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September 20, 2013

VIA ELECTRONIC FILING

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

Re: In the Matter of 2012 Electric Company's and
Department of Commerce Annual Automatic Adjustment Reports
Docket No. E999/AA-12-757

Dear Dr. Haar:

Minnesota Power hereby electronically submits its Reply Comments in the above-referenced Docket. An Affidavit of Service is included.

Please contact me at the number above should you have any questions related to this filing.

Yours truly,

Christopher D. Anderson

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c: Service List

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STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

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In the Matter of 2012 Electric Company's Annual Automatic Adjustment Reports	Docket No. E999/AA-12-757 REPLY COMMENTS

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Minnesota Power provides these Reply Comments in response to the Department of Commerce – Division of Energy Resources ("Department") Review of the 2011-2012 Annual Adjustment Reports ("FYE12 AAA") dated June 5, 2013, in the above-referenced Docket.

This Reply follows the format of the Department's FYE12 AAA by summarizing the issue and providing the Minnesota Power response.

III. COMPLIANCES

J. SHARING LESSONS LEARNED REGARDING FORCED OUTAGES (DOCKET NO. E999/AA-10-884)

Regarding the changes in energy costs due to each outage, however, the Department agrees with Xcel Electric that there is no change in energy costs due to a forced outage when "generation from the power plant would have not have [sic] been utilized at the time of the outage because its economic dispatch costs were more than the cost of other Company generation or the MISO market price." Utilities would need to document that the costs of replacement power were less than the costs of operating the facility on outage. In any case, it is not appropriate for replacement power costs to be negative, as MP has shown for some of its outages, since the plant would not have been used to produce electricity if were more expensive than the cost of power in the MISO market. Therefore, the Department recommends that MP

provide in reply comments either a revised Table 1 with no changes in energy costs where MP initially calculated negative changes in energy costs as a result of forced outages, or fully justify such calculations (why it is reasonable to expect a reduction in energy costs as a result of forced outages).

Response:

Minnesota Power disagrees with the statement above "it is not appropriate for replacement power costs to be negative." Minnesota Power calculates the Outage MWh replaced by purchases on an hourly basis. The Outage MWh Replaced by Purchases is calculated by taking the *lesser of* either the purchases made to serve FAC load or the unit's budgeted maximum output. Market pricing can significantly fluctuate from hour to hour. In one hour it might be economical to run the unit while in the next hour it may not be. Some generating units cannot be shut down or started without significant lead time and may have minimum levels they need to run at. Minnesota Power calculates the Purchased Outage Costs by multiplying the Hourly Outage MWh Replaced by Purchases times the Hourly Average Purchase Cost then sums up each hour to get the Total Purchased Outage Costs. The Average Purchase Cost is calculated by dividing the sum of the total Purchased Outage Costs by the total Outage MWh Replaced by Purchases. This is then compared to the unit's average cost for the month. When the unit's average cost is higher than the calculated average cost of the replaced energy a benefit might be shown. See the example of this calculation for one day as shown in Exhibit A.

IV. FCA MECHANISM

A. BACKGROUND

2. Proposal

While the Department is open to any reasonable proposal by other parties, the Department recommends that, rather than allowing utilities to recover all changes in energy costs on a month-to- month basis, recovery of energy costs should be fixed in a rate case, with no adjustment between rate cases, at the IOU's average energy costs ($/kWh) over the previous three years before a rate case is filed. While this approach could set the recovery of energy costs at a single rate throughout the year, it would be more appropriate to set the energy rates for each month of the year based on average costs for that month in the past three years, so that rates could provide better price signals to customers to reduce energy use during peak periods. This approach would give the IOUs clear incentives in between rate cases to minimize their total cost of doing business. That is, not only would utilities have an incentive to minimize capital and other costs recovered in base rates, but they would also have the same incentive to minimize energy costs.

Response:

First and foremost, it should be made clear that the utilities have done nothing wrong with their current management of the fuel clause process. The Department has concerns with the current fuel clause operation – which it has every right to raise issues of concern. But any changes to the fuel clause could have far reaching impacts that the Commission should carefully consider. In this case, the Department's recommendation to freeze fuel clause cost recovery at a three-year historic average would be catastrophic and would greatly skew the balance of just and reasonable rates. Just and reasonable rates are a key component of the regulatory compact – a concept that protects both the ratepayer and the utility.

The Department's recommendation guarantees Minnesota Power will significantly under recover its fuel and purchase energy costs. The following tables utilize information from Attachment 4 to Minnesota Power's FYE12 and FYE13 AAA – which Attachments are included as Exhibits B and C respectively to these Reply Comments – and demonstrate Minnesota Power's expected fuel and purchase energy costs. Attachment 4 of Minnesota Power's FYE12 and FYE13 AAA clearly shows our projected FCA costs and how they are expected to rise from 2013-2018:

TRADE SECRET DATA EXCISED

TRADE SECRET DATA EXCISED

These projected cost increases are not the anticipated outcome of poor planning or imprudency; they are due to increasing costs beyond the direct control of Minnesota Power, including increased fuel and transportation costs, market prices, load additions, and bridging purchase costs that have increased FCA costs but have delayed generation-related capital investment costs. For example, our use of bridging purchases provides the overall least cost to our customers even though they do increase FCA costs.

Using the Department's proposal, a frozen fuel clause will result in an under recovery of fuel costs that annual rate cases will not fix. The following charts illustrate Minnesota Power's annual fuel and purchased energy costs as measured against the Department's proposal for cost recovery: Because Minnesota Power's projected FCA in the FYE13 AAA were lower than the FYE12 AAA, the FYE13 values were utilized to help ensure the impact of the proposed change was not over stated.

TRADE SECRET DATA EXCISED

The result is the following over and under recovery on an annual basis measured from 2008-2018:

TRADE SECRET DATA EXCISED

The chart above shows very significant under recovery in 2016, 2017 and 2018 which the Department should have recognized and should have understood that their proposal would be unworkable for Minnesota Power. Remarkably, the Department had in its possession Minnesota Power's five-year fuel clause projection as exhibited by Attachment 4 to Minnesota Power's FYE12 AAA. It is clear that the Department's recommendation not only ignored the information contained in the Attachment 4, it also did not take into consideration the changing nature of each utility's generation portfolio: the nature of commodity price fluctuations and changing fuel transportation costs; the impact of renewable energy mandates; or changing emission regulations and enforcement actions when it developed its proposal. It is not clear whether the Department even reviewed this information when it considered its fuel clause proposal.

The Department's attempt at wholesale changes to the current fuel clause operation has resulted in a proposal that would severely and inexplicably penalize Minnesota Power and is simply not acceptable even as a starting point in a discussion of alternatives. While Minnesota Power does not share the Department's opinion that a change to the fuel clause is necessary, appropriate or will automatically benefit customers, any change must consider

the utility's five-year fuel clause projection and must assure complete and timely recovery of a utility's fuel costs recovery. Minnesota Power does not believe the Department's proposal meets these criteria.

The Department continues to emphasize that the utilities do not have an incentive to lower fuel clause costs. To the contrary, Minnesota Power has such an incentive: our globally-competitive large power customers require the lowest energy prices available in order to compete in the world market – otherwise they face idled or shuttered operations. The reduced energy sales that would result would directly and immediately affect Minnesota Power's annual revenue and severely impact the company financially. These customers provide 60% of our revenue and the FCA accounts for approximately 40% of their monthly energy bill. These customers materially affect the company in many ways and we take all of their costs and all other customer costs into consideration as we procure energy supply and manage generation availability, so for the Department to suggest we simply pass these costs through with no regard is not merely misguided but also not true.

Minnesota Power has some of the lowest all-in rates in the country and has always had to be especially mindful of rate impacts in resource decisions. It is ironic that Minnesota Power's low energy cost makes it a target for outage cost examination in part due to the marked difference between its generation supply cost and replacement energy costs purchased in the wholesale market – and that is true even in the depressed wholesale market prices we see today. Minnesota Power understands the concerns of the Department regarding increased energy costs and the impacts of increasing fuel and purchased energy costs have on our customers. Minnesota Power believes it does a good job in controlling FCA costs and does not believe change in the FCA is required to ensure least cost supply because providing the all-in lowest cost alternative is already a strong and well established process at Minnesota

Power. The financial impact of fuel clause operations on ratepayers is indirect but always prevalent – so much so that Minnesota Power annually budgets its anticipated fuel clause costs and reviews those costs with its large power customers so they are aware of their cost impacts. Minnesota Power implemented this close working relationship with its customer base long before the Commission ever became interested in these issues related to fuel clause operation. These annual updates became the model for updating the Department of Commerce monthly fuel clause projections that we use today.

The Department's recommendation of changing the basis of fuel and purchase energy recovery would fundamentally change the business model that Minnesota Power is currently working under and has used to make long-term supply decisions. Resource decisions need to be made by considering all aspect of costs, including capital investment, fuel cost and deliverability. Minnesota Power has worked hard to minimize all energy and capacity costs through a robust Integrated Resource Plan, as well as competitive fuel, rail and purchase power contracts over the last twenty and thirty years. Energy procurement and commodity costs are increasing. The favorable long-term fuel and transportation agreements negotiated in the past (whose benefits have already been passed on to ratepayers) are expiring, being replaced by shorter-term fuel contracts that contain cost escalators. In addition, Minnesota Power's Energy Forward Strategy (as reflected in our Integrated Resource Plan) could be impacted by changes to the fuel adjustment process. Specifically, as Minnesota Power moves toward less carbon-intensive generating resources as required by the State's renewable energy standards as well as federal generator emission regulations, we introduce more variability to fuel costs. For example, the additions of the Bison wind assets have led to lower fuel costs when the wind is blowing but require dispatchable or intermediate resources when the wind generation is not available. This energy can come in the form of low priced MISO market purchases or through

the addition of natural gas generation. Either element adds additional fuel cost variability when compared to the Company's current baseload coal resources. If the fuel adjustment were to be fixed or capped at a certain level, it may change the Company's operating philosophy or future resource additions.

The Department's proposal in effect penalizes for the perception that the utilities are not doing enough to control these costs and simply use the FCA as a pass through with no regard to customer costs. However, the proposed changes would result in greater energy supply costs to ratepayers – not less. A changed fuel clause would require Minnesota Power to manage long-term fuel costs by purchasing all energy in advance. As Minnesota Power has described in the CI-03-802 Docket, the current combination of a long-term and short-term energy purchase approach has worked best in Minnesota Power's experience and has benefited customers by protecting them from over-exposure to market energy prices. Minnesota Power would also explore the need to obtain financial products (hedging or outage insurance products) in order to manage increased risk exposure. The premium cost of those products would be the subject of cost reimbursement – a cost currently not a component of Minnesota Power's fuel clause costs, but a required product necessary to manage the shift in risk. Any material change to the fuel clause operation that included an outright shift in risk to the utility would likely cause a ratings agency downgrade that would severely impact Minnesota Power's credit rating. A downgrade would significantly impact Minnesota Power's cost of capital and have long-term financial impacts on customers and strategy. The increased risk factors would arguably require a higher ROE in future rate cases – which shows that the Department's drastic proposal would likely end up shifting costs rather than eliminating them.

The following table models similar information provided by Xcel Energy in its comments to the Department's proposal:

Impact on Minnesota Power due to Department's 3 year averaging proposal[1]

[1]To show the effect of the proposed 3 year averaging method, we applied the following methodology to our most current 5 year period of FCA data and also to the projected data supplied in Attachment 4 to the 2012-2013 AAA to create the table above:

For calendar years 2008-2012, the 3 year averaging proposal was applied. The average was reset each year. For 2008, the average of 2005-2007 was used; for 2009, the average for 2006-2008 was used, etc.

The 3 year average was compared to the actual fuel costs recovered to determine the additional over or under recovery of fuel costs for the year. A negative number is an additional under recovery while a positive number is an additional over recovery.

A rate case is assumed each year to reset the fuel clause recovery factor.

For calendar years 2013-2018, projected fuel costs and sales from Attachment 4 to the 2012-2013 AAA were used as the base. The 3 year average was applied to projected fuel costs to determine the total over or under recovery for the year.

Minnesota Power's ROE was recalculated to show the impact of the 3 year averaging proposal.

Calendar Year	*Change to FCA Recovery ($M)*	*Actual ROE (%)*	*ROE Under DOC FCA Incentive Proposal (%)*	*Difference (%)*
2008	-$3.2	10.46	10.06	-0.40
2009	+$12.9	5.29	6.55	1.26
2010	+$3.4	9.49	9.82	0.33
2011	-$11.3	8.84	7.85	-0.99
2012	-$5.6	7.46	7.05	-0.41
2008-2012 Total	-$3.8			
	TRADE SECRET DATA EXCISED			
2013				
2014				
2015				
2016				
2017				
2018				
2013 – 2018 Total				
Grand Total				
	TRADE SECRET DATA EXCISED			

The impact of the 3 year averaging proposal on the 2008-2012 time frame would have been an additional under recovery by Minnesota Power of $3.8 million. The projected impact of the 3 year averaging proposal on the 2013-2018 time frame is an under recovery of **[TRADE SECRET DATA EXCISED]** million.

Minnesota Power obviously disagrees with the Department's analysis and recommendation regarding a frozen fuel clause. However, we wholeheartedly agree with the Department's overall recommendation that a separate stakeholder discussion of these issues is greatly needed. The Commission should convene a meeting with all interested parties to discuss the benefits, difficulties, expectations and other matters pertaining to the operation of utilities fuel clause adjustment process. Minnesota Power understands that the Commission has expressed a desire to have some utility "skin in the game" in its discussion of forced outages. Minnesota Power hopes that the Commission will revive the CI-03-802 Docket to explore ways to ensure that replacement energy costs due to forced outages is prudent. Taking this discussion out of the context of reviewing each company's annual AAA filing, and instead making it an overall commission investigation or workgroup process would be the most beneficial way to address the wide array of issues at play if the entire fuel adjustment clause mechanism is reviewed. Most importantly, such a discussion can occur outside of a Commission agenda item requiring an immediate decision, and would allow more time for information gathering, inquiry and reflection.

Finally, on an overall policy basis, Minnesota Power is not in favor of locking-in any component of energy rates with the intent of "providing better

price signals to customers…". We fail to see how fixing any component of the energy rate facilitates true price signals. True costs must be the starting point for allowing customers to shape their energy usage behavior – artificially fixing any component skews the starting point.

VII. EFFECTS FO THE MISO DAY 2 MARKETS ON MINNESOTA RATEPAYERS

C. OVERALL REVIEW OF MISO DAY 2 CHARGES

2. Review of MP's MISO Day 2 Charges

Minnesota Power's Real Time Congestion Charges for the month of May, 2012 totaled negative $451,362, but did not fall below negative $200,000 in any other month. The Department requests that Minnesota Power, in reply comments, explain the conditions that led to this large credit.

Response:

The single largest factor in determining why May, 2012's Real Time Charges were much less than any other month has to do with Real Time Price differences between the West and East nodes of Minnesota Power's HVDC line. Minnesota Power optimizes flows on the HVDC line based on the price spread during every hour of each day. As the price spread increases (LMP's in East are greater than LMP's in West), Minnesota Power increases flows across the HVDC which results in negative Real Time Congestion Charges. The following table is a listing by month of the average price spread between the East and West nodes of the DC line.

Month	RT Price Spread (West - East)
Jul-11	-1.37
Aug-11	-1.78
Sep-11	-3.91
Oct-11	-6.14
Nov-11	-4.86
Dec-11	-4.53
Jan-12	-4.53
Feb-12	-3.65
Mar-12	-3.84
Apr-12	-4.97
May-12	**-8.75**
Jun-12	-4.54
Average	**-4.41**

As can be seen by the table, the RT on peak price spread averaged -$8.75 during the month of May while the average RT price spread only averaged -$4.41 during the selected time frame. Breaking it down further and looking only at the month of May, it can be seen that May 12, 18, 19, 22, 23, 24, and 27 were the days with the greatest price spreads.

Day	RT Price Spread (West-East)
5/1/2012	-$6.09
5/2/2012	-$4.75
5/3/2012	-$4.69
5/4/2012	-$2.62
5/5/2012	-$7.88
5/6/2012	-$5.56
5/7/2012	-$10.18
5/8/2012	-$3.90
5/9/2012	-$1.83
5/10/2012	-$3.33
5/11/2012	-$2.87
5/12/2012	**-$17.55**
5/13/2012	-$1.67
5/14/2012	-$4.13
5/15/2012	-$3.00
5/16/2012	-$4.07
5/17/2012	-$4.47
5/18/2012	**-$14.21**
5/19/2012	**-$38.95**
5/20/2012	-$6.34
5/21/2012	-$9.98
5/22/2012	**-$25.61**
5/23/2012	**-$14.16**
5/24/2012	**-$16.46**
5/25/2012	-$3.03
5/26/2012	-$9.14
5/27/2012	**-$18.50**
5/28/2012	-$9.27
5/29/2012	**-$12.16**
5/30/2012	-$2.17
5/31/2012	-$2.63
Average	**-$8.75**

During the previously mentioned days, Minnesota Power was able to increase energy flows across the HVDC to take advantage of the increased price spreads during the real time which caused Real Time Congestion Charges to be lower than any other month during the period.

Also in May, 2012, Minnesota Power's Real Time Miscellaneous Charges totaled negative $506,004. Real Time Miscellaneous charges did not exceed $20,000 in absolute terms in any other month. The Department requests that Minnesota

Power describe in reply comments the nature of this charge in May, 2012, and provide any documentation it has received from MISO regarding the charge.

Response:

Minnesota Power received an Excess Congestion Fund refund from MISO in May 2012 totaling a credit of $494,518.81 which was included in the reports in the Miscellaneous charge type.

VIII. ANCILLARY SERVICES MARKET (ASM)

B. MP

On page 3 of Attachment 10, MP stated generally that decreases in net ASM MWh supplied can be caused by factors which are out of the utility's control, including the amount of energy cleared at each unit, the amount of reserves cleared, reserve clearing price, reserve distribution costs and load ratio share. MP also stated that it changed its offer parameters at Boswell Unit 4 in order to clear more energy, leaving less of that unit's capacity available to be used for regulation service. The Department requests that MP describe this change and the reasons for it in more detail in reply comments.

Response:

In the 2012 AAA filing, Minnesota Power stated that it changed its offer parameters at Boswell Unit 4 in order to clear more energy, leaving less of that unit's capacity available to be used for regulation service. This was done by changing Boswell Unit 4's Regulation Status to "Not Qualified" during the On-Peak hours during the last two months of 2012. Minnesota Power determined that it made more economic sense to produce more energy for customer load by comparing the customer value from energy sales vs. the customer value from selling regulation. This was based on trends seen over the previous year. The following table depicts average regulation prices and average LMPs during the on peak from July, 2010 through October, 2011.

Average On Peak Regulation Prices and LMP's		
Month	**Regulation Clearing Price**	**Day-Ahead LMP**
Jul-10	$16.15	$38.53
Aug-10	$16.05	$42.59
Sep-10	$12.89	$28.23
Oct-10	$10.82	$30.54
Nov-10	$12.50	$30.10
Dec-10	$13.98	$33.65
Jan-11	$13.75	$35.44
Feb-11	$11.99	$30.71
Mar-11	$11.95	$29.72
Apr-11	$14.65	$31.12
May-11	$13.72	$26.75
Jun-11	$12.92	$26.97
Jul-11	$17.16	$45.93
Aug-11	$15.11	$37.48
Sep-11	$11.98	$27.71
Oct-11	$12.18	$30.19
Average	**$13.61**	**$32.85**

As shown in the table above, on peak average regulation price for the time period was $13.61/MWh while the Day-Ahead LMP's averaged $32.85/MWh.

The decision to not qualify regulation in an attempt to produce more energy for customer load was based on comparing the customer benefit that Boswell 4 would make on energy sales vs. the customer benefit the unit would make on selling regulation. The following table is a monthly summary of the MWh margin that Boswell 4 made on energy sales during the on peak.

Average On Peak Regulation Prices and LMP's			
Month	**Day-Ahead LMP**	**Average Bos 4 Unit Cost**	**MWh Net Benefit**
Jul-10	$38.53	$14.60	$23.93
Aug-10	$42.59	$15.81	$26.78
Sep-10	$28.23	$14.77	$13.46
Oct-10	$30.54	$14.77	$15.77
Nov-10	$30.10	$16.52	$13.58
Dec-10	$33.65	$12.14	$21.51
Jan-11	$35.44	$14.13	$21.31
Feb-11	$30.71	$14.95	$15.76
Mar-11	$29.72	$16.47	$13.25
Apr-11	$31.12	$14.24	$16.88
May-11	$26.75	$15.49	$11.27
Jun-11	$26.97	$16.19	$10.78
Jul-11	$45.93	$15.97	$29.96
Aug-11	$37.48	$16.22	$21.26
Sep-11	$27.71	$16.52	$11.18
Oct-11	$30.19	$16.24	$13.96
Average	**$32.85**	**$15.31**	**$17.54**

It can be seen in the table above that the average on peak energy margin during the selected time frame was $17.54/MWh. This can be compared to the average regulation clearing price during the same hours.

The following table compares on peak regulation prices and Boswell 4 MWh customer benefit.

Average On Peak Regulation Prices and LMP's			
Month	**MWh Net Benefit**	**Regulation Clearing Price**	**MWh-RCP Difference**
Jul-10	$23.93	$16.15	$7.78
Aug-10	$26.78	$16.05	$10.73
Sep-10	$13.46	$12.89	$0.57
Oct-10	$15.77	$10.82	$4.95
Nov-10	$13.58	$12.50	$1.07
Dec-10	$21.51	$13.98	$7.53
Jan-11	$21.31	$13.75	$7.56
Feb-11	$15.76	$11.99	$3.77
Mar-11	$13.25	$11.95	$1.30
Apr-11	$16.88	$14.65	$2.23
May-11	$11.27	$13.72	($2.45)
Jun-11	$10.78	$12.92	($2.14)
Jul-11	$29.96	$17.16	$12.80
Aug-11	$21.26	$15.11	$6.14
Sep-11	$11.18	$11.98	($0.79)
Oct-11	$13.96	$12.18	$1.77
Average	**$17.54**	**$13.61**	**$3.93**

The table shows that on average for the time period during the on peak the customer benefit is greater than the regulation clearing price. This is consistent with Minnesota Power's strategy of increasing Boswell 4's regulation offer in an attempt to clear more energy instead of regulation. Minnesota Power continues to refine its ancillary service bid strategy as fuel costs, LMPs and market conditions change.

Attachment 10-A summarizes Minnesota Power's monthly charges for each ASM charge type. The Department notes that, in FYE12, MP incurred Contingency Reserve Deployment Failure Charges and Excessive/Deficient Energy Deployment Charges of $4,152 and $2,317, respectively, which are largely unchanged from FYE11. The Department considers Minnesota Power's costs to be reasonable. However, the increase in total ASM-related costs in FYE12 relative to FYE11 raises some minor concerns, so the Department will continue to monitor MP's activity in the

ASM market in the future. Additionally, during its review, the Department noticed that the ASM charge amounts reported in Attachment 10-A do not exactly match the ASM charge amounts reported in Attachment 9, and requests that Minnesota Power explain the difference between the two Attachments in reply comments.

Response:

Attachment 9 shows MISO charges for Fuel Clause purposes in the month in which they are recorded in the General Ledger. Attachment 10-A summarizes the ASM charges by the operating month to which they pertain. S55 and S105 statements may contain adjustments to these charge types which are recorded in the General Ledger in the month Minnesota Power pays for these charges however, Attachment 10-A would show these charges in the operating month they relate to thus causing small differences between the two attachments.

Minnesota Power appreciates the opportunity to file these Reply Comments and looks forward to addressing these issues through the Commission-led processes.

Dated: September 20, 2013

Respectfully submitted,

Christopher D. Anderson
MINNESOTA POWER
Associate General Counsel
30 West Superior Street
Duluth, MN 55802
218-723-3961

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DOCKET AA-12-757
REPLY COMMENTS
EXHIBIT A
1 DAY EXAMPLE-PUBLIC

[A] X [B]= [C]

DATE	HE	[A] Outage MWh Replaced by Purchases LESSER OF UNIT 1 BUDGETED MAX OUTPUT OR MWH NEEDED FOR LOAD	[B] Hourly Average Purchase Cost for Load $	[C] Purchase Cost
09/19/11	1.00	68.0	$11.80	$802.11
09/19/11	2.00	68.0	$10.00	$680.30
09/19/11	3.00	68.0	$9.01	$612.50
09/19/11	4.00	68.0	$9.08	$617.60
09/19/11	5.00	68.0	$11.28	$766.96
09/19/11	6.00	68.0	$17.38	$1,182.06
09/19/11	7.00	68.0	$21.30	$1,448.29
09/19/11	8.00	68.0	$23.19	$1,577.08
09/19/11	9.00	46.7	$23.27	$1,085.59
09/19/11	10.00	65.8	$26.26	$1,727.79
09/19/11	11.00	66.5	$29.66	$1,972.58
09/19/11	12.00	68.0	$33.60	$2,284.48
09/19/11	13.00	68.0	$35.03	$2,381.91
09/19/11	14.00	56.2	$35.48	$1,993.89
09/19/11	15.00	68.0	$35.35	$2,404.11
09/19/11	16.00	68.0	$34.77	$2,364.47
09/19/11	17.00	68.0	$31.09	$2,114.20
09/19/11	18.00	68.0	$29.78	$2,025.26
09/19/11	19.00	68.0	$29.81	$2,026.85
09/19/11	20.00	62.6	$34.74	$2,174.72
09/19/11	21.00	67.8	$28.08	$1,903.87
09/19/11	22.00	68.0	$24.29	$1,651.76
09/19/11	23.00	68.0	$19.53	$1,328.20
09/19/11	24.00	68.0	$15.69	$1,066.62

		[TRADE SECRET DATA HAS BEEN EXCISED]
[D]	TOTAL	
[E]	AT UNIT COST	
[D]-[E]=	COST OR (SAVINGS)	

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

Minnesota Power
Five-Year Projection of Fuel Costs
July 2012 - June 2017

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 2012 is available on an annual basis only.

Minnesota Power has five 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 energy cost), and
- Wind Generation

The major assumptions in determining the fuel cost projections are:

1. MP-owned wind generation will increase approximately 160,000 MWH with the completion of the BISON 1B Wind Project in 2012. Bison 2 & 3 are slated to be online by December of 2012. Starting in 2013 Bison 2 & 3 is projected to produce 745,000 MWh annually.

2. Steam generation is expected to **[TRADE SECRET DATA HAS BEEN EXCISED]**.

3. Total Steam generation costs attributed to coal are expected to **[TRADE SECRET DATA HAS BEEN EXCISED]** from 2012 to 2017.

4. Purchased generation from Square Butte reflects MP's share of the unit's total output of 50% from 2011 through 2013. After 2013, Minnesota Power's share of the output will be reduced per the North Dakota Wind Project.

5. Minnesota Power continues to use wholesale market purchases to meet its energy requirements.

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

6. Minnesota Power has about 116 MW of Hydroelectric capability for its native load of customers. There is no energy cost associated with this energy source. Hydro generation is projected to **[TRADE SECRET DATA HAS BEEN EXCISED]**.

PUBLIC DOCUMENT
TRADE SECRET DATA
HAS BEEN EXCISED

MINNESOTA POWER
FIVE-YEAR PROJECTION OF FUEL COSTS
JULY 2012 - JUNE 2017

	MP GENERATION					PURCHASES				COSTS			
	STEAM GENERATION			WIND GEN	HYDRO	SQUARE BUTTE		MARKET		RECOVERED	TOTAL	TOTAL	AVERAGE
	COAL	OIL & OTHER								THRU SALES	FUEL	FAC	FUEL
	COST	COST	TOTAL	TOTAL	TOTAL	COST	TOTAL	COST	TOTAL	COST	COST	SALES	COST
	$(000)	$(000)	MWh	MWh	MWh	$(000)	MWh	$(000)	MWh	$(000)	$(000)	MWh	per MWh
	[TRADE SECRET DATA EXCISED]												
JUL 12													
AUG													
SEPT													
OCT													
NOV													
DEC 12													
JAN 13													
FEB													
MAR													
APR													
MAY													
JUN 13													
TOTAL													
JUL 13													
AUG													
SEPT													
OCT													
NOV													
DEC 13													
JAN 14													
FEB													
MAR													
APR													
MAY													
JUN 14													
TOTAL													
JUL 14 - JUN 15													
JUL 15 - JUN 16													
JUL 16 - JUN 17													

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

Minnesota Power
Five-Year Projection of Fuel Costs
July 2013 - June 2018

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 2013 is available on an annual basis only.

Minnesota Power has five sources of power:

- Steam Generation at Company owned plants,
- Purchased Power from Square Butte under a Power Purchase Agreement,
- Purchased Power from Midwest ISO wholesale market and from other power suppliers,
- Hydro Power from Company owned generating plants (for which there is no energy cost), and
- Wind Generation

The major assumptions in determining the fuel cost projections are:

1. Starting in 2013 Bison 2 & 3 is projected to produce 745,000 MWh annually. The Bison 4 wind project (approximately 200MW) is planned to begin production at the beginning of 2015 and provide an additional 835,000 MWh annually.

2. Steam generation is expected to 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 its integrated resource plan filed on March 1, 2013. In 2015 Minnesota Power will cease coal operation from its Taconite Harbor Unit 3 generator (75 MW) and will convert its Laskin Energy Center to natural gas which is planned to run significantly less than its current baseload operation as it serves as a peaking resource for customer power supply.

3. Total Steam generation costs attributed to coal are expected to **[TRADE SECRET DATA HAS BEEN EXCISED]** from 2013 to 2018.

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

4. In 2013, purchased generation from Square Butte reflects MP's share of the unit's total output of 50%. After 2013, Minnesota Power's share of the output will be reduced per the North Dakota Wind Project.

5. Minnesota Power continues to use wholesale market purchases and bilateral contracts to meet its energy requirements.

6. Minnesota Power has about 116 MW of Hydroelectric capability for its native load of customers. There is no energy cost associated with this energy source. Hydro generation is projected to **[TRADE SECRET DATA HAS BEEN EXCISED]**.

7. Minnesota Power's load is expected to increase significantly as additional large industrial customers begin or expand operation in our service territory and for our Resale customer class. Minnesota Power's outlook includes over 1 million MWhs of energy growth from 2013 to 2018.

PUBLIC DOCUMENT
TRADE SECRET DATA
HAS BEEN EXCISED

MINNESOTA POWER
FIVE-YEAR PROJECTION OF FUEL COSTS
JULY 2013 - JUNE 2018

	MP GENERATION					PURCHASES				COSTS			
	STEAM GENERATION			WIND GEN	HYDRO	SQUARE BUTTE		MARKET		RECOVERED	TOTAL	TOTAL	AVERAGE
	COAL	OIL & OTHER								THRU SALES	FUEL	FAC	FUEL
	COST	COST	TOTAL	TOTAL	TOTAL	COST	TOTAL	COST	TOTAL	COST	COST	SALES	COST
	$(000)	$(000)	MWh	MWh	MWh	$(000)	MWh	$(000)	MWh	$(000)	$(000)	MWh	per MWh
	[TRADE SECRET DATA EXCISED]												
JUL 13													
AUG													
SEPT													
OCT													
NOV													
DEC 13													
JAN 14													
FEB													
MAR													
APR													
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MAR													
APR													
MAY													
JUN 15													
TOTAL													
JUL 15 - JUN 16													
JUL 16 - JUN 17													
JUL 17 - JUN 18													

STATE OF MINNESOTA	)	AFFIDAVIT OF SERVICE VIA
	) ss	ELECTRONIC FILING
COUNTY OF ST. LOUIS	)	

Kristie Lindstrom of the City of Duluth, County of St. Louis, State of Minnesota, says that on the 20th day of September, 2013, she served Minnesota Power's Reply Comments in Docket No. E-999/AA-12-757 to the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The remaining parties on the attached service list were served as so indicated on the list.

/s/ Kristie Lindstrom

Subscribed and sworn to before
me this 20th day of September, 2013.

/s/ Sheryl A Miskowski

Notary Public - Minnesota
My Commission Expires Jan. 31, 2015

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