

CALIFORNIA ENERGY COMMISSION

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December 20, 2013

Dear American Lung Association, et al:

Although the "Petition for Societal Cost-Benefit Evaluation of California's Net Energy Metering Program" was styled as a petition, the Petition does not relate to a matter that is subject to a petition under any of the Commission's regulations. Therefore, the Petition was denied under my authority as Chair of the Energy Commission. With that said, the comments and requests in the Petition are laudable. I am writing to you because I believe the Petition and all stakeholders that filed comments deserve a response more detailed than the information contained in my Order.

Response to Comments Submitted to the 2013 Integrated Energy Policy Report

On June 5, 2013, the California Energy Commission received the "Petition for Societal Cost-Benefit Evaluation of California's Net Energy Metering Program" ("Petition") requesting that the Energy Commission undertake a study of the societal costs and benefits of the net energy metering ("NEM") program authorized by Public Utilities Code Section 2827, prepare a report to the Legislature under the general authority granted to the Energy Commission by Public Resources Code Sections 25400, 25000.1, and 25001, and include the study as part of the 2013 Integrated Energy Policy Report ("IEPR").

Specifically, Petitioners requested that the Energy Commission take the following actions:

1. Undertake a narrowly tailored study of the societal costs and benefits of the NEM program – quantifying the value of energy generated by NEM customers that is exported to the grid and the value of all energy generated by NEM customers that is used on-site – to supplement the California Public Utilities Commission's (CPUC's) forthcoming ratepayer impact cost-effectiveness evaluation of the NEM program, and prepare and submit a report to the Legislature by December 1, 2013.
2. Establish an expedited process to incorporate consideration of the societal costs and benefits of the NEM program into the *2013 Integrated Energy Policy Report (IEPR)*.

On June 7, 2013, the Energy Commission released a notice of the petition and requested public comments on the Petition as part of the *2013 IEPR* proceeding.

Background

On May 24, 2012, the CPUC released the “Decision Regarding Calculation of the Net Energy Metering Cap”¹ (CPUC Decision). The net energy metering cap, as established in Public Utilities Code Section 2827(c)(1), limits the availability of electric utility NEM programs to eligible customer-generators in the utility service territory on a first-come-first-served basis until the total rated generating capacity used by eligible customer-generators exceeds 5 percent of the utility’s “aggregate customer peak demand.” The CPUC Decision clarified that “aggregate customer peak demand” is the sum of individual customers’ peak demand. Said another way, it is the sum of the customers’ non-coincident peak demand.

The CPUC Decision also identified a need for updated NEM cost-effectiveness data and placed a temporary pause on the NEM program effective January 1, 2015. The CPUC Decision also directed the CPUC’s Energy Division to develop a comprehensive study of the NEM program to be completed by October 1, 2013. The goal of the study is to gain a better understanding of who benefits, and who bears the economic burden, if any, of the NEM program.

On September 27, 2012, four months after the CPUC Decision, the Governor signed Assembly Bill 2514 (Bradford, Chapter 609, Statutes of 2012) and codified the study requirement. The bill added additional requirements to the study, which included a determination of the extent to which each class of ratepayers and each region of the state receiving service under the NEM program is paying the full cost of the services provided to them by electrical corporations, and the extent to which those customers pay their share of the costs of public purpose programs. The bill also required the CPUC to report the results of the study to the Legislature within 30 days of its completion.

Scope of the 2013 IEPR

In compliance with Senate Bill 1389 (Bowen and Sher, Chapter 568, Statutes of 2002) the Energy Commission “conduct[s] assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop policies that conserve resources, protect the environment, ensure energy reliability, enhance the state’s economy, and protect public health and safety.”² The Energy Commission’s IEPR provides this assessment on odd numbered years and updates on the even numbered years.

At the beginning of each IEPR cycle, the Energy Commission issues a Scoping Order to identify topics that will be covered in the IEPR. In March 2013, the Energy Commission

¹ CPUC, Decision 12-05-036, Decision Regarding Calculation of the Net Energy Metering Cap, Rulemaking 10-05-004, http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/167591.pdf

² Public Resources Code Section 25301 (a)

released the *2013 IEPR Scoping Order*³ which covered the following broad topic areas: Energy Efficiency, Demand Response, Renewables, Electricity, Nuclear Power Plants, Natural Gas, Transportation, and Climate Change. The Petition requests that the Energy Commission conduct a study on the social benefits of NEM programs as part of the *2013 IEPR*. However, such a study does not fall within the range of topics identified in the *2013 IEPR Scoping Order*. The only renewables analysis in the Scoping Order is on bioenergy as required by Assembly Bill 1900 (Gatto, Chapter 602, Statutes of 2012) and Executive Order S-06-06.

Summary of Comments

The Energy Commission requested public comments on the Petition by July 1, 2013 and reply comments by July 15, 2013. The Energy Commission received and docketed over 5,500 comments on the Petition.⁴ Below is a summary of the comments parties submitted to the Energy Commission, highlighting some of the key points raised in favor of and in opposition to the Petition.

Comments Opposing the Petition

The CPUC and the three largest investor-owned utilities, SCE, SDG&E, and PG&E, requested that the Energy Commission deny the petition. Although not a complete summary of the comments, below identifies comments opposed to the Petition that were procedurally based and comments about the effectiveness of the Petitioners' request in solving policy issues.

Comments Opposing the Petition Relating to Procedural Issues

Some comments were procedurally based, such as the CPUC and PG&E comments which pointed out that the CPUC went through a public process to identify the scope of work in the CPUC's analysis. SDG&E and PG&E commented that the study requested by the Petition was outside the scope of the *2013 IEPR*. The Office of Ratepayer Advocates (formerly called Division of Ratepayer Advocates) did not opine whether the Energy Commission should approve or deny the Petition, but suggested that if the Energy Commission goes forward with the study, then it should use a methodology consistent with the CPUC's to evaluate societal costs and benefits for all demand-side resources.

The CPUC proposed that parties can petition the CPUC to conduct additional analysis on the benefits of NEM after it completes its current study. The CPUC suggested that it would be more efficient for stakeholders to focus their efforts on one process, at one agency.

³ California Energy Commission, 2013 Integrated Energy Policy Report Scoping Order, http://www.energy.ca.gov/2013_energypolicy/documents/2013-03-07_scoping_order_2013_IEPR.pdf

⁴ The public notice is available at http://www.energy.ca.gov/2013_energypolicy/documents/2013-06-07_Notice_Requesting_Public_Comments_NEM_Petition.pdf
The public comments are available at http://www.energy.ca.gov/2013_energypolicy/documents/Petition_for_Societal_Public_Comments/

Comments Opposing the Petition Relating to Policy

PG&E, SDG&E, and SCE also commented on the difficulty in quantifying the benefits noted by Petitioners. SCE and SDG&E suggested that such a comprehensive study could not be completed in the timeframe requested, and raised the difficulty in putting a value on such benefits that can be broadly agreed upon. SDG&E and PG&E also raised concerns about double-counting societal benefits.

The utilities all suggested that a societal cost-benefit analysis will not help resolve rate design issues related to NEM. SDG&E suggested that a more relevant analysis would be, "the services provided to and by NEM customers and the extent to which utility rates accurately reflect, or depart from the costs and avoided costs associated with these services." SCE and PG&E both suggested that a societal cost-benefit analysis would not help address fundamental questions about how to support California's clean energy goals without shifting costs to those who do not install Distributed Generation. As PG&E put it, such a study would not help address "...whether there are ways to modify the existing NEM program so that fewer costs are transferred to non-participating customers while permitting a vibrant solar market -- already the largest in the entire United States -- to continue to thrive and prosper." PG&E also commented that the Petition did not demonstrate a causal relationship between the benefits cited and NEM.

Comments Supporting the Petition

The following parties supported the Petition: California Building Industry Association, California Business Properties Association, California Consumers Alliance, Center for Race, Poverty and the Environment, City of San Diego, Clean Coalition, Communities for a Better Environment, Environmental Health Coalition, Los Angeles Business Council, Sierra Club, Silicon Valley Leadership Group, and TerraVerde.

The parties commenting in favor of the Petition generally support the statements of the Petition. Comments pointed to the benefits of NEM as identified in the petition, and supported the Energy Commission evaluating the societal benefits. The comments referred to various benefits that were identified in the Petition, including cleaner air, job creation, and providing consumers with a mechanism to control utility costs. TerraVerde added that utility bill savings have allowed schools to enhance educational programs that would not otherwise have been possible. Several parties also pointed to the Petition's assertions that NEM is helping California achieve its energy and policy goals including the Governor's Goal for installing 12,000 MW of DG, zero net energy building goals, and the New Solar Homes Partnership. Clean Coalition, City of San Diego, Center for Race, Poverty, and the Environment, Communities for a Better Environment, Environmental Health Coalition, and Los Angeles Business Council suggested that the Energy Commission's analysis could supplement the CPUC's work. The City of San Diego recognized that calculating the benefits would be difficult, but offered suggestions as to how to move forward, including leveraging existing efforts and developing a prioritized list of benefits to evaluate.

Some comments suggested augmenting the analysis proposed in the Petition. Clean Coalition recommended evaluating the costs and benefits of DG broadly, recognizing that not all DG qualifies for NEM, so that "...the study can potentially support the design of the next generation of DG programs." Clean Coalition suggested looking at the costs and benefits of all forms of DG and then identifying which of the findings are attributable to California's NEM program. The Environmental Health Coalition recommended that gaps in the current NEM program should be identified to better reach low-income communities with both PV infrastructure and job opportunities.

Reply Comments

The Energy Commission received reply comments from the Petitioners and PG&E.

The Petitioners commented that solar PV is "in the money" for 16 percent of the US retail electricity market and may increase to 33 percent by 2017. They suggested that the requested evaluation will not duplicate work at the CPUC because Decision 12-05-036 clarified the method for calculating utility NEM program enrollment caps and required a cost-effectiveness study to be completed by October 1, 2013.

PG&E acknowledged that the CPUC study will address rate impacts of NEM to non-participating customers, and that the Petition is requesting to quantify other impacts of NEM to non-participating customers. PG&E suggested that societal benefits will add a fair and more complete valuation of energy exports from NEM systems, and that if the Energy Commission does not grant the Petition, the Legislature may have to evaluate NEM programs based on information without societal benefits. PG&E commented that no party has presented overwhelming evidence to suggest that the Energy Commission take up the issue, and therefore asked that the Energy Commission deny the petition. SDG&E requested a more statewide approach, and suggested that the Energy Commission is in a better position to conduct this study because the CPUC study is limited to IOU territories. SDG&E also noted that the Petition does not request a full analysis of the societal benefits of NEM for the 2013 *IEPR*. SDG&E proposes a preliminary set of societal benefits to be examined and quantified on a kilowatt-hour basis.

CPUC's California Net Energy Metering Ratepayer Impacts Evaluation

As a result of CPUC Decision 12-05-036 and AB 2514, the CPUC's Energy Division contracted with E3 to study two separate ratepayer impact measures: a cost-benefit analysis of the NEM program using the traditional California Standard Practices Manual Ratepayer Impact Measure test, which estimates the net benefits (or costs) of a demand-side resource or program from the perspective of non-participating customers, and a full cost of service assessment, which compares the utility cost of serving NEM customers with their actual bill payments. Despite the use of two different metrics, a central driver in both the cost-benefit and cost of service analyses is the current retail rate design. The study is based on the current NEM policy in California that is defined by specific rules, including the 5 percent NEM cap established by D. 12-05-036, the net surplus compensation rate under AB 920 (Huffman, 2009), and the existing retail tariff

designs at each utility. To the extent that changes are made to the NEM policy and rate designs, the actual impacts of NEM will differ from those estimated in the study.

The scope of the evaluation performed by E3 was intended to analyze who benefits from NEM and who bears the economic burden, if any. The four principle analyses conducted are as follows:

1. Cost-benefit analysis of NEM to estimate any cost impacts from NEM customers to other customers;
2. Cost of service evaluation to estimate the degree NEM customers pay their share of utility costs;
3. Public purpose charge savings to estimate the reduction in payments of NEM customers toward public purpose programs; and
4. Income demographic assessment to learn more about the household incomes of residential customers with NEM generation.

The results of the study are as follows:

1. The PUC's cost-benefit analysis indicated that there are net costs of NEM residential and non-residential systems when analyzed on an export-only basis as well as a total generation basis. Under current tariff structures and an assumption of about 5,500 MW of NEM capacity interconnected, the study estimated that there would be an additional \$370 million per year of net costs to the electric system due to NEM generation exports. The study also analyzed the net cost of all NEM generation and found that it would equal over \$1 billion per year. Over two thirds of the costs are as a result of residential NEM systems, even though residential systems only make up about 45 percent of all NEM capacity installed. The difference in savings between residential and commercial customers is mainly a function of rate structure. Residential customers in higher tier rates make up a disproportionate amount of NEM customers and, consequently, avoid higher cost electricity. This trend is evident in the levelized cost comparison of the study which shows that the levelized cost per kWh of generation greatly increases with consumption. Also, the study shows that commercial customers have demand charges and tend to have lower energy charges. According to the study, NEM systems tend to reduce net energy consumption by a greater percentage than they reduce peak demand.
2. The full cost of service analysis looks at the degree to which NEM customers pay bills commensurate with their estimated share of the total utility cost of service. The study showed that customers without DG, both residential and commercial, tended to pay more than their full cost of service, 154 percent and 122 percent respectively. After the NEM system was installed, the study indicates that on average customers still paid more than their cost of service. However, it was a much smaller margin - 3 percent more than the cost of service. Residential

customers in all three utility territories paid less than their full cost of service (81 percent), according to the analysis, and non-residential customers were only slightly above the full cost of service (112 percent).

3. In 2020, NEM customers would avoid about \$142 million in public purpose charges or about 6.3 percent of the total estimated 2020 public purpose funding.
4. Within the residential sector, the average median household income of customers installing NEM systems is about \$91,000, compared to the median income in the IOU service territories of about \$68,000.

Recent Legislation, Assembly Bill 327

AB 327 (Perea, Chapter 611, Statutes of 2013) was a fairly expansive bill with many changes to the Public Utilities Code, including changes that would affect the cost-benefit analysis for NEM. Prior to AB 327, there was a cap on the amount rates could increase for the first two usage tiers for residential customers as a result of legislation from the 2001 energy crisis. The 2001 legislation did not have a sunset date on the cap, and so over the past decade, customers with usage in higher tiers have had to pay a higher burden of utility public purpose costs and infrastructure costs. AB 327 repealed the cap and established a revenue gathering structure for the California Alternative Rates and Energy (CARE) program (funding for low-income customers). The bill also authorizes the CPUC to approve new, or expand existing, fixed charges for the purpose of collecting a reasonable portion of the fixed costs of providing service to residential customers. It requires the charge to be no more than \$10 per month per residential customer for customers not enrolled in the CARE program and a \$5 per month for customers enrolled in CARE. The charge will begin on January 1, 2016 and allows for increases based on the Consumer Price Index for the previous calendar year.

AB 327 also allows the CPUC, beginning on January 1, 2018, to require or authorize the utilities to employ default time-of-use pricing for residential customers. Additionally, the bill requires the utilities to provide NEM to additional customers in its territory through July 1, 2017, or until the corporation reaches its 5 percent NEM program limit. Further, it requires the CPUC to develop a tariff by December 31, 2015 for any customer of the IOU with a renewable self-generation facility. The IOU would be required to offer the tariff beginning July 1, 2017, or earlier if ordered by the CPUC. There would not be a capacity cap associated with the new standard tariff.

Conclusion

I therefore do not find it appropriate to conduct a study of the societal costs and benefits of the NEM program in the 2013 *IEPR* process, and I would not recommend that the Energy Commission do so. The Petition requesting that the Energy Commission use the 2013 *IEPR* process to conduct this study was submitted three months after the scope of the 2013 *IEPR* was finalized under the March 2013 Scoping Order. Moreover there was insufficient time to conduct such a study in the final few months of the 2013 *IEPR* cycle.

I recommend that Petitioners file a similar request with the CPUC for consideration in the CPUC's efforts to establish the standard tariff for renewable self-generation facilities due on December 31, 2015. Petitioners also have the opportunity to request that the Energy Commission conduct a study of the societal benefits of NEM as part of the next IEPR cycle. However, as the CPUC commented, the CPUC has expertise in performing demand-side cost-benefit analysis and it is more efficient for stakeholders to focus their efforts on one process rather than bifurcating the analysis in two different processes at two different agencies. Furthermore, implementation of AB 327 at the CPUC will have impacts on the costs and benefits of NEM. Analysis of these costs and benefits should be conducted at the same agency that will implement rate reform required by AB 327.

I tend to agree with the Environmental Health Coalition's recommendation to identify gaps in the current DG programs to better target low-income communities, which have been underserved by the existing programs. Furthermore, I encourage the CPUC to take this into consideration when developing the standard tariff.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert B. Weisenmiller". The signature is written in a cursive style with a large initial "R".

ROBERT B. WEISENMILLER
Chair