

STATE OF CALIFORNIA

Public Utilities Commission  
San Francisco

**M e m o r a n d u m**

**Date:** May 24, 2011

**To:** The Commission  
(Meeting of May 26, 2011)

**From:** Edward Randolph, Director  
Office of Governmental Affairs (OGA) — Sacramento

**Subject:** **SB 489 (Wolk) - Electricity: net energy metering.  
As Amended May 11, 2011.**

**LEGISLATIVE SUBCOMMITTEE RECOMMENDATION: SUPPORT**

**SUMMARY OF BILL:**

SB 489 would expand the type of self-generation projects eligible to participate in the Net Energy Metering (NEM) program, as authorized under Public Utilities (PU) Code 2827. This program currently allows self-generation wind and solar installations to participate in NEM tariff at the full retail rate. The bill would all allow Renewable Portfolio Standard (RPS)-eligible technologies under 1 megawatt in capacity to be eligible for full-retail NEM.

Currently solar energy systems under NEM may be up to 1 MW in size. Wind energy systems can be up to 50 kW in size to receive the full retail rate and up to 1 MW in size and receive a NEM tariff at a rate equal to the utility's generation costs. NEM is not currently available to small hydro, geothermal, biomass, or biogas resources or other technologies that are considered an eligible technology under the RPS.<sup>1</sup>

**SUMMARY OF SUGGESTED AMENDMENTS:**

- 1) Delete proposed PU Code 2827(o), which would bar the CPUC from conducting a separate rulemaking prior to the expansion of the NEM program as set out in this bill. Given the scope of the changes to NEM proposed by this bill, a rulemaking may be required to make the appropriate changes in the current guide books for the California Solar Initiative (CSI) and Self Generation Incentive Program (SGIP) and potentially in the CPUC small generator interconnection rules.

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<sup>1</sup> Pub. Res. Code 25741(b)(1). Other restrictions in Pub. Res. Code 25741(b) would also apply, and the full text of that law is attached here as Appendix C.

- 2) Clarify that NEM eligibility does not require RPS-eligibility certification of individual projects by the California Energy Commission (CEC).

**ANALYSIS (Energy Division):**

1. **This bill makes the NEM program technology-neutral:** While NEM program participation at present is 99%+ solar PV, there should be no barrier to the participation of all other similarly situated renewable generating technologies. This bill removes that barrier. This technology-neutral approach is aligned with the state's renewable DG policy objectives. This modification represents an opportunity to harmonize the NEM program across technologies.
2. One challenge to implementing this bill will be that the current RPS statute requires the CEC to certify each eligible renewable resource. This certification process is currently focused on larger utility scale projects and could prove cumbersome for small self-generation project. To reduce this burden, the bill should be amended to clarify that NEM eligibility will not require individual project certification for RPS eligibility. If the author wishes these projects to become RPS eligible, the CEC and CPUC will need to then develop a mechanism to certify these facilities.
3. **Cost Impacts:** By expanding the list of eligible resources under the retail NEM program, SB 489 will likely alter the mix of projects within the NEM program. The bill does not increase the current cap in statute on the total number of projects that can participate in the retail NEM program (currently the cap is set at 5% of each utility's total load). This means that while the mix of resources may change the total MW served by NEM and any cost shift associated with NEM will not change.
4. In fact, if the cap on NEM is left at 5%, this bill could result in a reduction of cost impacts on non-NEM customers if the program results in more participating generation by non-residential customers. The bill could lead to this shift to non-residential usage because most of the new resources that would be allowed in the program would not be suitable for residential customer. Technologies using bio mass and wind may not be suitable for residential applications, but could be used by many non-residential customers.
5. The NEM program is currently a net cost to ratepayers. In a 2010 cost-effectiveness study of the NEM program, the CPUC found that the net cost to ratepayers in 2008 (for all NEM systems interconnected as of 2008) was \$20 million/year.<sup>2</sup> All ratepayers pay for NEM program costs (in the form of billing credits, administrative

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<sup>2</sup> Net Energy Metering Cost-Effectiveness Evaluation ("NEM Cost-Effectiveness Evaluation") (March 2010). [http://www.cpuc.ca.gov/PUC/energy/DistGen/nem\\_eval.htm](http://www.cpuc.ca.gov/PUC/energy/DistGen/nem_eval.htm). A summary of the key findings is attached as Appendix A.

costs, and interconnection costs), and all ratepayers receive some benefit from the NEM program (in the form of avoided capacity and avoided RPS purchases).

6. However, the CPUC's study found that the nature of the customer being served made a difference in the cost borne by ratepayers. Because of their lower rates – and thus a smaller dollar amount associated with their bill credits -- non-residential projects cost non-participating ratepayers substantially less. The levelized net total cost of non-residential NEM facilities averages \$0.03 per kWh-exported, compared to an average \$0.19 per kWh-exported for residential facilities, as shown in Table 1.<sup>3</sup>
7. Currently, non-residential NEM facilities represent the majority of the MWs enrolled in the program, representing approximately 56% of installed generation capacity.<sup>4</sup> While the non-residential facilities represent the majority of all MW enrolled, they only represented 13% of the total net cost to ratepayers.
8. **Table 1. Net Cost of Net Energy Metering Program (Solar NEM only installed through 2008)**

	<b>Residential</b>	<b>Non-Residential</b>	<b>Total</b>
<b>Number of Solar NEM Projects</b>	38,380 accounts (93%)	2,864 accounts (7%)	41,244 accounts
<b>Installed Solar NEM Capacity</b>	162 MW (44%)	203 MW (56%)	365 MW
<b>20-year Annualized Cost for Solar NEM Installed through 2008<sup>5</sup></b>	\$17.2 Million (87%)	\$2.5 Million (13%)	\$19.7 Million (0.08% of total utility revenue)
<b>Levelized (\$/kwh-exported) for Solar NEM installed through 2008</b>	\$0.19/kWh-exported	\$0.03/kWh-exported	Average \$0.12/kWh-exported

9. **Based on these calculations, any modification of the NEM program that incentivizes non-residential projects within the existing 5% NEM cap will result in the NEM program costing ratepayers less.**
10. **Other Issues:** Further information is also needed to analyze how this bill would interact with the fuel cell NEM program set out in PU Code 2827.10. This bill's definition of RPS-eligible fuel cells is "fuel cells using renewable fuels," as set out in Pub. Res. Code 25741(b), which may indicate a different category of generator than the fuel cell customer-generator defined in the fuel cell NEM program.<sup>6</sup>

<sup>3</sup> NEM Cost-Effectiveness Evaluation, p. 11.

<sup>4</sup> Id., pp. 15-16.

<sup>5</sup> The 20-year annualized cost considers the net (or sum) of the bill impacts (the bill savings of a NEM customer), the billing cost (the utility's cost to bill a customer), and the avoided costs (the amount of energy the utility did not have to buy). See id., p. 47.

<sup>6</sup> An eligible fuel cell electrical customer-generator "uses technology that meets the definition of an 'ultra-clean and low-emission distributed generation'" as set out in PU Code 353.2(a).