

# Minnesota Public Utilities Commission

## Staff Briefing Papers

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Meeting Date: May 1, 2014 .....\*\*Agenda Item #4

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Company: Xcel Energy (Xcel)

Docket No. **E-002/M-13-315**

### **In the Matter of a Rate for Large Solar Photovoltaic Installations**

Issue: Should the Commission approve an agreement by parties on Xcel's solar PV capacity credit for Standby Service?

Staff: Susan Mackenzie .....(651) 201-2241

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### **Relevant Documents**

Xcel draft ELCC. .... May 1, 2013  
Commission Order setting the interim capacity credit. .... issued May 13, 2013  
DOC comments..... July 1, 2013  
Xcel update ..... July 1, 2013  
SRRG update ..... July 1, 2013  
Xcel reply..... July 15, 2013  
SRRG comments..... August 9, 2013  
Xcel comments..... October 1, 2013  
Sundial Solar comments ..... October 28, 2013  
DOC comments..... October 29, 2013  
A Work of Art Landscapes ..... October 29, 2013  
SRRG comments..... October 29, 2013  
AEG Group comments..... October 29, 2013  
Xcel ELCC study ..... October 31, 2013  
MnSEIA comments..... November 4, 2013  
DOC reply comments ..... November 12, 2013  
Xcel reply comments ..... November 12, 2013  
MnSEIA comments..... November 18, 2013  
SRRG request for delay ..... November 25, 2013  
Xcel supplement reply ..... December 6, 2013  
SRRG comments..... December 9, 2013  
DOC comments..... December 9, 2013  
Sundial Solar comments ..... December 9, 2013  
Xcel comments..... January 15, 2014

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|---|-------------------|
| A Work of Art Landscapes comments ..... | February 7, 2014  |
| Sundial Solar comments .....            | February 7, 2014  |
| DOC timing recommendation.....          | February 10, 2014 |
| DOC recommendation .....                | March 17, 2014    |
| Sundial Solar comments .....            | March 18, 2014    |
| SRRG comments.....                      | April 2, 2014     |
| Fresh Energy/IWLA.....                  | April 2, 2014     |
| Xcel comments.....                      | April 2, 2014     |
| Xcel add't comments .....               | April 17, 2014    |

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### ***Statement of the issue***

Should the Commission approve an agreement by parties on Xcel's solar PV capacity credit for Standby Service?

### ***Background***

On May 13, 2013, the Commission issued its *Order Setting Interim Rate and Establishing New Solar Rate Docket*, in the above-cited docket. In this Order, among other things, the Commission established an interim photovoltaic (PV) capacity credit of \$5.15 per kW/month for Xcel's Standby Service Rider<sup>1</sup> and ordered Xcel to file a large customer PV rate proposal by October 1, 2013. Part of the rate proposal to be filed in October was a reassessment of the capacity credit. Despite finding the record to be incomplete at the time, the Commission concluded that it was likely that a final solar PV capacity credit would be no less than \$5.15 per kW/month.

On May 1, 2013, Xcel filed its preliminary solar Effective Load Carrying Capability (ELCC) study. On June 11, 2013, Xcel held a stakeholder meeting to review and discuss the draft study, including its methodologies and assumptions. Xcel's preliminary analysis, prior to revisions or changes in response to stakeholders, confirmed that solar generation contributes to system reliability, but at less than its maximum rating.<sup>2</sup>

On July 1, 2013, parties filed progress reports on the efforts by Xcel to establish a large customer PV rate, including the ELCC work done to date, agreement on next steps and remaining issues.<sup>3</sup> In its progress report, Xcel noted that new legislation required the Department to develop a methodology for a Value of Solar (VOS) rate based on a buy-all/sell-all rate framework. One

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<sup>1</sup> Standby Service Rider, Tariff Sheets No. 101-107, Section 5. Xcel's Standby Service Rider is applicable to customers who use an alternative generation source with a capacity greater than 100 kW, where the alternative generation serves all or a portion of customer's electric energy requirements and where the customer chooses to use the Company's electric service to serve that load when the alternative generation is either partly or wholly unavailable. For customers over 100 kW, standby service is mandatory. For customers smaller than 100 kW, the service is optional. Xcel currently has two customers under 100 kW receiving the solar capacity credit.

<sup>2</sup> Xcel concluded based on the typical meteorological year (TMY) analysis and the ELCC and MISO methodologies, fixed panel PV contributes on average 44% of its maximum rating to meeting system peak. The single-axis tracking systems average 50% of maximum rating. The results also showed that the ELCC methodology for calculating accredited capacity results is lower but generally consistent with values compared to the method for intermittent resources prescribed by MISO in the Resource Adequacy Business Practices Manual.

<sup>3</sup> In addition to the Department of Commerce (DOC or Department), the Solar Rate Reform Group (SRRG) filed a progress report. SRRG is a group of large institutional/commercial customers with PV arrays. Members include: Metropolitan Council Environmental Services, City of Minneapolis, Hennepin County, Metropolitan Energy Policy Coalition, Minneapolis Airports Commission, Geronimo Energy, and IKEA.

component of the VOS rate, generation capacity, would be similar to the PV capacity credit, which is the focus of Docket 13-315. Xcel noted the VOS alternative tariff would only apply to customers that qualify for net metering and thus would be inaccessible to some large PV customers. However, as a result of the DOC's ongoing work on a VOS methodology in response to the new legislation, Xcel proposed to limit its October reporting to an update on the solar Standby Service capacity credit based on the results of the ELCC study.

In the July 2013 progress reports, parties suggested:

- use of time-synchronized PV and load data<sup>4</sup> in the ELCC study, or approximation of the ELCC using the methodology specified in MISO's Business Practices Manual for non-wind variable generation and the available historical Minnesota large PV plant data sets (St. Johns and Minneapolis Convention Center)
- study of a number of different PV plant orientations in order to cover a representative range of PV installations (including different tilts, azimuths and tracking axis)
- study of a number of smaller PV plants over numerous, geographically diverse locations i.e. disaggregate the PV study into at least a half dozen geographically dispersed sites
- calculation of the value of the avoided capacity based on a gas peaking plant and the associated updated transmission and distribution losses
- application of the interim Standby Service capacity credit to all hours in all months

On October 1, 2013, Xcel filed a letter explaining again that the Commission's May 13 Order was issued prior to the passage of legislation establishing a timeline for the DOC to develop a VOS methodology. Due to overlapping issues in the solar capacity credit docket (13-315) and the VOS docket, Xcel requested an extension to file its large customer PV rate proposal. Xcel proposed to continue the interim solar Standby Service capacity credit of \$5.15 per kW/month until a final credit could be established.

On October 29, 2013, the Department recommended Xcel continue the interim solar Standby Service capacity credit until the Commission made a final determination on the VOS methodology. A number of other parties filed comments in response to Xcel's proposal.

On December 9, 2013, the Department submitted additional comments, responding to the comments of other parties. The Department maintained that it was appropriate to continue the interim solar Standby Service capacity credit and indicated it would provide a final recommendation by February 14, 2014.

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<sup>4</sup> Use of time-synchronized PV and load data would apply a specific year, specific site, time-stamped hourly electrical output for Xcel's existing PV (or use of an NREL model and national database) with Xcel's (or MISO's) time-synchronized load data from the same year. Parties argued the use of actual hourly radiance data properly aligned with actual hourly load data is the most meaningful correlation.

On February 10, 2014, the Department filed comments indicating that it was working with Xcel and SRRG to narrow differences in approach. To help improve the parties' understanding of the issues, the Department recommended an additional 30 days for comments.

On March 17, 2014, the Department filed its recommendation for a solar Standby Service capacity credit of \$5.15 per kW/month for customer-sited solar facilities over 100 kW. On March 18, 2014, Sundial Solar filed comments in support of the Department's recommendation. On April 2, 2014, Xcel, SRRG and Fresh Energy/IWLA filed comments in support of the Department's recommendation. On April 17, 2014, Xcel filed a letter clarifying more specifically the agreement among the parties.

### *Settlement and agreement*

As noted above, on March 17, 2014, the DOC filed a proposal with the Commission representing a settlement among the parties. The DOC noted that the settlement was the result of an open technical discussion held by the Department with the representatives of Xcel, SRRG and Sundial Solar. As a result of the agreement, the DOC recommended the Commission approve a final Standby Service capacity credit of \$5.15 per kW/month, with a June 1 start date for the grace period (unless customers choose to opt out of the June 1 start date).

On March 20, 2014, the Commission issued a notice seeking comments on the settlement, including: (1) the DOC proposal to maintain the \$5.15 per kW/month capacity credit for Xcel's Standby Service, (2) the DOC's method for determining the credit, (3) the use of the MISO intermittent resource capacity method in determining the solar capacity value, and (4) the specific conditions under which the credit should be re-evaluated or updated. Four parties responded in support of the proposal, including: SRRG, Xcel, Sundial Solar and Fresh Energy/IWLA. These parties supported the settlement but in some cases raised additional issues needing clarification. In supplemental comments filed April 17, 2014, Xcel provided clarification of these issues.

Xcel responded to the DOC proposal, stating that while it continued to believe its own calculations were reasonable and appropriate, it agreed with the DOC that there are various approaches to calculating the solar standby capacity credit, and that the credit will likely change in the future as more data becomes available and/or MISO establishes specific solar capacity values. For this reason, Xcel agreed with the DOC recommendation.<sup>5</sup>

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<sup>5</sup> For the record, Xcel provided details of the calculation for its final capacity credit of \$4.28 per kW/month as well as the underlying assumptions (see comments filed April 2, 2014, p. 2). Xcel used existing embedded demand costs for Standby capacity charges multiplied by the MISO method for accreditation of intermittent resources to arrive at a credit of \$4.28 per kW/month.

SRRG responded that it did not oppose the DOC recommendation as reasonable for purposes of establishing a solar capacity rate at this time. However, SRRG commented on four issues, including the appropriate application of the credit and REC ownership.

Sundial Solar filed comments in support of the DOC proposal but raised issues that needed clarification, including a request that the docket be kept separate from other dockets and a request that the Commission adopt a final capacity credit of not less than \$5.15 per kW/month as soon as possible.

Fresh Energy/IWLA supported the DOC recommended level for the solar capacity credit but asked that the Commission consider an update of the credit every two years.

Staff notes that a collaborative process allowed the parties to narrow the differences in approach and ultimately come to agreement on the Department's recommendation. The DOC's recommendation is limited to an agreement on the level of the capacity credit but not the underlying methodologies for determining the credit. Parties initially discussed various revisions to the ELCC study. Xcel filed an initial ELCC study in May 2013 and a subsequent version in October 2013. Xcel made a number of revisions based on parties' requests but ultimately Xcel and the parties concluded that the data required to complete the study and the complexity of the methodology posed a challenge to implementation of an ELCC study at this time.

The DOC explained that there are two reasonable ways to estimate the percent of PV plant capacity. In previous comments, parties had recommended using an ELCC study to estimate the capacity value of PV solar systems. However, the DOC indicated as noted above that the results of Xcel's ELCC study are limited by lack of data. Although Xcel's October 31, 2013 ELCC study could be used to establish capacity value, the DOC instead proposed a solar capacity value based on the MISO intermittent resource methodology.

Therefore, despite agreement on the appropriate percent of capacity credit, parties did not agree on an appropriate method for estimating the value for avoided capacity cost. Parties continue to disagree on the appropriate approach to determining avoided costs. Staff notes that, at some future time, this issue may need further record development. The results of the two approaches to determine avoided capacity costs differ but either can be shown to be consistent with the \$5.15 per kW/month credit. Together the two approaches establish a band within which the \$5.15 per kW/month credit falls.

#### *Estimating solar PV plant capacity*

The first key component needed to determine the solar capacity credit is an estimate of solar PV contribution to system reliability. As noted above, parties recognized that either the ELCC or the MISO accreditation method could be used to determine the solar contribution to system reliability during peak periods. The DOC observed that calculating the capacity credit for PV installations greater than 100 kW will require both appropriate methodology and estimates of the values to be used in the methodology.

In comments supporting the recommendation,<sup>6</sup> the DOC described the appropriate method of calculating PV system contribution to power system capacity requirements during peak periods (measured as a percent of capacity), the value to which the PV capacity value should be applied,<sup>7</sup> and the period during which the capacity credit should be applied.<sup>8</sup>

Parties agreed that a full ELCC study is the best way to determine the capacity value of variable generation such as solar PV. However, the ELCC methodology requires detailed power system reliability modeling that incorporates not only detailed characteristics of regional conventional generators and multi-year system load data sets but high quality, multi-year, multi-site PV data sets. The DOC explained that these computational challenges have led to the development of methodologies that approximate a full ELCC/Loss of Load Expectation (LOLE) analysis as in the MISO Business Practices Manual (MISO BPM-011, Section 4.2.24, p. 35) methodology.

The DOC table below<sup>9</sup> shows how the solar capacity value was determined. It shows the solar capacity values for various fixed panel and single axis tracking solar systems using the MISO intermittent resource capacity method.

#### **Solar PV Capacity Value Using MISO Intermittent Capacity Rating Methodology\***

|  | <b>2008</b>  | <b>2009</b>  | <b>2010</b>  | <b>Average</b> |
|--|--------------|--------------|--------------|----------------|
| Fixed Panel - 180deg Azimuth, 10deg Tilt | 50.3%        | 45.9%        | 47.4%        | <b>47.9%</b>   |
| Fixed Panel - 180deg Azimuth, 30deg Tilt | 51.1%        | 46.5%        | 48.2%        | <b>48.6%</b>   |
| Fixed Panel - 180deg Azimuth, 45deg Tilt | 48.5%        | 44.1%        | 45.8%        | <b>46.1%</b>   |
| Fixed Panel - 200deg Azimuth, 30deg Tilt | 54.7%        | 49.6%        | 51.6%        | <b>52.0%</b>   |
| <b>Fixed Panel Average</b>               | <b>51.1%</b> | <b>46.5%</b> | <b>48.3%</b> | <b>48.6%</b>   |
| 1 Axis Tracking                          | 53.8%        | 47.9%        | 50.3%        | <b>50.7%</b>   |

\*AC capacity value as a percentage of AC PV plant capacity.

<sup>6</sup> See DOC comments filed March 17, 2014.

<sup>7</sup> Xcel proposed that the percent of PV plant capacity be applied to the demand component of the customer's Standby Service rate. Other parties, including the DOC, proposed that the percent of PV plant capacity be applied to the Company's avoided capacity cost as represented by the capacity costs of a natural gas fired combustion turbine.

<sup>8</sup> The DOC noted that some parties initially argued that the capacity credit should be applied during all months, while Xcel maintained it should not be applied during the grace period. [Standby service demand charges are applied only after an annual grace period. Xcel sets the number of hours in the grace period based on the forced outage rate of its generation fleet (generation fleet Force Outage Rate of 11% times 8760 hours = 964 hours per year).]

<sup>9</sup> See DOC March 17, 2014 comments, p. 5.

The DOC explained that the MISO methodology approximates the results of an ELCC study by focusing on the solar generation during defined peak periods and will avoid the issues encountered with Xcel's ELCC study, specifically the problems with data from 2008 and 2009.<sup>10</sup> The MISO method uses the average of the capacity values calculated for 2008-2010. As seen in the above table, the fixed panel average capacity value is 48.6% during the peak three hour window specified in the MISO procedures.

The DOC noted that MISO sets a Planning Reserve Margin (PRM) annually for Xcel. In the case of wind, the capacity value on Xcel's system is determined using an ELCC methodology (through MISO's annual full LOLE study). The DOC expects that as solar resources grow in the Midwest and more high quality PV data sets become available, MISO will determine a capacity value for solar PV using the same rigorous LOLE study process. Until then, it is necessary to approximate the capacity value for solar PV using the MISO intermittent capacity methodology applied to solar data.

SRRG agreed that the MISO solar valuation methodology is in its infancy but accepted the use of the MISO's intermittent resource method because at present it is the method specified by MISO for determining the accredited capacity of a solar facility. Sundial Solar agreed with the DOC filing and overall method.

Parties agreed that the MISO intermittent resource method is transparent and an easily verified approach to ELCC approximation and that it offers advantages over the ELCC method because it has been thoroughly reviewed and can be easily replicated for individual projects.

#### *Estimating avoided costs*

The ELCC study (and the MISO methodology for intermittent resources) discussed above are used to assess capacity value of the solar generation (i.e. estimate accredited capacity). These methodologies pertain to calculating the amount of solar capacity to which a value of solar should be applied. The second key component needed to determine the solar capacity credit is an estimate of the value of the avoided capacity.

The Department and the SRRG maintained that the capacity credit should be based on actual avoided costs (energy, capacity, line losses, transmission and distribution), similar to the avoided costs used to determine CIP incentives. Xcel maintained that the solar capacity credit should be calculated based on avoided embedded costs, as well as the current values established for interruptible programs.

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<sup>10</sup> Solar capacity was much lower in 2008 and 2009 than it was in 2010 or when the typical meteorological year (TMY) data was used. Xcel believes weak summer demand was the driving cause of the low ELCC values in 2008 and 2009, and as a result of cooler than normal weather and the economic recession, customer demand was unusually low in the summer of 2008 and 2009. With the weak summer demand, the value of the solar contribution to reliability was diminished.



Specifically, the DOC and SRRG proposed to use the avoided capacity value of a gas peaking plant and the associated transmission and distribution losses. The Department proposed that Xcel apply the solar capacity value (using the MISO methodology) to the avoided capacity cost of a gas peaking plant and the associated updated transmission and distribution losses to calculate the solar capacity credit (\$/kW per month).<sup>11</sup> Xcel proposed the use of a monthly demand charge component to represent avoided cost.

In support of the avoided cost method proposed by the DOC and SRRG, Sundial Solar argued that in setting the capacity credit, the Commission should consider more than just the recovery of utility embedded costs. It suggested the Commission consider the long term value of solar to Xcel's system, its customers and society as a whole.<sup>12</sup>

The DOC, in support of its recommendation for avoided cost determination, noted that solar installations on the customer side of the meter are similar to energy conservation investments--they reduce the utility's need to invest in supply-side infrastructure. When evaluating the cost-effectiveness of utility CIP investments, the Department accounts for avoided costs, including:

- avoided energy
- avoided capacity
- avoided line losses
- avoided transmission and distribution costs

According to the DOC and SRRG, a similar set of avoided costs should be used in this case. Combining three of the cost components above (avoided capacity, avoided transmission, and avoided line loss) yields an avoided capacity value of \$10.63 per kW/month.<sup>13</sup> Xcel's method for estimating avoided cost is based on the existing embedded demand costs for Standby Service capacity charges and results in an avoided capacity value of \$8.86 per kW/month.

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<sup>11</sup> For additional explanation of the method proposed by the DOC for determining avoided cost, see DOC comments in 10-971, filed December 3, 2012.

<sup>12</sup> Sundial Solar noted that one societal cost that can be avoided through the use of solar PV is the cost of environmental destruction associated with open pit coal mining in states such as Wyoming.

<sup>13</sup> The DOC excluded avoided energy costs because the purpose is to calculate capacity value. The DOC based cost components on information provided by Xcel on avoided costs related to capacity in Docket No. E002/GR-10-971, as follows: (1) Xcel stated that the 2013 value for its avoided cost is \$87.04/kW-yr (or \$7.25/kW-month), (2) Xcel stated that the annual retail transmission related revenue requirement is \$2.81/kW-month for demand-metered customers, and (3) Xcel stated that the loss factor on its transmission and distributions systems for a primary voltage customer is 5.7 percent. For additional explanation on how this calculation was made, see DOC comments in 10-971, filed December 3, 2012, page 7-8.

*Recommendation for calculating the final solar capacity credit*

Based on a MISO accredited capacity calculation of 48.6 percent and avoided costs of \$10.63 per kW/month, the Department calculated a solar capacity credit of \$5.17 per kW/month. It noted that this value is nearly equal to the \$5.15 per kW/month adopted by the Commission as the interim value. The Department therefore recommended that the Commission approve the continuation of a solar capacity credit of \$5.15 per kW/month.

Staff notes that parties have agreed to disagree on the appropriate method to use to determine avoided costs but that once the accredited capacity percentage is applied to either of the two methods, the numbers create a range of \$4.28 to \$5.17 per kW/month. Given that the avoided cost estimates are not that far apart despite different avoided cost approaches,<sup>14</sup> parties found the \$5.15 per kW/month credit to be reasonable.

Staff suggests the Commission not make a specific finding to adopt a particular method for determining avoided costs. Instead, it could note that there are two different methodologies proposed and both support a \$5.15 per kW/month Standby Service capacity credit.

*Standby service grace period*

The DOC explained that Xcel's Standby Service Rider provides a "grace period" under which each contracted kW receives an annual exemption of 964 hours (about 2-3 months). Currently the grace period commences with the anniversary date of the initial contract for Standby Service. Because Xcel has seasonal demand rates, customers who sign up during the summer period are exempted from a higher demand rate compared to those who sign up during the winter period. In order to treat all customers similarly, the Department proposed that the grace period begin on June 1 unless the customer opts out of this offer.

Xcel indicated support of a June 1 start date for the grace period. It clarified that existing customers can elect a change but cannot receive more than the allowed amount of grace period hours (964 hours) in a 12 month period. In some cases a rebill will be required.

SRRG agreed to the June 1 start date but proposed that the grace period and its application to standby service in general be discussed in a separate proceeding. Specifically, SRRG suggested the Commission take up the issue as part of its generic review of standby service rates.<sup>15</sup> It

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<sup>14</sup> As noted above, the DOC and SRRG arrived at an avoided cost of \$10.63 per kW/month and Xcel arrived at an avoided cost of \$8.86 per kW/month.

<sup>15</sup> In its *Order Approving Tariff Amendments Governing Standby Service Charges for Net-Metered and Qualifying Facilities*, in Docket No. 13-642 and other dockets (issued January 27, 2014), the Commission did not initiate a generic proceeding on standby rates but instead required utilities to engage with the Department to discuss the need and appropriate scope for such a proceeding and to contact the Commission when discussions were concluded. On March 28, 2014, the Department filed an update of its efforts, indicating that the stakeholder meetings on standby service would occur after two white papers are issued and the DOC completes other work related to standby service.

proposed that the upcoming proceeding look at both the appropriate grace period calculations for all standby tariff applications and address the application of a grace period for solar customers.

The Company explained the basis for its interpretation for why the capacity credit should not be applied until after the grace period is exhausted each year, as follows:

The grace period was not eliminated with the implementation of the standby service interim solar capacity credit. In the grace period months, solar standby customers are not assessed the standby usage demand charge from their base tariff that the credit is intended to offset. Outside of the grace period, the customer is billed the corresponding standby demand usage rates per kW of \$12.14 for the months of June through September and \$8.34 during other months. Xcel noted that the interim solar standby capacity credit of \$5.15 per kW is appropriately credited to those charges.

Xcel provided further explanation of the grace period and its application in an example included as part of comments filed July 15, 2013, in this docket, Attachment A.

Staff believes the parties are in agreement that the solar Standby Service capacity credit should not be applied during the grace period. However, the SRRG asked that standby service grace period calculations and the application to different types of generation be reviewed more broadly in another docket or in a separate proceeding.

#### *Application of the credit to AC nameplate*

In response to the DOC's proposed settlement, parties raised the question of what kW amount the credit should be applied. In its comments on the settlement, Xcel clarified that the \$5.15 per kW/month credit will be applied to the Standby Service Agreement kW amount agreed to by the customer. This demand amount will be equal to or less than the customer's actual demand as Standby Service is a backup service and Xcel does not provide backup for generation larger than the customer's actual demand.

On April 17, 2014, Xcel filed specific language on this issue to which the DOC, SRRG and Sundial Solar agreed. The agreed-to language states that the capacity credit will apply to the contracted amount of the Standby Service outside of the grace period. Staff believes this issue has been clarified and that parties agree on the appropriate application of the credit.

#### *Should the credit be reviewed and re-evaluated and under what conditions?*

Fresh Energy/IWLA agreed with the DOC's recommendation on the appropriate level of the capacity credit until conditions change. However, it recommended that the Commission require Xcel to file an update every two years indicating whether changes to the credit calculation are needed. In its final April 17, 2014 comments, Xcel stated that the timing of future updates to the credit remains unresolved.

Fresh Energy/IWLA pointed out that Minnesota's existing solar deployment is estimated to increase almost thirtyfold by 2020 as a result of the state's solar energy standard. Additionally, as deployment experience increases, developers may increase their use of axis tracking and other configurations that increase the solar fleet's contribution to capacity value. This will result in an increase in the solar contribution and the Standby Service demand credit. Given that Minnesota's solar deployment is expected to change dramatically over the next seven years, Fresh Energy/IWLA asked that the Commission set a near-term timeframe to review and update the demand credit calculation.

Staff notes that all parties agree that the Standby Service credit should be re-evaluated at some future time. SRRG, DOC and Xcel noted that once there are firm rules and more experience within MISO on how to account for the value of solar, the credit will need to be updated. In Xcel's April 17 comments, the Company noted that the DOC, SRRG and Sundial Solar agree that the solar capacity should change in a rate case or other proceeding, when MISO starts establishing specific solar capacity values, or if material changes occur in avoided cost components.<sup>16</sup>

The process of establishing the credit and coming to an agreement among parties has taken time and was controversial. This was partly due however to the continued revisions made to the ELCC methodology and the continued addition of site-specific solar data. There are different options for the Commission to consider in deciding when to update the credit and it may wish to discuss these with parties. However, staff believes, at a minimum, an update from Xcel within two years on this issue at MISO and/or any other relevant changes will be useful.

### *REC ownership*

SRRG pointed to REC ownership as an issue that needed clarification. Sundial Solar and SRRG believe that solar RECs should remain with the owner of a PV system, who at their own option can sell them to Xcel or another entity. The DOC noted that this docket establishes a value for the capacity credit and that Xcel is not buying the energy in exchange for RECs. The DOC went on to note that the capacity credit is based on avoided costs and is not a premium for renewable attributes.<sup>17</sup>

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<sup>16</sup> In its last set of comments, Sundial Sun recommended that the capacity credit track demand charges and change when those charges fluctuate. Xcel responded by pointing out that the Department's proposed calculation of the credit does not link the demand charge to the credit but applies to avoided costs. For this reason, Xcel argued that it would be inappropriate to link changes in the demand charge in the base tariff to the solar capacity credit. Xcel recommended instead that the credit be reviewed in the future along with other rates and credits. Parties have agreed that the solar capacity credit will need to be reviewed and updated and that the suggestions by Sundial Solar should be taken into account in considering when to review the credit.

<sup>17</sup> Other parties commented on the issue of REC ownership during the course of this proceeding, noting that ownership of RECs by the solar developer was an important part of the success of these projects.

SRRG recommended that since it may be difficult for project owners who are small and inexperienced to participate in a REC trading market, a tariff may need to be established to allow ratepayers to transfer credits to Xcel for use or transfer within M-RETS. SRRG recommended that the Commission clarify that RECs or tags remain with the owner of the PV system and that a tariff be proposed to facilitate transfer to Xcel.

Staff notes that the Commission has opened an inquiry into ownership of RECs and that issues raised by SRRG, Sundial Solar and other parties will be addressed as part of that inquiry.<sup>18</sup> The inquiry will address REC ownership for net metered customers and is scheduled to come before the Commission in June. For this reason, as part of the current docket, staff suggests the Commission simply clarify that it is making no determination on ownership of RECs for solar PV customers receiving the Standby Service capacity credit.

#### *Fixed contract for solar rate*

In its comments supporting the settlement, SRRG indicated that it would be appropriate to review the possibility of offering a 10-year contract at existing rates to support the financing of solar projects. SRRG proposed that the choice of a fixed contract be at the customer's discretion. However, SRRG agreed that this issue could be addressed in a separate proceeding at the same time the Commission performs a generic review of standby rates. SRRG suggested that the nature of solar project financing, the production of solar facilities, and the capacity credit application are all issues that could be reviewed when other standby rate issues are considered.

#### *Generic proceeding on standby service*

SRRG proposed that at least two issues from this docket be addressed in a generic proceeding on standby service: the issue of the calculation and application of the grace period for solar facilities, and the possibility of offering a 10-year contract at existing rates to solar facilities.

As noted above, the Commission has directed the DOC to engage in discussions with utilities and stakeholders on the need for a generic proceeding on standby service and the potential scope of such a proceeding.<sup>19</sup> On March 28, 2014, the DOC submitted a letter in the standby tariff dockets indicating that it will be conducting a stakeholder process on Combined Heat and Power (CHP) after certain studies are completed in April and May of 2014. The process will focus on CHP issues, but will also discuss more generic standby service rate issues. It appears that the DOC may present information to the Commission in the fall of 2014. Staff also notes that

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<sup>18</sup> See Notice *In the Matter of a Commission Inquiry into Ownership of Renewable Energy Credits Used to Meet Minnesota Requirements*, in Docket E-999/CI-13-720, issued December 30, 2013.

<sup>19</sup> See *Order Approving Tariff Amendments Governing Standby Service Charges for Net-Metered and Qualifying Facilities*, in Docket No. 13-642 and other dockets, issued January 27, 2014. As noted above, the Commission did not initiate a generic proceeding on standby rates but instead required utilities and stakeholders to engage with the Department to discuss the need and appropriate scope for such a proceeding and to contact the Commission when discussions are concluded

comments in the pending rulemaking on cogeneration and distributed generation (13-729) show that several stakeholders are interested in addressing broader issues related to establishing standby rates for various sized and situated customer groups in some forum as soon as possible. Staff does not believe that setting rates for standby service can be done effectively in the rulemaking, from either a scope or timing perspective.

Staff notes that in some states utility tariffs exempt specific generator types or sizes from standby charges. According to a report by NRRI, these standby tariff exemptions are examples of promotional policies for DG or renewable generators or are intended to promote the goal of rate simplicity.<sup>20</sup>

The Commission could require that specific issues raised by parties in this docket be addressed in the generic proceeding on standby rates currently being considered by the DOC. The Commission could ask parties at the agenda meeting on May 1 to comment on what issues should be addressed as part of that generic proceeding. Also, the Commission could ask the DOC for an update on the timeline for the generic proceeding. If the Commission wishes to go further, it could delegate to the Executive Secretary the authority to issue notices soliciting comments on standby service issues and to add other appropriate issues to the list for comment. This process could run in parallel to the DOC process and help inform the scope.

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<sup>20</sup> “Electric Utility Standby Rates: Updates for Today and Tomorrow,” NRRI, Report No. 12-11, July 2012, p. 21.

***Decision Options***

1. Approve a final Standby Service capacity credit of \$5.15 per kW/month for solar PV customers with these customers having the option of a June 1 start date for the grace period.
2. Find that the Standby Service capacity credit will apply to the contracted amount of the Standby Service outside of the grace period.
3. Direct Xcel to address specific issues in the DOC scoping of the generic proceeding on standby service, as follows: (1) the appropriate calculation and application of the grace period to standby service, including standby service for solar customers, (2) whether solar PV should be exempted from standby service charges, and (3) an evaluation of whether it is appropriate to offer a fixed 10 year contract at existing rates to support financing of solar projects.
4. Authorize the Executive Secretary to issue notices and develop questions/issues on standby service rate issues.
5. Clarify that the Commission is making no determination on ownership of RECs for solar PV customers receiving the Standby Service capacity credit.
6. Require Xcel to file an update within two years of the issue date of the Order in this matter on the progress at MISO to establish a specific capacity value for solar and any other changes that might be relevant in deciding whether to update the credit. Require Xcel to continue filing an update on this matter and the progress at MISO every 12 months following the Company's first report.
7. Find that if conditions change, the Commission will review and re-evaluate the level of the Standby Service solar capacity credit. These conditions include but are not limited to: (1) changes to base tariff demand charges in a rate case or other proceeding, (2) changes in the MISO methodology for determining solar capacity accreditation or value, and (3) material changes in avoided cost components.
8. Require Xcel, within 15 days of the Commission's Order in this matter, to make a compliance filing reflecting the changes to the Standby Service tariff adopted by the Commission.