

Dissent of Commissioner Catherine J.K. Sandoval on D.16-01-044, Decision Adopting Successor Net Energy Metering Tariff in Rulemaking 14-07-002

I am very supportive of distributed energy resources (DER) including rooftop solar. Well-designed distributed generation can be a transformative grid asset producing a win-win for customers, ratepayers, the grid, and for the environment. The Commission, customers, and industry must take steps to enable DER, including rooftop solar, to serve as a grid asset that can displace fossil-fueled generation, reduce the need for transmission lines, and improve our environment through safe, reliable, and affordable energy resources.

To become a grid asset, rooftop solar needs to become visible to grid managers who could see in near real-time how much power is being produced, and adjust to the peaks and valleys of that power associated with passing clouds and other conditions. Solar arrays need to contribute reactive as well as real power to the grid as reactive power is needed to maintain momentum on an electric system. Voltage support is also critical to keep the grid up and running for all customers. Net Energy Metering (NEM) customers use the grid throughout the day and night to export power they produce and to import power when their array does not supply their needs. NEM solar arrays are not enabled to achieve any of these attributes today, largely because they are equipped with inverters that lack the computing and communications power Smart Inverters offer.

Prompt adoption and installation of Smart Inverters is key to making DER and rooftop solar a grid asset that would enable those resources to compete with fossil-fueled and centralized generation assets. Today's inverters transform the sun's energy into power a solar array and the grid can use, and enable basic power import and export functions. Smart inverters also make solar arrays visible, quantifiable, and dispatchable by grid managers, enable the export of reactive and real power, and improve voltage support.

I would have preferred to refer Smart Inverter adoption for NEM DER and rooftop solar to Phase II of this proceeding to accelerate the accomplishment of these goals. Instead, this Decision leaves it to NEM installers to use Smart Inverters on the timetable set in Decision D.14-12-035, one year after Underwriter's Laboratory adopts a Smart Inverter test standard, an action anticipated for May 2016. Rather than wait until May 2017 to begin installing Smart Inverters, I urge rooftop solar customers and vendors to install Smart Inverters as soon UL-compliant models are available. Equally important, the utilities and CAISO must be ready to receive Smart Inverter signals to deploy solar as a grid resource. These preparations should be occurring now.

Smart Inverters are already deployed in Hawaii and Germany to manage rooftop solar grid integration. Today's inverters lack the computer and communications intelligence of Smart Inverters and cannot be upgraded by computer command, but must be physically swapped. Installing more of the inverters in use on rooftops today in California is like buying a computer with no capacity to connect to the internet. For less than a cost of a smart phone, a Smart Inverter future-proofs the solar array. Smart Inverters enable rooftop solar to act as a grid asset and to participate in value-based systems that compensate assets based on attributes the grid needs such as real power, reactive power, and voltage support. I call on customers and the industry to adopt Smart Inverters by summer 2016 to help our environment and increase the benefits of solar to all.

Over the next 3-4 years, the Commission will be evaluating the benefits and costs of NEM resources including rooftop solar, and will examine whether transitioning to a value-based tariff is appropriate. Careful tracking of benefits and costs associated with NEM is critical to this evaluation. I request Energy Division to order Investor-Owned Electric Utilities to track and report on transmission costs, and any other costs that must be

reallocated to other customers, both unbundled customers such as Community Choice Aggregators (CCAs) and Direct Access customers, and bundled customers, as a result of this Decision. As stated in Ordering Paragraph 12 of this Decision, Energy Division reports and tools will contribute to the Commission's administration of the NEM successor tariff. Accurate and disaggregated accounting of transmission costs associated with NEM customers is necessary both for the administration of the NEM tariff, and because those costs must be allocated to other customers, including CCAs, Direct Access, California Alternative Rates for Energy (CARE) low-income customers, and all bundled non-NEM customers. That allocation happens annually through a "true-up" proceeding to achieve the authorized utility revenue requirement established in the General Rate Case. The true-up proceeding transforms cost accounting into customer bills. By the end of 2016, the Commission will adopt a true-up to adjust bills in early 2017 to reflect cost shifts from NEM, and other factors that affect revenue and customer bills.

I would have voted for this Decision but for the change in the Proposed Decision to eliminate the express requirement that NEM customers pay transmission charges as do CCA, Direct Access, and all unbundled customers including low-income customers on CARE. The Public Tool used for this Decision included transmission costs as a utility revenue requirement, recognizing both the transmission function and associated costs. Footnote 35 of the Decision observes that "customers' electric bills are made up of three components: a generation component, a transmission component, and a distribution component. Electric bills also include non-bypassable charges."

This Decision does not include Transmission charges among the non-bypassable charges NEM customers have to pay for the energy they consume from the grid, citing the "departing load" model used for classes such as CCAs and Direct Access. The Decision notes that CCAs also pay a Power Cost Indifference Charge to make up for power procured by the utility on behalf of customers who switch to a CCA. The Decision does not

discuss the fact that CCAs, Direct Access and other departing load pay transmission charges on the power they consume. Neither does it note that transmission charges are classified and billed separately from non-bypassable charges (NBCs) for CCAs and Direct Access customers, just as they are billed to all bundled customers. Exempting NEM customers from transmission charges associated with the grid energy they consume over the life of a 20 year NEM tariff further distinguishes NEM from departing load customers, as well as bundled customers, and requires that transmission costs be reallocated to others customers.

California Public Utilities Code §2827.1(b) directs the Commission to do all of the following in developing the NEM contract or tariff: Ensure that “customer-sited renewable distributed generation continues to grow sustainably and include specific alternatives designed for growth among residential customers in disadvantaged communities,” ... “Ensure that the standard contract or tariff made available to eligible customer- generators is based on the costs and benefits of the renewable electrical generation facility,” ... and “Ensure that the total benefits of the standard contract or tariff to all customers and the electrical system are approximately equal to the total costs.” California Public Utilities Code §451 requires that the Commission ensure safe, reliable service, at just and reasonable rates. NEM is sustainable when it balances costs and benefits.

I look forward to working together to make DER including rooftop solar a sustainable grid asset for all Californians, and a competitive source of energy that can mitigate the need for fossil-fueled resources, save water, energy, and our environment. Accurate cost accounting is a key component of sustainability and the cost-benefit balance. For the reasons stated above, I dissent from this Decision.

Dated February 4, 2016

Catherine J.K. Sandoval

Commissioner