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THE PUBLIC ADVOCATES OFFICE'S COMMENTS
ON DECEMBER 6, 2019 WORKSHOP ON THE NET ENERGY METERING 2.0
EVALUATION RESEARCH PLAN

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Submitted by	Organization	Date Submitted
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I. INTRODUCTION

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits the following informal comments in response to the December 6, 2019 Energy Division Workshop on Draft Research Plan for Net Energy Metering (NEM) 2.0 Evaluation. In the discussion below, the Public Advocates Office responds to the questions posed for stakeholder comment included in the Itron draft research plan that Energy circulated to parties on November 27, 2019.

II. COMMENTS ON NEM 2.0 RESEARCH PLAN

1. What key characteristics should be used to form groupings, or bins, of customers?

Bins should differentiate customers by gross consumption—that is, estimated customer consumption before installation of the distributed generation system. Results from Rate Impact Measure (RIM), Total Resource Cost (TRC) and Program Administrator (PA) Tests likely will differ depending on the size of the NEM 2.0 customer’s gross consumption, assuming no modifications to consumption. This may be especially true for residential customers for whom most rates (even time-of-use rates) exhibit an inclining block structure. At higher consumption bins, customers are charged higher rates. This means that customers with higher gross consumption will offset more \$/kWh for the first kWh generated by their system. As the system is sized up, the marginal \$/kWh offset will fall as the customer’s net usage drops. The Public Advocates Office has not determined any gross consumption thresholds to define such bins.

2. What customer segments or demographics are important to examine in the cost-effectiveness analysis?

Residential customers should be segmented by median household income, home ownership rates, and whether customers live in a disadvantaged community as defined by the CalEnviroScreen. The report also should segment by customer class. Different classes of customers have different gross load profiles, NEM penetration rates, class average rates, and rate designs. Itron could examine the differences in cost-effectiveness between the residential, small commercial, medium/large industrial commercial, and agricultural customers¹.

3. What are reliable sources of data for installed PV and energy storage costs?

No comment.

¹ The utilities do not have a consistent definition of small and medium/large customers. The analysis should be cautious when comparing results between utilities.

4. Should PV_LIB (which implements NREL's PVWatts DC power model) be used to develop solar profiles?

No Comment.

5. Besides grid upgrade costs, are there other integration costs that should be considered in the cost-effectiveness analysis?

While integration costs are often thought of in terms of grid upgrades required to accommodate renewables, NEM participants impose other costs on the utility. One is the cost of late afternoon ramping. The TRC, PA, and RIM Tests analyses should include these costs and how those will change over time. The ramping costs could be based on flexible RA prices including in the Energy Division's publicly available annual Resource Adequacy report. The California Independent System Operator (CAISO) has also published reports detailing the method for quantifying ramping needs, and the contribution of rooftop solar to ramp needs, in its Annual Flexible Capacity Needs Assessments reports available on its website.

Another cost to non-NEM customers comes from the lost revenues from NEM customers. While the report will include benefit/cost ratios on the RIM test, the research also should include estimates of the total magnitude (in dollars) that impact non-NEM ratepayers. This amount should be offset by the costs that utilities can actually avoid due to NEM production.

PV system costs is an element of the Participant and PA tests, and those costs are influenced by the financing options that a customer may utilize. Given that the analysis necessarily will include, in various cost effectiveness tests, the cost of different financing options that NEM customers have employed, it would be helpful for the report to break out what those various financing options are and the number of NEM customers that have employed each one. Particularly, the report could include information of the number of customers who have entered financing arrangements that extend 15-20 years.

6. Regarding Itron's cost-effectiveness model used for SGIP battery storage cost-effectiveness, are there any inputs or assumptions that should be modified for this analysis?

Itron indicates that the report also will evaluate the cost effectiveness of PV coupled with battery storage. The report should include a discussion about the varying costs of using a battery rather than NEM to bank various amounts of solar generation for evening use. Along with this, the study should examine how adding batteries reduces cost effectiveness under Participant Test and the extent to which customer-owned battery costs would offset the utility ramping costs under the TRC Test.

7. What scenarios should be included in the cost of service analysis?

There should be a sensitivity runs for the TRC, PA and RIM tests which incorporate PG&E's 2020 GRC cost of service estimates (compared with bill savings) for NEM customers. In this GRC, PG&E is proposing to look at both (1) The *hourly* costs and benefits associated with energy and services delivered to NEM customers, and (2) The hourly costs and benefits associated with energy and services received from NEM customers. For example, if a NEM customer exports power during the peak period, this will be seen as a benefit and therefore a reduction to cost of service. However, if the customer exports at a time when prices are negative, it will be a cost and therefore increase to cost of service.

Any analysis of cost of service should include the equal percent of marginal cost (EPMC) scalar, since this is the method that the Commission has approved to reconcile differences in incremental cost of service and revenue requirements for all customers.

Finally, Itron indicates that the cost effectiveness analysis will require incorporating grandfathering provisions over the life of all existing solar installations into the participant bill savings the effect of the expiration of various. Given that this needs to be studied, the scope of the work also should include reporting out how that cost effectiveness changes over that period of time under the PA and RIM tests.