SMUD®

August 8, 2015

Re: SMUD Comments on July 9 Joint Agency Symposium

A. Introduction

The Sacramento Municipal Utility District (SMUD) appreciates the opportunity to provide comments on the July 9 Joint Agency Symposium. We applaud the Governor's focus on carbon reduction as the primary policy driver for addressing climate change, and we are committed to meeting new carbon goals.

SMUD has long recognized the importance of a sustainable power supply that reduces carbon emissions while assuring reliability and affordability for the community that we serve. In particular, SMUD's Board of Directors (Board) adopted a policy that commits to reduce emissions associated with serving our retail customers to 10% of the 1990 level by 2050. Additionally, our Board established energy efficiency targets to achieve 15% savings from projected load – well above the State targets set to achieve cost-effective efficiency savings. Finally, our Board set aggressive renewable energy targets before any applicable State mandate. As a result of its early action, SMUD expects to achieve the 33% Renewable Portfolio Standard mandate by 2020 in a cost effective manner.

Building on that foundation, we support the Governor's goal of reducing GHG emissions to 40% below 1990 levels by 2030 – an interim goal on the path to an 80% reduction from 1990 levels by 2050. The Governor's office has described five "pillars" for 2030 that underlie the main GHG reduction goal: 1) generating 50% of electricity from renewables; 2) doubling the energy savings from buildings; 3) reducing transportation petroleum use by half; 4) managing agricultural and public lands to best reduce GHG emissions; and 5) understanding and preparing for the impacts of climate change that are unlikely to be mitigated.

SMUD understands that the electricity sector, among others, will have to undertake significant effort to support the pillars described above, particularly the first three. We believe that flexibility will be critical to meeting the State's carbon reduction goals in a manner that maintains rate affordability and grid reliability. In particular, the costs associated with obtaining 50% renewables by 2030 can be reduced substantially by adopting policies that reward early action and recognize the lowest-cost carbon reductions. Additionally, SMUD and other publicly owned utilities remain mindful of the impact that any carbon reduction goals may have on local economic development. We are owned by our local communities, and value local economic development and good jobs in our service areas from local investments in renewables, energy efficiency and transportation electrification. We favor these local investments when they make sense for our communities, and also continue to support local economic development by

keeping our electricity rates affordable and electricity service reliable; both essential for growing and retaining local businesses

With respect to designing the flexible renewables policy to achieve a 50% target by 2030, SMUD has several specific suggestions described below.

B. A Comprehensive Approach Is Necessary

California should undertake a comprehensive, integrated approach to reducing GHG emissions that examines and compares reduction opportunities across all sectors and entities. It should establish a framework that compares the costs and benefits of various GHG reduction strategies, including renewable procurement, electrification that reduces GHG emissions, and energy efficiency investments, among others. The ultimate goal should be to reduce GHG emissions with the lowest cost set of actions.

Any successful path to meeting California's Climate Change goals must rely heavily on switching to ultra-low carbon, alternative fuel vehicles – the bulk of which are expected to be electric vehicles. As the new fuel supplier, electric utilities will play an important role in the adoption of transportation electrification, and the State should remove disincentives to utility participation. Future policy should encourage utilities to play a role in the development of infrastructure necessary to support widespread adoption, including the installation of electric vehicle charging stations. Future policy should also recognize the net carbon benefits associated with transportation electrification and provide utilities with carbon allowances for any increase in load associated with electric transportation.

C. Reduce Barriers To Early Action

The State should move forward with a flexible renewable policy that recognizes and promotes early action, rather than discourages early procurement. Under current RPS policy, utilities are allowed to procure renewable generation beyond that needed for RPS compliance and "count" that excess procurement for compliance in a subsequent compliance period. This flexibility is important. Utilities are often interested in early and robust renewable procurement to ensure meeting their renewable targets if procured resources do not perform as expected or are delayed in starting to generate. In addition, early procurement also provides opportunities for utilities to procure lower cost renewable resources to the benefit of their customers.

However, under current RPS rules, a utility must subtract from its calculation of its surplus any procurement under a contract with a term of less than 10 years. As such, current RPS law forces utilities that take the prudent, economic path of early procurement to surrender the flexibility to take advantage of beneficial short-term contractual opportunities. It is important to note that utilities that have ***not*** prudently procured and ensured compliance via a surplus are provided the flexibility to consider good short-term deals, in contrast to those that have early and robust procurement, who lose the flexibility to consider these deals. This acts as a disincentive to prudent

procurement in two ways: 1) a utility that has short-term procurement in its portfolio will tend to reduce future procurement to avoid surpluses (where the value of the short term procurement is lost); and 2) a utility that has a surplus will not be able to take advantage of cost-effective, prudent short-term deals for their customers. This disincentive for prudent procurement should be removed.

The original intent of the legislature in placing the restriction on less than 10-year contracts appears to have been that long-term contracts are "better" for inducing new development of high capital, low operating cost resources such as renewables, allowing for less costly financing of these projects. Longer term contracts do seem likely to help reduce financing costs for the development of new renewable projects, and hence foster renewable development. However, this result does not justify the restrictions currently placed on short-term procurement, particularly when applied only to utilities with surplus.

The lower transaction costs (more procurement per negotiation) and reduced procurement costs of long-term contracts (lower financing cost implies lower pricing), as well as the increased certainty for both the buyer and the seller means that such contracts tend to be heavily favored in the market. One can look historically at renewable contracts and find very few short-term contracts, even prior to the less than 10-year restriction in place in California today. Long term contracts are the norm in the market, and really need no policy "shoring-up." There is no incentive to incur the costs and uncertainties of multiple short-term contract extensions on either the buyer's or seller's part – this just does not happen in the general marketplace.

On the other hand, there are situations where a short-term contract or contract amendment may make sense for both the renewable industry and the utility procurer of renewable energy. A utility may have a clear procurement need for just a few years of additional renewable energy to achieve compliance as other contracted resources get built and start producing under long-term contracts. A renewable project may have a "window" of a few years where their generation is without contract, in between an initial long-term contract and a second contract with another buyer that begins a few years after the end of the first (because the buyer wanted product then, not needing it in the intervening years). A renewable project may find itself with a few years of additional marketable generation at the end of a long term contract but before the end of the useful life of the project. However, if a prospective buyer (in either situation above) has any prospect of surplus procurement for a compliance period under current RPS policy, these cost-effective "market-making" opportunities will simply not be pursued – the value is at best then highly uncertain. This will simply raise RPS costs and potentially cause premature retirement of renewable projects.

The current text of Senate Bill 350 ***would greatly exacerbate this problem*** by causing these prudent, early actors to also lose the flexibility of procuring ***any*** Bucket 3 resources without destroying the value of their surplus. Specifically, SMUD has procured significant behind the meter resources, such as SB 1 rooftop solar, that are

included in SMUD's RPS portfolio as Bucket 3 procurement under existing RPS rules.[1] If the RPS going forward retains the Bucket 3 status of these resources, and also includes the proposed change in current text to subtract any Bucket 3 resources from a utility's calculations of its surplus generation, nearly all of the RPS value of SMUD's current SB 1 procurement would disappear. This proposed provision in SB 350 should be removed.

D. Support Distributed Generation Equivalently

The grid is changing because of technological advancements, and utilities are considering significant new investments in the distribution system to facilitate the expansion of distributed energy resources like rooftop solar, storage and demand response. In developing a new strategy to meet expanded renewable goals, the State should avoid establishing policies which inhibit investment in the emerging distributed grid and favor one set of technologies over another. For example, in meeting the renewable goals – the policy should not favor large scale renewables in Wyoming over rooftop solar in midtown Sacramento. The policy should create an equal playing field that recognizes the inherent carbon reduction benefits of both localized distributed generation and utility scale renewable projects.

SMUD has long argued that even behind the meter distributed generation meets the statutory requirements to be considered a "Bucket 1" resource, since these resources are by definition "… interconnected to a distribution system in a California Balancing Authority". SMUD has contended that the RPS law does not require "bundling" in order to be a Bucket 1 resource and that even if a "bundling" requirement is maintained, behind the meter resources should be considered "bundled" when the load serving utility is the owner of the RECs from their customers.

The following table compares the procurement of Bucket 3 unbundled RECs with the procurement of behind the meter distributed generation and the procurement of delivered Bucket 1 RECs. Row A is simply SMUD's understanding of the State's current treatment of the procurement in these cases as bundled or unbundled and as Bucket 1 or Bucket 3. Rows B through E include a series of procurement "attributes" typically associated with Bucket 1 products. One can see clearly that procuring behind the meter resources is comparable to other Bucket 1 procurement, and distinct from the simple procurement of unbundled RECs.

[1] SMUD and others continue to argue that these resources should be counted as Bucket 1 resources.

Comparison Table of Procurement Cases

Procurement Case ==➔ Bundled II Attribute II V	1. Utility procures Unbundled RECs from outside service area without electricity delivery	2. Utility procures RECs from customer or third-party owned on-site system under net metering agreement	3. Utility procures energy and RECs from a resource with real time energy delivery to service area
A. Current California Bundling And Bucket Treatment	Unbundled -- Bucket 3	Unbundled -- Bucket 3	Bundled – Bucket 1
B. Utility procures both energy and RECs, sells energy to customers	No	Procurement somewhat unclear or mixed due to net metering nature Energy is sold to customers	Yes
C. Electricity delivered to Service area	No	Yes	Yes
D. Environmental Benefit in Service Area	Perhaps	Yes	Yes
E. Economic Development In Service Area	No	Yes	Yes
F. SMUD proposed revised "bundled" and Bucket treatment.	Unbundled – Bucket 3	Bundled -- Bucket 1	Bundled – Bucket 1

With behind the meter (net-metered) procurement where the POU procures the RECs (this is the case for most of SMUD's net-metered procurement), the POU is in effect buying the electricity along with the REC at the customers retail rate, and selling that electricity to our retail customers under the net-metering agreement. When an on-site system is exporting to the grid, the POU is procuring the electricity at retail cost, and the RECs, and the procured electricity is available to other retail customers. When an on-site system is generating to serve on-site load, the POU is procuring the RECs and the generation is made available to the POU's on-site customer. The contractual relationship is the net metering agreement that indicates that the on-site system can

interact with the POU grid to make the generation available to the POU customers, including the on-site customer.

This is in contrast to the true "unbundled REC" procurement case. In the net-metered case, the utility is procuring RECs and electricity from a DG resource, and the distribution customers of the utility (including the on-site customer) are receiving that electricity. In the unbundled RECs case 1, the utility is only procuring RECs, and their distribution customers do not receive any electricity whatsoever from the underlying resource. This is a fundamental difference that is essentially ignored in the current framework.

Some stakeholders may argue that providing Bucket 1 status to such on-site systems would effectively be a "double benefit," since the generation from the systems already reduce retail load, and hence already provides an "RPS benefit." This argument is overstated, and really has no bearing on the issue as to whether behind the meter (BTM) systems should be considered Bucket 1 or Bucket 2 resources. The "retail load credit" that occurs is not commensurate with full RPS credit for generation (less than 33% of that generation value currently), and is in no way commensurate with the differential value in the market of Bucket 1 resources versus bucket 3. It is an obvious assignment of lower value to call BTM DG systems "Bucket 3", even with a "retail load credit". To the extent that the "retail load credit" is an issue of concern, it is best dealt with, as SMUD has commented previously, by considering the load that is served on-site by these systems as truly part of "retail load," removing the credit (while providing full RPS value for the resource). After all, the generation is serving retail customers, and unlike most other self-generation, is doing so through net-metering, where a portion of on-site generation is typically exported and serves other customers.

E. Recognize That Customer Choice Is Part Of The Flexible Solution

As we strive to reduce overall GHG emissions, voluntary customer renewable programs like community solar and green pricing, facilitated by the utility, should be included as a seamless part of the solution. Our customers can be willing collaborators in accomplishing and going beyond our renewable targets, voluntarily choosing to have community solar allocated toward their load or opting to have 100% renewable power covering their load for a small additional cost. SMUD implemented the nation's first community solar program and we plan to grow the current program to potentially 75 megawatts over the next several years to meet customer demand. With more than 70,000 customers enrolled, our Greenergy program provides customers the option to pay more to ensure that 100% of their electricity is sourced from renewable power.

At the same time, under the current regulatory structure, these customers are still considered part of our retail sales, and hence we are also required to "double procure" additional renewables under the RPS for this same load, already fully served by the voluntarily procured renewables. This policy will act to discourage consideration of expansion of these voluntary programs, resulting in lower overall renewable

procurement. The path to meeting the new GHG and renewable goals should remove the obstacles which discourage innovative customer renewable programs. Senate Bill 43 allowed IOU voluntary green tariff programs to subtract the renewable component associated with the green tariff from the utility's retail sales prior to applying the RPS percentage. Publicly owned utilities like SMUD should enjoy similar flexibility.

F. It Is Essential To Take A Flexible Regional Approach

A flexible renewable policy should recognize that California is part of a regional grid and some reduction in the current barriers to utilities procuring renewable energy in the broader Western Interconnection will provide both cost and reliability benefits. From a cost standpoint, eliminating current procurement barriers will provide utilities access to potentially lower cost renewables – the savings of which will inure to the benefit of all Californians. Allowing more geographic diversity in the procurement of renewables will also provide grid operation benefits, including a reduction in renewable curtailments and integration challenges. From a GHG standpoint, reductions anywhere in the area served by the western grid should be equally valued.

G. Conclusion

Climate change is a global problem that needs a global solution. California can and should provide leadership to create a GHG-focused policy for the rest of the world to replicate.

Thank you for considering our comments on the July 9 Joint Agency Symposium.

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