

August 22, 2016

Federal Trade Commission
Office of the Secretary
600 Pennsylvania Avenue N.W., Suite CC-5610 (Annex B)
Washington, DC 20580

Subject: **Solar Electricity Project No. P161200**
Comments of the Sacramento Municipal Utility District (SMUD) regarding
“Something New Under the Sun: Competition and Consumer Protection
Issues
in Solar Power” Workshop

To the attention of the Federal Trade Commission:

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to submit these comments and share with the Federal Trade Commission (FTC) its experiences and best practices working with our solar distributed generation (“Solar DG”) customers. SMUD is a local publicly owned electric utility organized and existing under the California Municipal Utility District Act (California Public Utilities Code section 11501 *et seq.*), and is governed by a seven member popularly elected Board of Directors. SMUD serves approximately 1.4 million consumers within its boundaries, through over 624,000 electric accounts. Greater than thirty percent of its load is being met through a variety of clean energy resources.

SMUD maintains interconnections with over 15,000 Solar DG customers producing approximately 130 megawatts of solar electricity. Each month SMUD receives on-average more than 350 applications for new customer solar interconnections.¹ SMUD values its customers and community, and has consistently invested resources to make reliable, cost effective solar resources available in its service territory. As such, SMUD provides an array of customer education resources as well as energy services for its Solar DG customers. SMUD applauds the FTC for recognizing the need to explore the many competitive and consumer protection issues inherent in Solar DG relationships, and urges the FTC to frame these issues, not as electric utility versus solar industry, but by asking how to integrate solar fairly for all customers.

SMUD maintains a menu of options for its Solar DG customers.

SMUD has been a leader in solar power for more than 30 years. SMUD built the nation’s first utility-scale solar array in 1984, which generated enough electricity to power 2,200 single-family homes or 3.2 megawatts. Over the years, SMUD has continued to be a solar pioneer, testing the feasibility of Solar DG systems, helping local

¹ While SMUD serves commercial as well as residential Solar DG customers, these comments focus on residential customer relationships. It is SMUD’s experience that as a whole, commercial customers are better positioned to understand the solar rate and other impacts discussed herein.

homeowners put solar panels on their roofs, providing incentives to stimulate the integration of solar power, working with home builders to make solar power a feature on new homes, and offering customers “shares” in a solar farm.

Even before the adoption of California’s “solar roofs” mandate in 2006 which required utilities in the State to provide incentives to customers for installing Solar DG, SMUD worked with its customers and contractors to stimulate the solar industry. SMUD’s PV Pioneer I and II programs providing solar solutions for residential customers (for PV Pioneer I SMUD owned equipment was installed on customer rooftops, for PV Pioneer II SMUD designed and sold solar systems directly to its customers), were succeeded in the mid-2000s with early solar incentive offerings.

From 1993 to 1998, under its PV Pioneer 1 program, SMUD installed almost 5 megawatts of solar panels on 500 residences and businesses throughout its service territory, making it the largest utility-owned solar energy operation in the United States. SMUD purchased PV components in volume, absorbed some of the cost, and hired local contractors to install them. From 1999 to 2004 the PV Pioneer II program facilitated the ownership of new Solar DG systems by the customer. In 2005 SMUD created a contractor-driven program and started providing incentives for Solar DG installations in its service territory. A form of these incentive programs continues today.

SMUD has also found success with its innovative SolarSmart Homes and SolarShares® programs.

A convergence of green energy rebates, state homebuyer credits and federal solar tax credits allow customers to save tens of thousands of dollars when purchasing a SolarSmart home. The SolarSmart Home is a partnership between SMUD and local builders that incorporates energy saving measures, including advanced solar generation systems as an option, into new construction. There are thirteen SolarSmart communities in the Sacramento area.

SolarShares® is an alternative community solar option for customers that avoids placing photovoltaic panels on their residences. Solar energy should be available and affordable for everyone, but rooftop solar systems are not always an option. SMUD’s SolarShares® gives everyone the opportunity to benefit from the sun’s power. For a fixed monthly price based on the customer’s electricity usage, the current SolarShares® program gives a credit for solar power produced at a solar farm located in SMUD’s service territory. SolarShares® is the first program of its kind, and the largest in the nation. The 1-megawatt SolarShares® system has the capacity to serve between 800 and 1,000 customers. SolarShares® sold out in a matter of weeks, and in the near future SMUD intends to increase the capacity of its SolarShares® program. Utility offered Solar DG programs like SolarShares® provide critical options to customers that cannot afford to invest in solar systems or don’t have a location or facility conducive to solar generation.

Information regarding SMUD's solar programs is available on its website:
<https://www.smud.org/en/residential/environment/solar-for-your-home/>

SMUD is a proactive partner for customers and the solar industry.

As a community owned utility that is governed by a popularly elected Board of Directors, SMUD's priorities are our customers' priorities. Accordingly, SMUD places the interests of its customers first and works diligently to be their trusted energy advisor.

In response to the recent sharp growth in interaction with customers who are raising questions and concerns regarding their investment in Solar DG, SMUD has broadened its focus from market creation to market education. In this role, SMUD offers several resources for customers, including regular in-person "Solar for Homeowners" classes, informational web-videos, answers to frequently asked questions, an explanation of the customer net energy metering bill, and an online solar estimator that customers can use to help them shop for the most cost effective solar solutions based on their historical electric usage data and rooftop characteristics available through satellite information.

These resources are easily located on SMUD's web site at
<https://www.smud.org/en/residential/environment/solar-for-your-home/>

SMUD also provides resources for solar contractors. Starting in the 1990s SMUD has supported the development of a qualified and informed contractor base for solar installation. For over a decade SMUD has hosted an advanced photovoltaic design course for contractors preparing to take the North American Board of Certified Energy Practitioners (NABCEP) solar accreditation test. It is important for utilities and the solar industry to work together to integrate a variety of Solar DG resources into the energy grid in a reliable and cost effective way for all customers.

SMUD's goal is to interconnect with our DG customers in a way that is simple, convenient, intuitive and cost effective so that customers know what to expect and can readily understand where they are in the process. As solar installations rapidly increase, SMUD conducted an internal process to fold Solar DG interconnection into its routine protocols and processes, making efficiency and technology improvements. For example, solar interconnection projects now reside with existing business units trained in the intricacies of solar design, allowing employees to work across departments to proactively anticipate and resolve interconnection issues on behalf of the customer. This process continues developing to meet the evolving customer needs.

As the trusted energy advisor SMUD advocates for solar solutions that work for all of its customers, those that are interested in becoming Solar DG customers and also those that aren't. It is important to SMUD that it protect the reliability and cost effective operation of its system for everyone. This requires sufficient data management and system visibility to serve these customers, which all requires utility investment in its infrastructure. As a publicly owned utility, SMUD operates on a not-for-profit basis relying on revenue from its retail electric rates to sustain its services and programs with no shareholder contributions. Thus, it is important to the entire community served by

SMUD that SMUD's rate structure is agnostic to what its customers choose regarding distributed generation or other energy options.

California's net-energy metering requirements direct the utility to compensate Solar DG customers at the utility's retail rate. Since many fixed cost components of utility service historically have been embedded in the energy (kWh) component of rates, non-Solar DG customers end up subsidizing Solar DG because the less kWhs the Solar DG customer buys from SMUD the less it is contributing to the fixed costs. Accordingly, SMUD works to ensure its retail rates are properly designed so that all customers are paying their adequate share of the fixed charges for the utility infrastructure, transmission and generation services, and public purpose program costs.

To this end, a few years ago, SMUD's Board of Directors adopted a gradual increase in SMUD's System Infrastructure Fixed Charge to recoup a greater portion of its fixed costs from all benefitting customers. In addition, for its energy (kWh) charge, the SMUD Board will consider making residential time-of-use (TOU) rates the default rate in 2018.² Through the different TOU rate designs it has piloted, SMUD has observed that TOU rates should reflect the utility's costs to serve all customers. The transition to residential TOU rates, along with the increased System Infrastructure Fixed Charge, will help ensure SMUD is agnostic to customer choices and that cross subsidies are minimized.

Customers choose solar for economic reasons but aren't always aware of what they are paying for their Solar DG or how to measure the benefits they are receiving.

In its continuing interactions with Solar DG customers, several messages have become apparent to SMUD. Most customers chose solar for economic reasons and switch to solar even though they have a favorable opinion of SMUD. And, while most customers perceive that they are saving money by having a Solar DG system, there are a portion of customers who simply aren't sure. SMUD analyzed the first year of bills of customers with solar leases or purchase power agreements for which there was sufficient information available. In this limited number of cases, of those who perceived they were saving money, most were actually paying slightly more per month. Customers often fail to consider the additional cost of their solar company bills in making their economic evaluation.

With the growth of Solar DG installations, and SMUD's expanded role as the trusted energy advisor, SMUD has received considerable input from its customers regarding their experiences with Solar DG. While the many successes of Solar DG are clear, significant concerns have repeatedly been brought to SMUD's attention, many of them based on marketing claims that are leading consumers to understandings that simply aren't accurate. Customers report receiving the following types of inaccurate representations:

- Companies claim to work for or be partnered with SMUD
- SMUD offers free or subsidized solar installations
- Customer will never receive another SMUD bill
- SMUD's rates will be locked-in for life

² SMUD has had default *commercial* TOU rates for nearly two decades.

- The Solar DG system will provide all the customer's power needs
- Customer will receive payment from SMUD for all excess generation, even if the system is oversized for the load
- The (non-battery) Solar DG system will provide power even when the grid is down
- The Solar DG system will only off-set high tier energy
- It is legal to artificially increase the price of a Solar DG system substantially, combining such offer with a "free" roof or other improvement, to allow the customer to claim the tax credits on the entire inflated price

Unfortunately when customers aren't able to recognize these claims as marketing rather than substantiated claims on which they can base their investment decisions, customers can be stuck in long-term (often 20 years) transactions that provide little benefit, or worse provide negative impacts.

Customer awareness and education of Solar DG costs and benefits are critical.

SMUD believes it is important for potential Solar DG customers to have the tools to question marketing claims and understand the true costs and potential benefits of installing the Solar DG system through a purchase, a lease, or a power purchase arrangement with the solar provider. As discussed above, SMUD has undertaken a significant public outreach effort and developed a library of informational materials for its customers. SMUD has also made itself and its decades of experience and knowledge as an industry leader available to its customers to help them understand the true costs and benefits of "going solar" and ensure they work with a responsible contractor that suits the customer's needs.

All customers considering a Solar DG investment should know the answers to some basic questions:

- What is the cost of the energy being replaced by solar, in kilowatt-hours (kWh)?
- What is the value of the solar generation coming off the proposed solar array, in kWh?
- What is the total Solar DG system cost, including any monthly outlays to the solar provider?
- What utility costs will the Solar DG customer still pay (e.g., fixed charge, utility user tax, etc.)
- What is the customer's historical energy use and what is the annual solar kWh production of the Solar DG system expected to be?
- When will the solar energy be available?
- What type of maintenance is required?
- What happens when the sun doesn't shine?
- What happens at the end of the lease or power purchase term?
- What is the life expectancy of the DG solar system?

While SMUD strives to provide the resources to its customers to get answers to these questions, making the following information consistently available to potential customers would be a good first step:

- Solar prices in alternating current Kilowatt hours (AC kWh)
- Cumulative total of AC kWh (the “solar harvest”)
- Historical annual kWh usage of customer
- Annual expected solar kWh generation of the Solar DG system
- Total lifetime Solar DG system costs

Conclusion

Again, SMUD thanks the FTC for the opportunity to contribute the foregoing comments based on SMUD’s long and varied experience working with Solar DG customers. It is important to develop Solar DG practices that integrate solar fairly and reliably for all customers.

Respectfully submitted,




Joy A. Mastache
Senior Attorney
Sacramento Municipal Utility District