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Executive Secretary  
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**RE: REPLY COMMENTS**  
**Xcel Energy Community Solar Program**  
**DOCKET NO. E-002/M-13-867**

I participated in the drafting of comments and support the comments made by the Minnesota Solar Energy Industries Association (MnSEIA) in this matter, including the request for an extension to provide additional information to the Commission. I also have the following additional comments.

**1. Rate for Community Solar.** It is clear consensus among all developers that a levelized rate of at least 15 cents per kilowatt-hour (kWh) over the 25-year term of these projects will be required for project financing. However, the rate should continue to distinguish between ratepayer classes as the current Applicable Retail Rate (ARR) plus Renewable Energy Certificate (REC) formula does. Differentiated rates, as opposed to a single rate for all community solar contracts, provides additional incentives for residential and small general service ratepayers to participate in community solar. This principle is consistent with the spirit and intent of community solar legislation.

**2. Escalation in Rates.** It is critical for community solar developers and subscribers that there be some certainty in the annual rate of escalation in the rate for community solar projects. The ARR-plus-REC formula includes annual escalation in the ARR portion of the rate, but there is no certainty in the annual escalation. The preferred strategy would be to adopt an annual escalation factor of 2.5-2.75 percent as a floor, or allow the ARR to escalate at actual rates of increase, whichever is higher.

**3. Subscriber Expectations.** In my meetings with many subscriber groups over the past 3-4 months, most subscribers are expecting a simple return on their investment of less than 10 years. In other words, the initial cost of a

subscription would be repaid by community solar credits, less any project expenses, in 10 years or less.

Most subscribers seem to have an equal interest in the economic and environmental benefits of their community solar subscriptions. Most are interested in community solar sites that are truly community-based, i.e. somewhere in close proximity to their residence or business.

Subscribers would like to have a choice between paying 100 percent of their subscription cost upfront or paying some amount such as 20 percent initially and have the balance financed for them over time. Both of these approaches can still be net of any tax equity that is financed by the developer or third party and buys down the cost of subscriptions. A financing option will make it more likely that residential and small commercial ratepayers will opt to offset a higher percentage of their electrical use with community solar subscriptions.

Subscribers are also much more comfortable with paying for maintenance and project management expenses on a pay-as-you-go basis, rather than funding these costs upfront for 25 years. Funding these costs for 25 years of a community solar project is at best a guessing game and creates uncertainty about the long-term financial viability of project operators who hold these funds. Pay-as-you-go can be based on actual expenses for maintenance and project management, disclosed as part of the annual report to subscribers.

**4. Maintenance and Management Expenses.** As noted, an annual fee should be invoiced by project operators to subscribers for these costs based on actual costs for the previous 12-month period. The first year of these expenses could be paid by project operators. My working assumption for this annual fee is 12 percent of annual subscription credits, with seven percent for maintenance and five percent for management expenses. Actual expenses, fund balances and information on maintenance and management issues can be included in the annual report to subscribers prepared by project operators or an intermediary designated by the operator for project management. These contracted project managers could be neighborhood organizations, non-profits, religious congregations, business associations and others that have an existing relationship with subscribers in a community solar project.

**5. Project Financing.** Most investors are seeking a return of 10-12 percent on tax equity associated with community solar. This monetizing of tax equity by a third-party investor is facilitated by the community solar structure which allows an investor to directly own a project's solar equipment for purposes of

the Investment Tax Credit and depreciation. The cost of debt financing varies considerably and depends on whether the investor is using their own funds or is borrowing the capital for reinvestment in community solar. The evaluation of credit worthiness for community solar projects that have large numbers of residential and small business subscribers will be a barrier for most large pools of investment capital. However, to the extent that these subscribers pay for the costs of their subscriptions upfront, or independently secure financing to purchase subscriptions, the risk to investors is minimal.

Considerable credit enhancement for community solar projects could be achieved by allowing community solar projects to contract separately with Xcel Energy for the REC portion of the subscriber credit. REC values would be paid directly to project operators, who would deduct maintenance and management expenses, before allocating the balance to subscribers. Further credit enhancement can be achieved by increasing the percentage of total subscriptions that are held by: 1.) building or property owners that are the site hosts for community solar projects; 2.) larger, creditworthy commercial businesses or organizations; or 3.) institutional subscribers such as cities, schools, regional governments or other public agencies.

The reduction in federal tax incentives in December 2016 will have a major impact on project financing. This tax equity currently funds 40-50 percent of project cost. The state should consider establishing rates and incentive programs for solar energy that are tied to federal incentives after 2016. If these federal incentives are significantly reduced, state incentives would kick-in at a higher level. If federal incentives are extended, state incentives could be less.

Highly competitive global markets for component materials and solar equipment, and tariff rules on some imported materials and components, will likely result in costs increasing slightly for solar equipment over the next two years. A very robust construction market in Minnesota is causing increased competition and higher costs for skilled trades such as electrical contractors and solar equipment installers. The result is that Minnesota is unlikely to see any further decline in total project costs for solar over the next two years, and may see prices increase by 5-10 percent for the total installed costs of solar projects of all kinds. This may be offset somewhat by improved efficiencies in the “soft costs” for developing solar energy projects.

**6. Differentiated Rates.** I feel very strongly that the PUC should maintain differentiated rates for various types of community solar projects rather than a single community solar rate for all projects and subscribers. This includes both

the underlying rate credited to subscribers, currently reflected in the PUC's order for use of the ARR, and the additional one-cent REC value for community solar projects less than 250 kW in AC capacity. The current formula of differentiated rates reflects the spirit and intent of the community solar legislation and is a fair reflection of the additional costs for developing smaller projects with larger numbers of smaller subscribers.

**7. Funding Sources.** It is imperative that Minnesota move to statewide application of community solar opportunities with all utilities, including cooperative and municipal systems. The Renewable Development Fund (RDF) is a potential interim source of funding for solar incentives, but it is assessed only for Xcel Energy. RDF is essentially a "system impact fee" that reflects the long-term impacts of stored nuclear waste at Xcel's nuclear plants. Other utilities also have impacts on the state's utility and transmission system and should contribute to a fund that helps the state make the transition to non-fossil fuel power generation. This will be increasingly important as Minnesota seeks to reduce its carbon-based emissions by about one-third over the next decade. Any incentives that a utility provides for development of renewable energy resources, including community solar, would be a credit against its system impact fee. Also, some state funding should be allocated to subsidies or credit enhancement for low-income households to participate in community solar or other renewable energy programs.

Presumably, the Value of Solar Tariff calculation is based on actual system benefits and is not an "incentive" for solar energy. Likewise, the current capacity credit offered by Xcel Energy reflects actual benefits to the system from distributed solar power generation. Only above the levels of the VOST or capacity credit is a rate for solar energy truly an "adder" or "incentive". The Fuel Adjustment Clause is an existing mechanism for recovering costs that avoids some of the debate about funding the state's energy future by masking the true costs of renewable energy incentives. The Clause, and by extension solar energy, is vulnerable to attack as the cause of increasing electrical rates. I believe it would be better to have this debate openly and directly. RDF and the Fuel Adjustment Clause should be viewed only as interim measures.

Finding a fair, transparent and affordable mechanism for funding the state's transition to cleaner power generation will not be achieved quickly. However, the Commission should be clear about its intentions and begin the discussion now to find this formula for further renewable energy development over the next 3-4 years. RDF and Fuel Adjustment Clause are expedient funding sources in the short-term, but should not be seen as permanent sources of funding.