

July 7, 2016

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

RE: Notice Comments of the Minnesota Department of Commerce, Division of Energy Resources
Docket No. E015/M-15-773

Dear Mr. Wolf:

Attached are the Comments of the Minnesota Department of Commerce, Division of Energy Resources (Department or DOC) in response to the Notice for Comments (Notice) issued by the Minnesota Public Utilities Commission (Commission) in the following matter:

In the Matter of the Petition of Minnesota Power for Approval of Investments and Expenditures in the Camp Ripley Solar Project for Recovery through Minnesota Power's Renewable Resources Rider under Minn. Stat. § 216B.1645 and Related Tariff Modifications.

Minnesota Power (MP or the Company) filed the petition in this proceeding on August 21, 2015 by:

Susan Ludwig
Policy Manager
Minnesota Power
30 West Superior Street
Duluth, MN 55802

The Commission issued its Notice on June 1, 2016 requesting comments on MP's compliance filing. The Department responds to the questions in the Notice herein.

Sincerely,

/s/ KATE O'CONNELL
Manager

KO/ja
Attachment

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

NOTICE COMMENTS OF THE
MINNESOTA DEPARTMENT OF COMMERCE
DIVISION OF ENERGY RESOURCES

DOCKET No. E015/M-15-773

I. BACKGROUND

On August 21, 2015, Minnesota Power (MP or the Company) filed a petition with the Minnesota Public Utilities Commission (Commission) for approval of investments, expenditures and costs for a proposed 10 MW solar photovoltaic project at the Minnesota Army National Guard's Camp Ripley facility near Little Falls (the Camp Ripley Project). Specifically, the Company requested the following approvals:

- Approve MP's proposed investments and expenditures related to the Camp Ripley Solar Project pursuant to Minnesota Statute section 216B.1645. Minnesota Power stated that its development of this 10 MW solar project would facilitate compliance under the requirements of Minnesota Statute section 216B.1691, subd. 2f.
- Approve the Company's proposal to add a Solar Renewable Factor under Minnesota Statute section 216B.1645, subd. 2a, separate from the Company's existing Renewable Resources Factor under its Renewable Resources Rider, to appropriately allocate costs to customers incurred due to Minnesota's Solar Energy Standard.
- Approve the Company's proposal to add a new Rider for Solar Energy Adjustment in conjunction with the Company's existing Rider for Fuel and Purchased Energy Adjustment.
- Adjust the Company's existing Rider for Fuel and Purchased Energy Adjustment to exclude solar costs and energy.
- Allow MP to itemize on customer bills both the Solar Renewable Factor and the Solar Energy Adjustment.

On October 14, 2015, the Minnesota Department of Commerce, Division of Energy Resources (Department or DOC) filed comments recommending that the Commission:

- Approve the investments and expenditures related to the Camp Ripley Solar Project pursuant to Minn. Stat. § 216B.1645, subject to MP fully justifying the proposed high land lease costs.
- Require MP to file a petition at least one year in advance of the timeline for an option regarding this contract explaining and requesting authorization from the Commission of MP's proposed choice.
- Require MP to use a competitive process open to numerous locations for future acquisitions of solar generation.
- Approve the Company's proposal to add a Solar Renewable Factor under Minn. Stat. § 216B.1645, subd. 2a, separate from the Company's existing Renewable Resources Factor under its Renewable Resources Rider, to appropriately allocate costs to customers as set out in Minnesota's Solar Energy Standard.
- Approve the Company's proposal to add a new Rider for Solar Energy Adjustment (SEA) in conjunction with the Company's existing Rider for Fuel and Purchased Energy Adjustment. However, the methodology for determining the SEA should be further evaluated in the subsequent cost recovery filing. MP should submit an alternative calculation of the SEA Rider when it files for cost recovery. The alternative should rely on an on-peak energy offset or another methodology that would better reflect the actual avoided energy costs due solar additions.
- Allow MP to adjust the Company's existing Fuel and Purchased Energy Adjustment Rider to exclude solar costs and energy.

On October 23, 2015, the Company filed reply comments, providing additional supporting information and responding to comments.

Minnesota Power and the Department filed responses to the reply comments, providing reasons they believe the Value of Solar methodology might be inappropriate for the cost-recovery calculation in this case.

On December 8, 2015, Minnesota Power filed an "Independent Evaluation Report" of the Camp Ripley Project, prepared by Sedway Consulting, Inc.

The Commission met on January 28, 2016 to consider the matter and on February 24, 2016 issued its *Order Granting Petition in Part and Requiring Reevaluation of Solar Energy Adjustment Rider*.¹ In relevant part to these comments, Order Point 2 stated:

Approved Camp Ripley Project investments and expenditures are subject to further adjustment by the Commission.

¹ The Commission issued its *Order Denying Reconsideration* of the Order on May 13, 2016.

- a. Minnesota Power shall obtain an independent property appraisal for the leased land as evidence of the value appropriate for recovery from ratepayers of the proposed land lease agreement. The appraisal shall be done to the standards the Department of Natural Resources uses for valuing easements and property purchases.
- b. Within 60 days of the date of this order, Minnesota Power shall file the independent appraisal with the Commission and the Commission will determine if the total approved recovery amount for the project should be adjusted for a different land lease payment.

In addition, Order Point 4 stated:

Minnesota Power shall, in addition to demonstrating the prudence of the actual costs of the project as part of its rider cost recovery filings, demonstrate that all aspects of project costs are least-cost and that the Company has applied all possible cost saving methods to reduce the overall cost of the project.

Order Point 7 of the Order required as follows:

Within 60 days of the date of this order, Minnesota Power shall submit a proposed alternative calculation of the SEA Rider. The proposal shall include, at a minimum:

- a. an on-peak energy offset or another method that would better reflect the actual avoided energy costs due to solar additions, and
- b. an analysis of the applicability of the [value of solar] VOS Methodology components.

On April 25, 2016, Minnesota Power submitted its compliance filing in response to these Order Points.

On June 1, 2016, the Commission issued a Notice of Comment Period, listing the following topics as open for comment:

- As a result of the independent appraisal, should the approved recovery amount for the Camp Ripley project be adjusted to reflect a different land lease payment, and if so, by how much?
- Is Minnesota Power's alternative calculation method for the Solar Energy Adjustment (SEA) Rider appropriate and is it

- responsive to Order Point 7 of the Commission's February 24, 2016 Order in this matter?
- o Minnesota Power's plan to address the allocation of capacity costs between solar-paying and non-solar-paying customers (solar-exempt customers) as part of its next rate case and whether that plan aligns with allocation of the capacity benefits.
 - o Should the Commission approve Minnesota Power's request to adjust its existing Rider for Fuel and Purchased Energy Adjustment (FPE Rider) and to approve its proposed SEA Rider?

The Department provides its response below.

II. DOC RESPONSE TO NOTICE

The Department responds to each of the items listed in the Commission's Notice as being open for comment.

A. RESULTS OF INDEPENDENT APPRAISAL

Minnesota Power maintained throughout the proceeding that siting the facility at Camp Ripley provided benefits to ratepayers and MP's system. The Department agreed that there would be benefits, but the question was whether the values of the benefits were reasonably reflected in the costs MP proposed for ratepayers to pay. MP's compliance filing provided helpful information on page 3, which the Department augments below to show differences from MP's proposed rates compared to the appraisal values:

Category	Lease Value ²	Appraisal Value	Increased Lease Cost	% Increase
Land value	\$200,000	\$128,000	\$72,000	56%
Property tax benefits	\$118,627	\$44,819	\$73,808	165%
Security benefits	\$224,096	\$180,624	\$43,472	24%
Permitting benefits	\$25,000	\$24,800	\$200	1%
Solar education center	\$25,000	\$25,000	\$0	0%
Total value	\$592,723	\$403,243	\$189,480	47%

² The values in this table are MP's discounted amounts for each component of the \$1.6 million to be paid over 35 years.

The information above shows that MP appropriately valued the permitting benefits and the Solar education center. However, MP noticeably overstated the value not only of the land but also of property taxes and security benefits.³ In total, the increased cost of the lease, by \$189,480 in present value terms, was overstated by nearly half of the total appraisal values.

MP stated on page 3 that "If the Commission determines that the total approved recovery amount for the project should be adjusted for the appraised value, the recoverable portion of operation and maintenance ('O&M') expense would be reduced by \$19,059 per year." The Department recommends that the Commission require MP to adjust the costs of the project recovered from ratepayers to reflect the appraisal values identified above.

B. MP'S RESPONSE TO ORDER POINT 7

As discussed in this proceeding, not all of MP's customers pay for solar resources. As a result, as the Commission determined in Order Point 7, it is necessary to allocate the appropriate level of costs between the solar-paying and solar-exempt ratepayers, including reflection of the higher-than-average value of the solar energy being produced during periods that coincide with the peak of the Midcontinent Independent System Operator.

MP's compliance filing acknowledges that "it is appropriate to account for time-of-day generation and usage considerations when crediting solar-paying customers to better reflect the actual avoided energy costs due to the addition of the solar project."

The Company describes its proposal in detail on pages 5-8 and Attachments 3 and 4 of its compliance filing. With one possible exception, MP's proposal is well developed, as it is based on actual data that will reflect the actual amount of solar energy produced, along with the time that the energy is produced, thus reflecting the higher value of energy produced at peak periods.

Essentially, MP proposes to remove solar costs from the fuel clause adjustment (fuel and purchased energy adjustment or FPE) that is charged to all ratepayers and replace those costs with the value of energy avoided due to solar power that is actually produced through application of a Time of Generation Adjustment (TOGA). Appropriately, this amount would also be removed from the rider charged only to customers who pay for solar resources to avoid double-recovery.

As noted above, the Department concludes that MP's proposed adjustment is sound, with one possible exception. It appears that MP is comparing the energy costs that are actually avoided due to the production of solar energy at Camp Ripley to the average avoided costs that would occur if solar energy were produced evenly in all hours of the month. That is, as shown in Attachment 4 of MP's filing, the Company proposes to calculate the TOGA by

³ The Department is not aware of other solar facilities requiring extensive security benefits, but does not dispute in this proceeding that there may be value in having a secure solar facility.

comparing the actual avoided costs due to solar generation with the average of avoided costs over the month. However, since the purpose of this adjustment is to reflect the higher value of solar energy compared to the *actual average costs of non-solar energy*, the TOGA calculation should reflect that comparison.

The Department uses the illustrative data from Attachments 3 and 4 of MP's compliance filing to show this calculation, with Step 1 differing from MP's step 1 in Attachment 4 (all other steps are the same). This adjustment to MP's calculation results in a TOGA of 0.50 rather than 0.12, based on MP's illustrative data. The resulting effect is a TOGA-Adjustment FPE of \$15.04/MWh rather than MP's calculated \$15.01/MWh.

- A Step 1: Calculate average actual non-solar costs for the latest billing month**
 Source: total costs of non-solar generation divided by total MWh \$ 15.00
Use average data for two of the previous three months, consistent with FPE Rider calculation

- B Step 2: Calculate total hourly solar generation**
 Total in kWh 1,353,679
Use total hourly data for two of the previous three months, consistent with FPE Rider calculation

- C Step 3: Calculate weighted average solar generation cost**
 Multiply hourly avoided cost data by hourly solar generation / 1000 \$40,945
 (A*B/1000) and sum the total for the month

- D Step 4: Calculate weighted average solar generation cost in \$/MWh**
 D Convert value to \$/MWh (C/B*1000) \$30.25
This is to determine marginal time of generation

- E Step 5: Calculate the average costs of non-solar generation**

- F Step 6: Calculate TOGA Factor** 0.50
 Calculates adjustment factor of solar proxy value to market data $([D/A]-1)$

Using the 0.50 TOGA in the calculation in Attachment 3 results in the following, which is slightly different from the amounts in MP's Attachment 3.

Step 1: Calculate FPE Adjustment without solar

- H FPE costs excluding solar \$13,500,000
- I Non-solar generation MWhs 900,000
- J FPE Adjustment without solar (H/I) \$15.00

Step 2: Calculate TOGA

K	TOGA Factor	0.5
L	Solar-generation MWhs	5,000
M	FPE Adjustment without solar (J)	\$15.00
N	TOGA (K*L*M) \$	37,500

Step 3: Calculate TOGA-adjusted FPE Adjustment

O	FPE costs excluding solar (H)	\$13,500,000
P	TOGA (N)	\$37,500
Q	Non-solar generation MWhs (I)	900,000
R	TOGA-adjusted FPE Adjustment $([O+P]/Q)$	\$15.04

To be applied to all customer usage MWhs

Step 4: Calculate credit for use in SEA

S	Solar generation MWhs	5,000
T	TOGA-adjusted FPE Adjustment (R)	\$15.04
U	Add TOGA (N)	\$37,500
V	Credit for use in SEA $([S*T]+U)$	\$112,708

Credit for costs already allocated through the FPE Rider, plus a time of generation adjustment

Step 5: Calculate SEA

W	Solar energy purchase cost	\$0
<i>Solar purchases would be included here</i>		
X	Credit for use in SEA (-V)	(\$112,708)
Y	Net solar (credits) costs (W+X)	(\$112,708)
Z	Solar-paying energy sales MWh	305,000

AA SEA (Y/Z) (\$0.28) To be applied to solar customer usage MWhs

Verification

AB	TOGA-adjusted FPE Adjustment (R)	\$15.04
AC	Total customer usage MWhs (G)	905,000
AD	Total amount billed with FPE Adjustment (AB*AC)	\$13,612,708
AE	SEA (AA)	(\$0.37)
AF	Solar-paying energy sales MWhs (F)	305,000
AG	Total amount billed (credited) with SEA (AE*AF)	(\$112,708)
AH	Total amount billed with FPE Adjustment and SEA (AD+AG)	\$13,500,000

AI	Compare with total cost in Assumptions (C)	\$13,500,000
AJ	Verification of methodology (AH-AI)	\$0

C. MP'S PROPOSED ALLOCATION OF CAPACITY BENEFITS

MP stated the following on page 10 of its compliance filing:

The Company's evaluation of VOS components determined that several of the components – avoided fuel cost, avoided fixed and variable O&M, avoided generation capacity cost, and avoided environmental cost – would have no near-term value for Minnesota Power customers using the defined VOS methodology, since most components of the methodology are based on avoiding cost from a combined cycle or combustion turbine ("CT") existing in the Company's system today. Minnesota Power does not expect to add a gas generation resource to its system until 2023, so these VOS components would not provide a positive value until after this implementation.

The Department does not agree with MP's conclusion that there would be no positive value of the solar capacity until after the Company adds a CT unit in 2023. Adding generation to a utility's system affects how current resources are used and can affect the timing or amount of other resources added to a utility's system over time. The Department did not attempt to analyze such effects of adding the 10 MW Camp Ripley facility to MP's system at this time, however. It would be helpful to know the amount of capacity that is accredited by MISO, which MP has committed to addressing in its rate case.

D. MP'S PROPOSED FPE AND SEA RIDERS

The Department recommends that the Commission approve MP's FPE and SEA riders, with the following revision on tariff page 96.1:

(f) Calculate the simple average of actual non-solar hourly ~~projected avoided~~ energy cost (\$/MWh) for the first two of the preceding three months by dividing total monthly costs of non-solar generation by total monthly MWh sales as set out in Minn. Statute § 216B.164, subd. 3(b);

The language would read as follows:

(f) Calculate the simple average of actual non-solar energy cost (\$/MWh) for the first two of the preceding three months by

dividing total monthly costs of non-solar generation by total monthly MWh;

III. DEPARTMENT'S RECOMMENDATIONS

The Department recommends that the Commission require MP to adjust the costs of the project recovered from ratepayers to reflect the appraisal values. According to MP, the recoverable portion of operation and maintenance ('O&M') expense would be reduced by \$19,059 per year due to this change.

The Department recommends that the Commission approve MP's FPE and SEA riders, with the slightly reduced level of annual cost recovery above and the following revision on tariff page 96.1:

(f) Calculate the simple average of actual non-solar hourly ~~projected-avoided~~ energy cost (\$/MWh) for the first two of the preceding three months by dividing total monthly costs of non-solar generation by total monthly MWh sales as set out in Minn. Statute § 216B.164, subd. 3(b);

/ja

CERTIFICATE OF SERVICE

I, Sharon Ferguson, hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota.

**Minnesota Department of Commerce
Comments**

Docket No. E015/M-15-773

Dated this 8th day of July 2016

/s/Sharon Ferguson

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Donna	Pickard	dpickardgsss@gmail.com	Citizen	1215 Lilac Lane Excelsior, MN 55331	Electronic Service	No	OFF_SL_15-773_PUC Official SL
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First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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