BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the California Solar Initiative, the Self-Generation Incentive Program and Other Distributed Generation Issues.	Rulemaking 12-11-005 (Filed November 8, 2012)

OPENING COMMENTS OF SOLARCITY CORPORATION ON THE ASSIGNED COMMISSIONER'S RULING

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Pursuant to the Assigned Commissioner's Ruling Regarding the Transfer of Responsibility for Collecting Solar Statistics from the California Solar Initiative to the Net Energy Metering Interconnection Process (ACR) issued on August 22, 2013, and Administrative Law Judge's August 28, 2013 email ruling extending the comment deadlines, SolarCity Corporation (SolarCity) respectfully submits these comments to address the potential cost and other impacts of including additional data fields in the net energy metering (NEM) interconnection application, as proposed in the ACR.

SolarCity appreciates that the intent of the ACR is to provide a seamless bridge for the continued public access to data that has become a valuable source of market and policy information in the context of the California Solar Initiative (CSI) after the program concludes. Open access to CSI data has positively contributed to the goals of the CSI program and SolarCity acknowledges that the transfer of certain data fields from the CSI rebate application to the NEM interconnection application would be feasible. SolarCity requests, however, that any new data reporting requirements imposed on NEM market participants, as proposed in the ACR, be consistent with and tempered by the CSI's central principle of enabling and facilitating the development of a self-sustaining market. The ACR's proposal appears to move in the opposite direction, increasing both the complexity and cost of interconnection by layering on additional information disclosure requirements that in many cases appear to provide limited or questionable value, at the same time that the CSI rebate to offset the cost of collecting and reporting such data disappears.

In Section I, we discuss our overall concerns with the process of reporting additional fields through the interconnection process. In Section II, we discuss the varying impact that each of the data fields will have on our ability to process interconnection applications, including administrative complications that are, perhaps, complications that the ACR did not foresee. In Section III, SolarCity proposes modified reporting requirements for systems 10 kW or less, to account for both the high volume of such interconnection requests for residential customers and the fact that much of the requested data could be estimated or obtained with less burdensome reporting requirements.

I. The Proposed Data Reporting Requirements in the ACR Will Increase Soft Costs, Negatively Impacting Post-CSI Solar Market Development.

Data collection is not free, and SolarCity is generally concerned that the full list of data fields proposed in the ACR will impose non-trivial, incremental costs on the solar industry, contrary to the central principle and aim of the CSI program: to facilitate the development of a solar industry that can thrive without the existence of direct incentives. In the CSI program, the costs of data collection were offset by the value of the incentive received; post-CSI, these same data requirements increase net costs and they are exacerbated by additional data requirements. Unlike the investor-owned utilities, solar market participants do not receive recovery of such data collection related costs.

The imposition of new costs, post-CSI, will erode some of the very hard-won gains the industry has made to become more efficient and reduce operational costs to achieve the end goal of profitability and long-term sustainability. While panel costs are largely an exogenous factor, determined by global supply and demand, the industry has made great strides in reducing soft costs through streamlined operations, technological innovation and working with local and state government bodies to streamline local permitting requirements. These efforts to achieve incremental, per unit savings—savings which result in lower installed costs and greater market uptake—are consistent with the objectives of the state to drive the distributed solar industry to scale with the ultimate goal that the industry become self-sustaining. The imposition of additional costs through extensive data reporting requirements would represent an unfortunate headwind the industry can ill-afford given other pricing pressures to which the solar market is

subject, including potential changes to the state's NEM program, rate reform, and the scheduled decline in the federal investment tax credit in 2017.

SolarCity suggests that the benefits of collecting data from market participants must be weighed against the very real costs collecting this data imposes in the wake of the CSI program. Data collection requirements in the post-CSI market, as proposed in the ACR, will unquestionably impose a net cost with no direct corresponding benefit to market participants such as an incentive payment or rebate. These costs will have to be collected somewhere: presumably installers will include these increased costs in the installed price of the system, which will slow customer adoption. Such a result will slow post-CSI solar market development. For these reasons, SolarCity respectfully disagrees with ACR's proposal and requests that the Commission reevaluate the proposed list of data fields that it will require on NEM interconnection applications. This evaluation should consider both the costs and benefits any data field's collection engenders. We discuss this further in Section II.

II. Specific Comments on Proposed NEM Interconnection Application Data Fields.

SolarCity does not doubt that some data fields identified in the ACR could prove useful to inform research efforts and policy-making, and has listed those fields in Section III, but for a large number of the data fields, it is difficult to envision the public policy benefit that will be realized through its collection. We believe that before a mandate to collect data is imposed on an industry that can ill-afford cost increases, a compelling rationale or justification should be provided so that the costs and benefits can be fully considered.

To the extent that new data fields will be required for NEM interconnection applications on a going forward basis, SolarCity encourages the Commission to ensure that it is not imposing requirements that are burdensome to developers and solar installers without being particularly helpful to policy makers, utilities, researchers, and market participants. To achieve this balance, SolarCity suggests that the purposes of collecting any type of data should be made clear so that parties can respond and, to the extent reasonable, suggest alternative or more efficient methods of achieving the same result.

To some extent, the ACR recognizes this principle and notes that certain data "are deemed less useful for our purposes, and in the interest of not over-burdening the interconnection

applicant, they are excluded."[1] SolarCity encourages the Commission to reconsider whether certain additional data fields can be eliminated or modified to further the end of "not over-burdening" interconnection applicants, while continuing to collect important data.

SolarCity estimates that the ACR requirements would add an additional $7-$22 per application, without including or quantifying the impact of application delays that could be caused by interconnection application modifications necessitated by equipment shortages and component swap-outs. The general purposes of collecting the data given by the ACR suggest that the nature of its value is mostly qualitative and that it is difficult to quantify benefits and costs in a definitive way. Without substantial record support for the proposition that these additional reporting requirements provide benefits in excess of the costs they are likely to engender, the Commission should not expand the reporting requirements simply because the data may provide some relevant market information or may be useful for yet-to-be defined research efforts. SolarCity encourages the Commission to tread carefully and to fully investigate and consider whether the value of the data outweighs the cost it imposes. To minimize costs to the greatest extent possible, the CPUC should strive to make the interconnection application as streamlined as possible, including only that information that bears on how a given system will impact the grid, rather than treating the interconnection application as a vehicle by which the state collects information of highly uncertain value while imposing real costs on the market.

Additionally, even if the Commission finds that the benefits outweigh the costs, it does not necessarily follow that the costs should be borne by solar installers. In considering these requirements, the Commission should also consider who should bear any additional costs that may result and/or how solar installers, if required to bear these costs, can be made whole for the costs incurred. We note that similar reporting requirements do not exist in the context of energy efficiency installations, particularly in instances where no state incentives are being provided. Even in instances where state incentives are provided, and where the CPUC has established a robust process to assess the impacts of investments in energy efficiency, the costs of collecting this information are not imposed on installers and are instead borne by the general body of ratepayers through the budgets approved to conduct measurement and evaluation. In the context of solar system deployments, to the degree there are specific research questions that would

[1] ACR at p. 5.

benefit from the highly granular data sought via the ACR's proposed reporting requirements, the Commission could either request specific studies to survey the market on a more ad hoc basis, or, alternatively consider ways by which entities can be made whole for the costs incurred if they are required to provide this information as part of the interconnection application.

A. Data Fields that Are Likely to Increase Installer Costs or Create Challenges

In the following section, SolarCity provides feedback regarding those fields that are problematic for various reasons. We note that many of these fields are incremental to the current interconnection application and as a result will result in additional costs beyond those already incurred as part of the interconnection application. We estimate that the inclusion of these additional fields will increase costs per application by $7 to $22, with the range largely dependent on the extent to which a given field will require a customer record to be opened more than once or because multiple divisions/departments of a company will need to be engaged to provide the requested data.

1. *Sale Price for Third-Party Owned Systems*

Identifying the sale price is relatively straightforward in instances where the host-customer makes a cash purchase. However, in the case of leased systems or systems selling power under a power purchase agreement, determining the sales price for reporting purposes is more complex. Generally, the more complex the mode of system ownership and method of financing the purchase, the more problematic it will be for companies to report that information in a way that provides for apples to apples comparison to other systems. If the Commission requires inclusion of this information as part of the interconnection application, it will need to provide specific guidance regarding how to calculate this, working closely with companies that provide solar leases and PPAs to mitigate the incremental costs that may otherwise be incurred. Deciphering the exact financing mechanism for a particular system is beyond the core competency of our interconnection personnel and would require that some applications be passed around internally to determine the correct information to report. This problem of creating "double touching" of documents that were previously handled by one person will lead to significant administrative costs and delays, as compared to our current, more streamlined methods for processing and submitting interconnection applications.

2. *If customer-owned, was PACE financing used? If so, which program?*

SolarCity agrees that tracking the use of PACE funding could provide useful programmatic information that help regulators and policy makers adjust to market responses to the PACE program, but does not believe that an interconnection application is the appropriate means of obtaining this information. SolarCity encourages the Commission to investigate alternate means of developing this information, perhaps through an annual survey process or working with PACE financing authorities to understand the role that PACE is playing in driving deployment of clean energy technologies.

3. *It third party-owned, then name of owner at time of sale*

For leased systems and systems selling power under a PPA, the identity of the owner is complicated by the fact that system financing often involves multiple owners with ownership stakes that change over time. As a result, the information that might be provided as part of the interconnection application, as proposed by the ACR, is likely to change and thus limit its value. Additionally, and more fundamentally, it is not clear what public policy benefit is furthered through the collection of this information in the first place. SolarCity suggests that it is sufficient to simply indicate that a system is either third-party owned or customer owned, without the need to determine who qualifies as the "owner" of the system at the time of sale.

4. *System output monitoring, and, if so, vendor?*

SolarCity objects to inclusion of this data field because it will involve additional research by interconnection staff without providing any defined or corresponding benefit to regulators, utilities, and market participants to justify incurring the additional costs involved.

5. *If fixed, then what tilt and azimuth?*

While seemingly straightforward, a not insignificant number of projects involve panel placement on multiple roofing surfaces, each with different tilts and azimuths, greatly

complicating reporting of this information. While provision of this information made sense in the administration of an incentive based on expected system performance, SolarCity believes that reporting such information post-CSI falls in the same category as shading information, which the ACR characterized as "less useful" for the purposes of requiring data for some general public benefit. Accordingly, we believe this requirement should be struck from the required data fields. If the Commission determines that this information is sufficiently valuable to merit ongoing collection, we request that the Commission explore ways to reduce the complexity of providing it, recognizing that high levels of precision are probably unnecessary, particularly given that much of the variation between projects is likely to average out across the thousands of systems deployed.

6. *Number of inverters and inverter manufacturer(s) and model(s)*

As a project is being built, it is not unusual for certain elements to change to address equipment availability or other contingencies. As a result, while requiring installers to report the number of inverters may be reasonable, requiring the inverter manufacturer and model to be part of the interconnection application appears to either require that a project be fully constructed before the interconnection application can be submitted, or greatly limit the flexibility installers have to adapt to different circumstances that may arise once an interconnection application has been submitted. Alternatively installers could resubmit the interconnection application if and when changes are made, but this would greatly increase the workload for installers and utility alike. This will necessarily slow down the interconnection process because all aspects of the project, including details that don't necessarily bear on the electrical impacts of the system, need to be finalized before submission. In our view, the most salient information, in terms of its bearing on the electrical impacts of a given system, is the maximum nameplate rating of the inverters, and whether those inverters are CEC compliant and/or have the required listings, which could be provided via a simple checkbox.

7. *Number of panels, panel manufacturer, and model*

Similar to the prior discussion related to inverter information, requiring granular information regarding panels to be submitted as part of the interconnection application will slow things down to the extent it requires all aspects of the project to be essentially locked down prior to submission, and or greatly reduce the flexibility that installers have to respond to supply chain issues and other contingencies. In both the case of panel information and that related to inverters, it is not clear what value is provided by providing this type of granular information.

8. *Capacity in DC watts and in AC watts*

In order to provide this information, the number of panels and PTC rating for each panel, which varies based on make and model, is needed, creating the same challenges as described above in terms of requiring a project to be fully built before the interconnection application can be submitted, or greatly limiting installers' flexibility to adapt to supply chain or equipment availability issues that may arise. In lieu of this information, we believe the nameplate rating of the inverter, which ultimately determines the maximum output from the system is sufficient. However, should the Commission deem system capacity information to be sufficiently valuable to merit including in the interconnection application as proposed, we request that the Commission allow for the submission of approximations, based on initial project design rather than requiring exact data based on the final, fully built project specifications. The tradeoff in terms of the research value provided would seem to be relatively small as compared to the cost and time impacts of requiring more precise data.

9. *Electric vehicle(s) charging on site? If so, how many EVs?*

SolarCity objects to inclusion of this data field for NEM interconnection applications. While acknowledging that this information could be useful, SolarCity disagrees that a NEM interconnection application is the appropriate venue to provide this information. This additional field would require additional imvestigation to verify whether or how many EVs are charging at a particular project site, which is beyond the scope of information we generally collect or require from customers.

B. Data Fields that Are Unlikely to Increase Costs or Create Challenges

SolarCity does not oppose inclusion of the following data fields on the basis that they are already collected and readily available to interconnection personnel within the company and thus appear unlikely to add incremental, new costs or complications to the interconnection process, though, as described briefly, in some instances this needs to be qualified.

1. *Customer name and address*
2. *Utility account number*
3. *Electric tariff*
4. *Utility Meter Number**

The ACR suggests that this information could be provided by the utility. While this is true in instances where there is a single meter at the project site (likely the case for most small-scale, residential installations), in those locations where there are multiple meters, the installer would appear to have to provide information regarding which meter the system is being tied into. To simplify this process, a checkbox could be selected indicating whether the site has a single meter or multiple meters, and only in those instances where there are multiple meters, would the installer have to provide the information on which meter is being used.

5. *Customer zip code, city and county*
6. *Name of Distribution Utility**
7. *Customer sector*
8. *Installer name and contact information*
9. *Customer owned or third-party owned*
10. *If third party-owned, then contract type (Power Purchase Agreements/lease/pre-paid lease/other)*
11. *Identify participation in California rebate program, if any?*
12. *Online Date**
13. *Tracking (Fixed/ single-axis/ dual-axis/ mixed)*Mounting (rooftop/ground/mixed)
14. *Decommissioned Date**

**ACR envisions this information being provided by the utility*

C. An Online Interconnection Application Portal Would Enhance the Ease and Consistency of Reporting Interconnection Application Data Fields

SolarCity proposes that the Commission direct PG&E and SCE to consider developing an online portal to submit interconnection applications similar to the online portal that SDG&E has developed (http://www.sdge.com/clean-energy/apply-nem/apply-nem). This portal represents one of the best examples for facilitating and managing the interconnection application process for customer side systems. SDG&E should be applauded for this effort and we believe the other utilities should be encouraged to emulate this approach.

In the current context, an online application portal can allow the IOUs to largely automate the collection and compilation of data that is provided by applicants. SolarCity acknowledges that cost of developing such a portal is not insignificant, but believes that such a capability can dramatically decrease the cost of administering the data reporting proposed by the ACR and would have uses far beyond the processing of NEM applications.

Even without the creation of online portals to generate reporting data automatically from the application process, it is important for the IOUs to adopt a consistent format for reporting this data. SolarCity hopes that the Commission will be sensitive to the administrative difficulties built in to its request and permit stakeholders sufficient flexibility to find practical means of accomplishing interoperability.

III. At a Minimum, the ACR Should Be Modified to Provide a Less Cumbersome Approach to NEM Interconnection Applications of 10 Kilowatts or Less.

To the extent that the Commission intends to require additional data reporting fields, SolarCity respectfully suggests that a simplified and less burdensome approach for very small NEM systems (10 kW or less) is warranted. NEM system applications in this size range are the overwhelming majority of all applications and can be expected to have similar characteristics with other systems in this group. Systems in this category are overwhelmingly fixed, rooftop-mounted systems. As noted above, any major differences of tilt and azimuth among these systems, for purposes of projecting output to the grid, are likely smoothed by the large number of systems that fit this category. Accordingly, there is likely only limited benefit to collecting individual facility data on these systems, beyond the categories identified in subsection B above,

since output and other factors can be effectively estimated. To the degree that system-specific data is deemed necessary, the Commission should keep in mind the adage "the perfect is the enemy of the good" and work with stakeholders to identify the appropriate level of resolution that is actually required to address the policy or research questions the Commission has in mind, while minimizing the cost burden and adverse impacts that collecting and submitting this data may otherwise have.

Respectfully submitted at San Francisco, California on September 9, 2013,

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