator</u>
Customer Accounts Expenses					
88 Meter Reading Expenses	902	666,985		666,985	
89 Customer Records & Collection Exp	903	6,012,441		6,012,441	
90 Uncollectible Accounts	904	600,000		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		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			RSALESJ
109 EPRI Dues	921	-			RSALESJ
110 Disallowed Organizational dues	n/a	-			RSALESJ
111 General Plant	935	7,322,068		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		18,000	CUSTDEP
115 Charitable Contributions		1,198,000	(682,735)	1,198,000	LABLAG
116 Credit for Expedited Billing		572,000		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

TRADE SECRET DATA HAS BEEN EXCISED

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

PUBLIC DOCUMENT
TRADE SECRET DATA HAS BEEN EXCISED

Background

Minnesota Power has several autotransformers which meet the criteria in which all load serving windings are greater than 100kV. Minnesota Powers' backbone transmission system is 230kV with underlying 115kV which serve 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 –
TRADE SECRET DATA HAS BEEN EXCISED**

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

(Docket No. E015/M-10-961; order dated March 11, 2011)

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

The Commission's March 11, 2011 Order in Docket No. E-015/M-10-961 required MP to provide in its annual automatic adjustment report the following regarding the Purchase Power Agreement with Manitoba Hydro for the period of July 2017 through June 2018:

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

See Appendix A

b) whether or not Minnesota Power accepted the power

See Appendix A

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.

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

**2018 MHEB Product B & C
Minnesota Power - Short-term Non-firm Energy Sale Agreement**

	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
Offered (MWh)	[TRADE SECRET DATA HAS BEEN EXCISED]											
Product B												
Product C												
Total												
Accepted (MWh)												
Product B												
Product C												
Total												
Curtailed (MWh)												
Product B												
Product C												
Total												
Accepted less Curtailment (MWh)												
Product B												
Product C												
Total												
Number of Instances Offered												
Product B												
Product C												
Total												
Number of Instances Accepted												
Product B												
Product C												
Total												

TRADE SECRET DATA HAS BEEN EXCISED]

PUBLIC DOCUMENT
TRADE SECRET DATA HAS BEEN EXCISED

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

TRADE SECRET DATA HAS BEEN EXCISED

For the Reporting Period of July 1, 2017 through June 30, 2018

[TRADE SECRET DATA HAS BEEN EXCISED]

/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 2017	17-647
August 2017	17-711
September 2017	17-778
October 2017	17-830
November 2017	17-903
December 2017	18-100
January 2018	18-174
February 2018	18-233
March 2018	18-306
April 2018	18-361
May 2018	18-466
June 2018	18-520

**Annual Identification of Forced Outages, Lessons Learned and
Mechanism for Information Sharing
Docket E-999/AA-10-884 (Dated April 6, 2012)**

Annual Identification of Forced Outages and Lessons Learned

See MP AAA Table-1 on page 5 for details related to forced outages.

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 continue to implement 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 Tube Leak External	7,234	9/15/17 1:53	9/15/17 22:26	Waterwall tube leak.	Corrosion fatigue.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ (46,752)
BEC 3	Unplanned Outage	Boiler SH Tube Leak	11,111	9/27/17 21:26	9/29/17 5:00	Superheat tube leak.	Thinning caused by fly ash erosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	
BEC 2	Unplanned Outage	Boiler SH Tube Leak	3,107	9/28/17 15:02	9/30/17 13:24	Superheat tube leak.	Long-term overheating and external corrosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed. No long term plan due to retirement of facility at end of 2018.	\$ (18,094)
BEC 4	Unplanned Outage	EHC Leak - Hydraulic system pipes and valves	30,044	12/9/17 10:15	12/11/17 14:03	Right side intercept valve.	EHC leak on right intercept valve due to loss of seal.	Repaired right side intercept valve seals. During this outage opportunity, inspected and replaced seals as needed on remaining intercept valves along with removing and re-torqued all fasteners and intercept assembly covers.	\$ 6,824
BEC 1	Unplanned Outage	Boiler Waterwall Leak	2,514	12/14/17 23:36	12/16/17 13:07	Waterwall tube.	Thinning caused by fly ash erosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed. No long term plan due to retirement of facility at end of 2018.	\$ 6,282
BEC 3	Unplanned Outage	Boiler Waterwall Leak	16,585	12/26/17 6:53	12/28/17 6:00	Waterwall tube.	Erosion of header weld.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 696,295
BEC 3	Unplanned Outage	Reheat Valve Failed Operations	26,799	12/28/17 6:00	12/31/17 10:08	Turbine reheat valves.	Both the right and left reheat stop valves failed to fully open or close.	Both the right and left reheat stop valves were cleaned & repaired.	
BEC 2	Unplanned Outage	Mill 2B Loss of Flame Causing Boiler MFT	957	1/11/18 15:44	1/12/18 6:01	Furnace Safety System.	Automated boiler safety interlocks initiated a master fuel trip due to a loss of signal from a flame scanner. The loss of signal was due to slag build up near the flame scanner.	Adjusted boiler optimization to decrease slagging potential. The unit boiler deslag to occur at next available opportunity.	\$ 7,133
BEC 3	Unplanned Outage	Boiler Tube Leak	14,074	1/6/18 21:01	1/8/18 13:00	Reheater tube leak.	Long-term overheating and external corrosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 103,157
BEC 3	Unplanned Outage	Boiler Tube Leak	16,679	1/19/18 22:30	1/21/18 21:53	Waterwall tube.	Corrosion fatigue.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	

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 SH Tube Leak	2,049	2/8/18 13:41	2/9/18 20:16	Superheat tube leak.	Long-term overheating and external corrosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed. No long term plan due to retirement of facility at end of 2018.	\$ 15,174
BEC 2	Unplanned Outage	ROFA Fan Trip (original DOC filing was Boiler Waterwall Leak)	822	2/24/18 11:24	2/24/18 23:40	ROFA Fan tripped on high vibration.	ROFA fan wear and imbalance caused high vibration.	Balanced ROFA fan along with a complete review of the system to ensure other minor items repaired during this outage opportunity. No long term plan due to retirement of unit at end of 2018.	
BEC 3	Unplanned Outage	Boiler Waterwall Leak	9,351	2/8/18 22:27	2/10/18 1:01	Waterwall tube.	Fireside erosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 58,181
BEC 4	Unplanned Outage	Boiler Deslag	68,720	2/10/18 8:48	2/15/18 7:17	Significant boiler pluggage in reheater section of boiler.	Loss of fuel handling equipment resulted in a change of coal blend ratio. With extended high load operations due to market demand, the boiler plugged.	Completed a deslag of the boiler. Modified procedure for unit operation due to account for future similar coal blend events.	\$ 202,382
BEC 2	Unplanned Outage	Boiler Reheat Tube Leak	2,252	3/12/18 22:30	3/14/18 8:07	Superheat tube leak.	Long-term overheating and external corrosion.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed. No long term plan due to retirement of unit at end of 2018.	\$ 890
BEC 3	Unplanned Outage	Condenser Tube Leak Repair	10,349	3/14/18 20:15	3/16/18 1:39	Condenser.	Water chemistry contamination occurred as a result of a condenser tube leak.	Repaired two leaks in the north waterbox. Ultrasonic testing and repairs along with changing valves to allow safe isolation of condenser to repair while unit online to be completed on next available longer planned outage.	\$ 11,248
BEC 1	Unplanned Outage	Boiler SH Tube Leak	2,586	4/2/18 21:51	4/4/2018 12:27	Superheat tube leak.	Fatigue stress cracking - overheating. The failure caused additional tube leaks.	Repaired all tube leaks caused by original failure. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed. No long term plan due to retirement of unit at end of 2018.	\$ 3,512
BEC 3	Unplanned Outage	Condenser Tube Leak Repair	7,638	4/23/18 13:49	4/24/18 11:31	Condenser.	Water chemistry contamination occurred as a result of a condenser tube leak.	Repaired two condenser leaks in the north waterbox and one leak in the south water box. Eddy current testing along with changing valves to allow safe isolation of condenser to repair while unit online to be completed on next available longer planned outage.	\$ 12,358
BEC 2	Unplanned Outage	Tripped on High Back Pressure	1,285	4/29/18 7:18	4/30/18 2:29	Unit trip was initiated by the turbine protection programming.	A loss of vacuum occurred causing the unit to trip.	Cleaned condenser.	\$ (11,138)
BEC 3	Unplanned Outage	Boiler Waterwall Tubeleak	15,817	5/8/18 22:18	5/10/18 19:14	Waterwall tube leak.	Corrosion fatigue.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed.	\$ 13,630
BEC 1	Unplanned Outage	Boiler Tube Leak	4,040	5/26/18 19:02	5/29/18 7:20	Reheater tube leak.	Fatigue stress cracking - overheating.	Repaired tube leak. During this outage opportunity, additional tubes in the surrounding area were inspected and repaired as needed. No long term plan due to retirement of facility at end of 2018.	\$ (1,669)

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	Condenser Cleaning	14,631	6/1/18 22:34	6/3/18 16:08	Condenser.	Condenser fouling due to excessive airborne fluff build up in the cooling water system caused by cottonwood trees.	Cleaned condenser.	\$ (96,006)
BEC 2	Unplanned Outage	Furnace Pressure Transmitter Failure	64	6/14/18 15:03	6/14/18 16:00	Furnace Pressure Transmitter.	Boiler protection trip due to faulty flame recognition communication.	Replaced transmitter along with cleaned and inspected flame scanners to avoid loss of flame recognition. During this opportunity outage, replaced hydraulic control valve on main stop valve.	\$ (5,390)
BEC 2	Unplanned Outage	Main stop valve hydraulic control faulty	1,581	6/14/18 16:00	6/15/18 15:36	Furnace Pressure Transmitter caused outage starting on 6/14/18 15:03. Due to lower market demands, took the opportunity to repair faulty main stop valve hydraulic control.	Boiler protection trip due to faulty flame recognition communication.	Replaced transmitter along with cleaned and inspected flame scanners to avoid loss of flame recognition. During this opportunity outage, replaced hydraulic control valve on main stop valve.	
BEC 2	Unplanned Outage	Steam Jet Air Ejector Malfunction Caused Loss of Vacuum	75.93	6/15/18 16:32	6/15/2018 17:40	Steam Jet Air Ejector	Malfunction of steam jet air ejector resulted in loss of vacuum and tripped unit.	Back up air ejector put into service until main air ejector was repaired. The back up air ejector provides unit ability to come back online in a short duration of time.	

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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 April 6, 2012

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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 2018-2019 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 of differences between the UCAP values as noted below.

Wind Generation

There is an approximate 8 MW difference in the wind UCAP capacity values between MISO Planning Year 2018-2019 and the 2015 Resource Plan. The higher wind UCAP capacity value used in the MISO Planning Year 2018-2019 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.

Solar Generation

Since the 2015 Resource Plan, Minnesota Power has added 7.4 MW of accredited solar PV capacity, from resources located in Little Falls, Wrenshall, and Duluth, all in Minnesota. These resources were not in service nor accredited as a capacity resource in Planning 2015-2016 and have been added to the total power supply since the 2015 Resource Plan.

Thomson Hydro

There is an approximate 57 MW difference in the pondage hydro UCAP capacity values between MISO Planning Year 2018-2019 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

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resulting is 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 2018-2019, Thomson Hydro has been returned to full service and the UCAP value is for the entire facility.

Boswell Energy Center 1 and 2

The accredited capacity from Boswell Energy Center units 1 and 2 was included in the 2015 Resource Plan. Starting with Planning Year 2018-2019, these units will no longer be accredited in MISO as a capacity resource per Minnesota Power's announcement that these units will retire at the end of 2018.

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 as a result of the 2013 Resource Plan. As of June 1st, 2018, Taconite Harbor Unit 3 has been retired per the MISO Attachment Y process.

Bilateral Purchase Transactions

There are three bilateral power purchase agreements with Great River Energy that total 150 MW of UCAP capacity in Planning Year 2018-2019. 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. The accredited capacity from these bilateral power purchase agreements was added as a result of the 2015 Resource Plan.

There was one 50 MW bilateral power purchase agreement with Minnkota Power Cooperative, Inc. in Planning Year 2018-2019. 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. The accredited capacity from this bilateral power purchase agreement was included in the 2015 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

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Resource Plan. The accredited capacity from this bilateral power purchase agreement was included in the 2015 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. The accredited capacity from this bilateral power purchase agreement was added as a result of 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>

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:

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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 not impact its long-term plan as all of the capacity that has ERIS 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 ERIS 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 2018-2019 Compared to
2015 Resource Plan Capacity Values**

MN Power Thermal Generation	Planning Year 2018-2019 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 /1			
Boswell 2 /1			
Boswell 3			
Boswell 4			
Hibbard 3&4			
Laskin 1			
Laskin 2			
Young 2/Square Butte			
Taconite Harbor 1			
Taconite Harbor 2			
Taconite Harbor 3 /2			
SAPPI TG 5 /3			
Total			

/1 Boswell Units 1 & 2 will be retired by the end of 2018


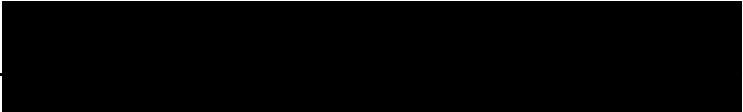

/2 Taconite Harbor Unit 3 was retired effective June 1st, 2018.

/3 SAPPI TG 5 is no longer owned by Minnesota Power

	Planning Year 2018-2019 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
MN Power Hydro Generation	[TRADE SECRET DATA HAS BEEN EXCISED]		
Pondage			
Run of River			
Total			

	Planning Year 2018-2019 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
Bilateral Purchase Transactions	[TRADE SECRET DATA HAS BEEN EXCISED]		
MHEB			
Minnkota			
Great River Energy			
Xcel			
Total			

	Planning Year 2018-2019 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
Behind The Meter Generation (BTMG)	[TRADE SECRET DATA HAS BEEN EXCISED]		
Customer Owned			
Minnesota Power Owned Non-Regulated			
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			
BTMG Modeled in Strategist (non-coincident Customer Net Generation)			

	Planning Year 2018-2019 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 2018-2019 UCAP Value	2015 Resource Plan Capacity ICAP Values	2015 Resource Plan Capacity UCAP Values
Solar Generation	[TRADE SECRET DATA HAS BEEN EXCISED]		
Camp Ripley			
Solar Garden			
Total			
	Planning Year 2018-2019 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 /1	BOSWELL 1	75	75	0	
MP.BOS112 /1	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 /2	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 /3	TACONITE HARBOR 3	0.0	0	0	0
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	

/1 Boswell Units 1 & 2 will be retired by the end of 2018

/2 SAPPI TG 5 is no longer owned by Minnesota Power and is now BTMG

/3 Taconite Harbor Unit 3 was retired effective June 1st, 2018.

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 2017 through June 2018. 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, 2017 through June 30, 2018. 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, 2017 through June 30, 2018. 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, 2017 through June 30, 2018. 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 2017 – June 2018**

	Path Node to MP.MP	Total DA Congestion	HVDC Utilization	FTR Revenues	Net Congestion
1	MP.BISON1	4,649,603.71	(4,687,016.61)	265,876.92	228,464.02
2	OTP.Y2ACGEN.MP	1,154,977.02	(1,164,270.51)	66,044.71	56,751.22
3	MP.OLIVER12	888,579.58	(895,729.51)	(8,071.27)	(15,221.20)
4	MP.BOS233	533,501.34		(182,746.98)	350,754.36
5	MP.MP_BOS4	257,075.19		(346,466.78)	(89,391.59)
6	MP.BOS111	99,419.54		(31,416.43)	68,003.11
7	MP.BOS112	95,146.45		(36,706.66)	58,439.79
8	MP.BLNCHR123	55,837.70		(5,509.48)	50,328.22
9	MP.TACRIDGE1	3,563.83			3,563.83
10	MP.LASKIN1	1,072.56			1,072.56
	Subtotal of top 10	7,738,776.92	(6,747,016.63)	(278,995.97)	712,764.32
	MP.HIBBAR3	449.87			449.87
	MP.LASKIN2	227.87			227.87
	MP.TACHB1	0.00			0.00
	MP.TACHB2	0.00			0.00
	MP.TACHB3	0.00			0.00
	MP.FONDLA1	(10,810.31)			(10,810.31)
	MP.HIBBAR4	(13,901.33)			(13,901.33)
	MP.THOMSON	(57,653.59)			(57,653.59)
	Grand Total	7,657,089.43	(6,747,016.63)	(278,995.97)	631,076.83

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 2017-June 2018:

1. Identification for the period of July 2017-June 2018 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 2017		100	\$2,939.57	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.
August 2017		68	\$2,008.15	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 2017		None	None	None	None
October 2017		847	\$24,988.06	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 2017		793	\$23,389.56	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 2017		55	\$1,620.19	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.
Januray 2018		83	\$2,433.74	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 2018		None	None	None	None
March 2018		None	None	None	None
April 2018		8	\$224.54	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 2018		56	\$1,663.73	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.
June 2018		22	\$655.54	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		2,031	\$ 59,923.08		

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.

PUBLIC DOCUMENT
TRADE SECRET DATA
HAS BEEN EXCISED

	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 2017		64	\$5,180.67	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.
August 2017		25	\$2,025.63	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 2017		None	None	None	None
October 2017		689	\$55,822.39	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 2017		87	\$7,055.62	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 2017		None	None	None	None
Januray 2018		None	None	None	None
February 2018		None	None	None	None
March 2018		None	None	None	None
April 2018		7	\$277.51	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 2018		18	\$5,403.14	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.
June 2018		20	\$834.72	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		910	\$ 76,599.68		

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.

PUBLIC DOCUMENT
TRADE SECRET DATA
HAS BEEN EXCISED

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, 2017 - June 30, 2018

PUBLIC DOCUMENT
TRADE SECRET DATA
HAS BEEN EXCISED

	Delivered MWh	Lost MWh
	[TRADE SECRET DATA HAS BEEN EXCISED]	
Jul-17		0
Aug-17		0
Sep-17		1,800
Oct-17		1,102
Nov-17		286
Dec-17		0
Jan-18		7,482
Feb-18		0
Mar-18		0
Apr-18		0
May-18		0
Jun-18		0
Total		10,670

STATE OF MINNESOTA)
) ss
COUNTY OF ST. LOUIS)

AFFIDAVIT OF SERVICE VIA
ELECTRONIC FILING

JODI NASH, of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 31st day of August, 2018, she served Minnesota Power's Annual Reports Containing Fuel Information and Data in Docket No. E999/AA-18-373 via electronic filing on the Minnesota Public Utilities Commission and the Office of Energy Security. The persons on E-Docket's Official Service List for this Docket were served as requested.



Jodi Nash

[illegible]

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