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**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

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| Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering. | Rulemaking 14-07-002 (Filed July 10, 2014) |

# ADMINISTRATIVE LAW JUDGE'S RULING SEEKING POST-WORKSHOP COMMENTS

On August 11, 2014, Energy Division staff conducted a public workshop that focused on presentation of information about, and preliminary discussion of, a methodology that has come to be called the "Public Tool" for testing options for a successor to the existing net energy metering tariffs in this proceeding.

This ruling provides parties with an opportunity to provide formal input into the development of the Public Tool. Attachment A to this ruling sets out a series of questions on different aspects of the Public Tool and its potential use in this proceeding. In responding to the questions, the question being responded to should be identified, but does not need to be reproduced. A response may address several questions, so long as all the questions in the group are clearly identified.

Comments should be complete in themselves and address the questions set forth in Attachment A. Comments should not incorporate by reference or

attach a party's prior informal comments to staff following the staff workshop on April 23, 2014.

Comments should be as specific and precise as possible. Quantitative examples or illustrations should be used where relevant and helpful. References to legal arguments or legal standards must be supported with specific citations.

All comments should use publicly available materials. All comments should specifically identify, with respect to each question where it is relevant, whether the sources of information addressed in the response to the question are public or confidential. If both public and confidential sources of information are identified, the comments should clearly identify which are public and which are confidential.

Comments of not more than 50 pages may be filed and served not later than September 30, 2014. Reply comments of not more than 20 pages may be filed and served not later than October 10, 2014.

**IT IS RULED** that:

1. Opening post-workshop comments of not more than 50 pages, prepared consistent with the guidelines in this ruling , may be filed and served not later than September 30, 2014.

2. Reply comment of not more than 20 pages, prepared consistent with the guidelines in this ruling, may be filed and served not later than October 10, 2014.

3. Paper copies of all comments and reply comments must be promptly provided to ALJ Simon. Paper copies should be printed double-sided and may omit a copy of the service list.

Dated September 5, 2014, at San Francisco, California.

/s/ ANNE E. SIMON
Anne E. Simon
Administrative Law Judge

# ATTACHMENT A

## Overview of the Proposed Approach

1. Are there any comments or concerns regarding the proposed approach of developing a public tool in conjunction with a report containing the range of results from the tool? If so, what alternative approaches should be considered?

2. Are there any lessons learned from prior public tools (e.g. utilities' rate design tools), or examples of public tools that have been done well, that could inform the development of the proposed Public Tool? For reference, the Nevada Net Metering Public Tool (http://puc.nv.gov/About/Media_Outreach/Announcements/Announcements/7/2014_-_Net_Metering_Study/) was mentioned during the public workshop held on August 11, 2014 as an example of a public tool that was done well. Please be specific in your recommendations for what did and did not work well.

## Modeling Approach

3. The primary evaluation measures proposed for the model include:
   a. Cost impacts to non-participating customers ($/year, $ lifecycle)
   b. Renewable distributed generation (DG) adoption rate (MW per year)
   c. Renewable DG value proposition (e.g. IRR $, payback period (years))
   d. Calculation of total costs and total benefits ($/year, $ lifecycle)

   Are there any other metrics that should be considered in the model? Are there any other output metrics that should be considered to evaluate whether "customer-sited renewable distributed generation continues to grow sustainably"?[1]

[1] Pub. Util. Code § 2827.1(b)(1).

4. Using the E3 avoided cost calculator[2], the proposed avoided cost components to measure the benefits of renewable distributed generation are listed below. Note that items *a-g* were included as part of the 2013 NEM Ratepayer Impacts Evaluation (2013 NEM Report).

   a. Energy purchases
   b. Generation capacity
   c. Transmission and distribution capacity
   d. Greenhouse gas emissions
   e. Losses
   f. Ancillary services procurement reduction
   g. Reduced Renewables Portfolio Standard (RPS) procurement
   h. Additional value (included as a user defined input in the total resource cost / societal test)

Are there any avoided cost components that should be added to or removed from this list? Please give specific reasons for each proposed addition or deletion.

5. Are there any avoided cost components from the 2013 NEM Report that should be updated or modified? For example, during the August 11, 2014 public workshop, some parties identified the need to model a higher goal under the RPS, and/or a higher cost of greenhouse gas emission reductions. Please give specific reasons for each proposed change.

6. Are there any other modifications to how the avoided costs should be determined?[3] Please be specific. Include supporting materials if available and quantitative examples or illustrations when relevant.

7. The proposed cost components of renewable DG include:
   a. Renewable power purchase agreement or installed system cost (Participant cost)

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[2] Found at: http://www.cpuc.ca.gov/PUC/energy/Solar/nem_cost_effectiveness_evaluation.htm.

[3] *See* the E3 Avoided Cost Model for avoided cost assumptions from the 2013 NEM Report. http://www.cpuc.ca.gov/NR/rdonlyres/C091FB9E-1C2C-4E54-A44A-817827F8941E/0/E3NEMAvoidedCostModel.xlsm.

b. Interconnection cost (Utility cost if exempted; Participant cost if not exempted)
c. Billing and metering cost (Utility cost)
d. Integration costs, including increased ancillary services costs (Utility cost)

Are there any components that should be added to or removed from this list? Please give specific reasons for each proposed addition or deletion.

8. How should the utility costs should be determined? Should utility costs be determined separately for each investor-owned utility (IOU)? Why or why not? Please be as specific as possible. Include supporting materials where available.

9. The E3 renewable DG adoption tool currently proposed for the model uses logistic growth curves to model DG adoption based on payback or internal rate of return (IRR).

a. Are there any alternative approaches or models that should be considered for the purposes of predicting DG adoption rates? Please specifically describe the alternatives and provide any relevant quantitative examples or illustrations.
b. What are the strengths and weaknesses of each alternative you propose?
c. Are there any factors related to system costs that should be considered in the analysis?

**Data Sources**

10. The Public Tool will use data from a variety of sources for the purposes of the analysis. The proposed guiding principle for sourcing data is to use the best publicly available data, though there is some information that is not publicly available that will need to be gathered through CPUC data request to the IOUs.

Generally, do you agree with this proposed guiding principle? Why or why not?

11. There are number of inputs to the analysis. The following table lists those inputs that significantly affect the results of the analysis and the proposed source(s) for each one:

| Data Item | Proposed Source(s) |
|---|---|
| Renewable DG cost and performance information | LBNL Tracking the Sun report, DOE Distributed Wind Market Report, California Solar Initiative (CSI) database, Black and Veatch Small-scale Bioenergy: Resource Potential, Costs and Feed-in Tariff Implementation Assessment, ITRON SGIP Cost-effectiveness Reports for Storage and Fuel Cells, KEMA Energy Storage Cost-effectiveness Methodology and Preliminary Results (CEC PIER Report). |
| Renewable DG adoption curves and methodology | E3 DG Adoption tool for the WECC https://www.wecc.biz/Lists/Calendar/Attachments/5811/131220_E3_TEPPC_MktDrivenDG_2024CC.pdf |
| Avoided costs | 2012 CPUC NEM study methodology, updated to reflect current natural gas market prices and AB32 CO2 allowance forecast. |
| Utility revenue requirement forecast | Most recent settled general rate case (GRC) from each IOU (PG&E, SCE, and SDG&E). These will then be projected forward using load growth and efficiency assumptions from the CPUC LTPP and CEC IEPR proceedings, and then trended through 2050 or end of the analysis period. Natural gas prices will be updated to match the avoided costs. |
| Billing determinants | Most recent settled GRC data from each IOU, IOU hourly customer class load shape data, IOU residential baseline distribution, CEC IEPR data. |
| Utility revenue requirement allocation factors to classes | Historical shares of revenue requirement to class from the most recent settled class revenue requirement allocations in the GRC data. |

a. Should any of the sources in the table be revisited? Please provide specific reasons for review of any source.
b. If you disagree with any of the data sources, please describe and provide a specific reference for any alternative that provides better publicly available data.

**The Public Tool**

12. The proposed term of analysis tracks new renewable DG installations out to 2025 and evaluates their useful lifecycle through 2050. Recognizing that the IOU revenue requirements and usage projections in later years will be more uncertain than in early years, rate calculations in later years may utilize revenue requirement and usage "snapshots." The proposed snapshot periods would

cover 5 years; revenue requirements and usage would be the same in each year of the snapshot period.

a. Will this approach adequately describe the economics of program rates in later years? Why or why not?

b. Are there any other factors that should be considered for the purposes of modeling the IOU's long-term revenue requirements? Please specifically describe each factor and provide a source or an example of its use.

13. The proposed list of technologies to be evaluated in the Public Tool includes solar PV, solar PV coupled with energy storage, wind, and biogas-fueled technologies (including fuel cells).

a. Which, if any, other RPS-eligible technologies should be considered in the Public Tool? Why?

b. Are there adequate sources of sufficient generation and load profile data to be able to model these technologies?

14. Are there any justifications for including non-RPS eligible technologies, or technology applications, in the Public Tool? Please specifically describe:

- the technology or application;
- the reason(s) it should be included in the Public Tool;
- sources of information that can be used in modeling the technology or application for the Public Tool.

15. Should the impact of smart inverter technologies paired with DG applications be examined? Why or why not?

16. One potential impact of smart inverter technologies, for example could be that the introduction of smart inverters would allow full economic penetration of DG systems without creating distribution power quality problems. Are there other additional benefits of reduced DG integration costs that should be examined? If so, please provide a referenced data source.

17. The proposed customer classes to be evaluated in the Public Tool include residential (residential and residential CARE), commercial, industrial, and agricultural. Are there any other customer segments or customer classes that should be included in the Public Tool? Why?

18. How, if at all, should California's Zero Net Energy (ZNE) goals or impacts be included in the Public Tool?[4]

19. Should the Public Tool include a cost of service analysis, similar to the 2013 NEM Report? If so, why? If not, why not?

20. To support greater usability of the tool, it may be desirable to limit the number of inputs that a user can modify in the Public Tool. What are the three most important inputs that the user should be able to modify in the Public Tool (e.g., the Resource Balance Year, the cost of carbon, increased RPS procurement, etc.)? Please provide reasons why each input chosen is among the "most important."

**Pricing Mechanisms and Rate Designs**

21. Should participating customer-generators be modeled as a separate customer class for cost allocation and rate design purposes? If so, why? If not, why not?

22. The following compensation structures are proposed to be included in the Public Tool:

- NEM structure;
- Feed-in Tariff (FiT) for only generation exports to the electric grid; and
- FiT for all system generation.

a. What, if any, variations to the above compensation structures should be modeled in the Public Tool (e.g., possible variations of NEM could include compensation based on specific components of the underlying rate structure)? Please provide specific reasons for the variations proposed. Provide quantitative examples or illustrations if relevant.

[4] For information about ZNE, see http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/eesp/.

b. What, if any, other potential compensation mechanisms not mentioned above should be modeled in the Public Tool?
c. At what frequency, for either NEM or an export-only FiT, should exports be netted against imports in the Public Tool (e.g., hourly or 15-min.)? Please provide specific reasons for your choice of frequency. Include quantitative examples or illustrations if relevant.

23. Residential rate designs proposed to be included in the Public Tool are given below.[5] These rates would be applicable to both participating customer-generators[6] and non-participating customers:

a. Existing rate design (e.g. inclining block rate with 4 tiers)
b. 3-tier non-time of use (TOU) rate
c. 2-tier (baseline = 50% - 60% of average usage) with geographic baseline quantities
d. Seasonal TOU (summer 3 periods, winter 2 periods)
e. 2-tier with seasonal TOU
f. Marginal cost-based rate components
g. Option to use a late-shifted summer peak with TOU rates
h. In combination with above rate components, the implementation of a fixed charge
i. In combination with above rate components, the implementation of a minimum bill.

Within the framework set forth above, please describe any specific rate design choices that should be included as options in the Public Tool. Please provide all information necessary for using those choices in the Public Tool. For

[5] Based on the residential rate design proposals submitted in R.12-06-013 (residential rate redesign) on May 29, 2013. They are available at: http://delaps1.cpuc.ca.gov/CPUCProceedingLookup/f?p=401:57:8862587465006::NO.

[6] As used here, participating customer-generators means any customer taking service under the successor tariff or contract to be adopted by the Commission in this proceeding.

example, for TOU rates, please specify the hours defining each TOU period; for tiered rates, please specify the block sizes.

24. The proposed rate design elements that would be applicable only to residential rates of participating customer-generators are:

a. A grid/network use charge on exports ($/kWh exported, $/nameplate kW per month);

b. Non-bypassable public purpose charges.

Please describe any other residential rate design features applicable only to customer-generators that should be included in the Public Tool. Please provide justifications for your proposal. Be as specific as possible and provide quantitative examples or illustrations if relevant.

25. The proposed non-residential rate designs to be included for each rate schedule or customer class in the Public Tool are:

a. Existing rate designs;
b. Marginal cost-based rate components.

Please describe any other non-residential designs, or modifications to existing rate designs, that should be included in the Public Tool. Please provide justifications for your proposal. Be as specific as possible and provide quantitative examples or illustrations if relevant.

26. The proposed rate designs that would be applicable only to non-residential rates of participating customer-generators are:

a. Rate designs specified in number 25 above plus grid/network use charge on exports ($/kWh for customers without demand charges or $/kW-month for customers with demand charges);
b. Rate designs specified in number 25 above with non-bypassable public purpose charge;
c. For customers with demand charges, standby charge ($/kW-mo).

Please describe other non-residential rate design features applicable to only participating customer-generators that should be included in the Public

Tool. Please provide justifications for your proposal. Be as specific as possible and provide quantitative examples or illustrations if relevant.

27. Please provide one or more proposals for determining a pricing methodology for a successor tariff that is a FiT. Please provide justifications for your proposals, including but not limited to any examples of existing programs that use your proposed methodology. Please also provide quantitative examples or illustrations if relevant.

In proposing your preferred FiT structure, please address at least the following issues:

a. Should the FiT be structured to encourage certain operational characteristics, system designs, or locations (e.g. west-facing systems, etc.)? Potential structures to consider include:
   i. Should there be a TOU variation or seasonal variation to the design? Why or why not? If yes, please propose a structure and rationale for each element of the proposal. Please be as specific as possible, including but not limited to any examples of existing programs that use varying technology types. For example, for TOU rates please specify the hours defining each TOU period; for tiered rates, please specify the block sizes. Please provide quantitative examples or illustrations if relevant.
   ii. Should there be a time of delivery (TOD) factor applied to the established FiT rate? Why or why not?
   iii. Should the FiT vary by geography? Why or why not? If yes, please propose a structure and rationale for each element of the proposal, including but not limited to any examples of existing programs that use varying technology types. Please provide quantitative examples or illustrations if relevant.
b. Should the FiT vary by each technology type? Why or why not? If yes, please propose a structure and rationale for each element of the proposal, including but not limited to any examples of existing programs that use varying technology types. Please provide quantitative examples or illustrations if relevant.

c. Should the FiT have a fixed escalator from year to year or other mechanism to adjust the value paid per kWh over the contract term? Please provide specific justifications for your choice, including but not limited to any examples of existing programs that adjust the value paid. Please provide quantitative examples or illustrations if relevant.
d. How frequently should the FiT rate be updated and how? Please provide specific justifications for your choice, including but not limited to any examples of existing programs that use rate updates. Please provide quantitative examples or illustrations if relevant.
e. Please describe in detail the cost data that would be used by your proposal(s) for the FiT. Please include information on public availability, ease of access to the information, frequency of refresh of the data, etc.
f. What other factors or elements should be included in the Public Tool in order to provide adequate representation of your proposal?

**Disadvantaged Communities**

28. Section 2827.1(b)(1) requires the Commission to include specific alternatives to the successor contract or tariff that are "designed for growth among residential customers in disadvantaged communities." At the August 11, 2014 workshop, some participants advanced the view that it could be premature to include alternatives for disadvantaged communities in the Public Tool before parties have had the opportunity to comment on some of the underlying policy issues in implementing this mandate, such as determining how disadvantaged communities should be defined for purposes of this task.

a. Please comment on whether it is, or is not, premature to consider specific proposals for alternatives for disadvantaged communities for the purposes of modeling their impacts in the Public Tool.
b. If it is your view that it is premature to consider specific proposals, should the Public Tool be designed with the capability to include later input with respect to this element? Why or why not? If such a capability should be provided, please provide a reasonably detailed description of the functionalities and design of such a capability.

c. If it is your view that it is not premature to consider specific proposals, how should such proposals be developed and incorporated into the Public Tool?

**Other Issues**

29. Please identify any other elements or approaches that you believe are necessary for the Public Tool to be effective. Please specify how such elements or approaches should be incorporated into the Public Tool.

## (END OF ATTACHMENT A)