



Solar on Multifamily Affordable Housing (SOMAH)

Developing Virtual Net Metering (VNEM)
Tariffs Workshop

February 13th, 2018





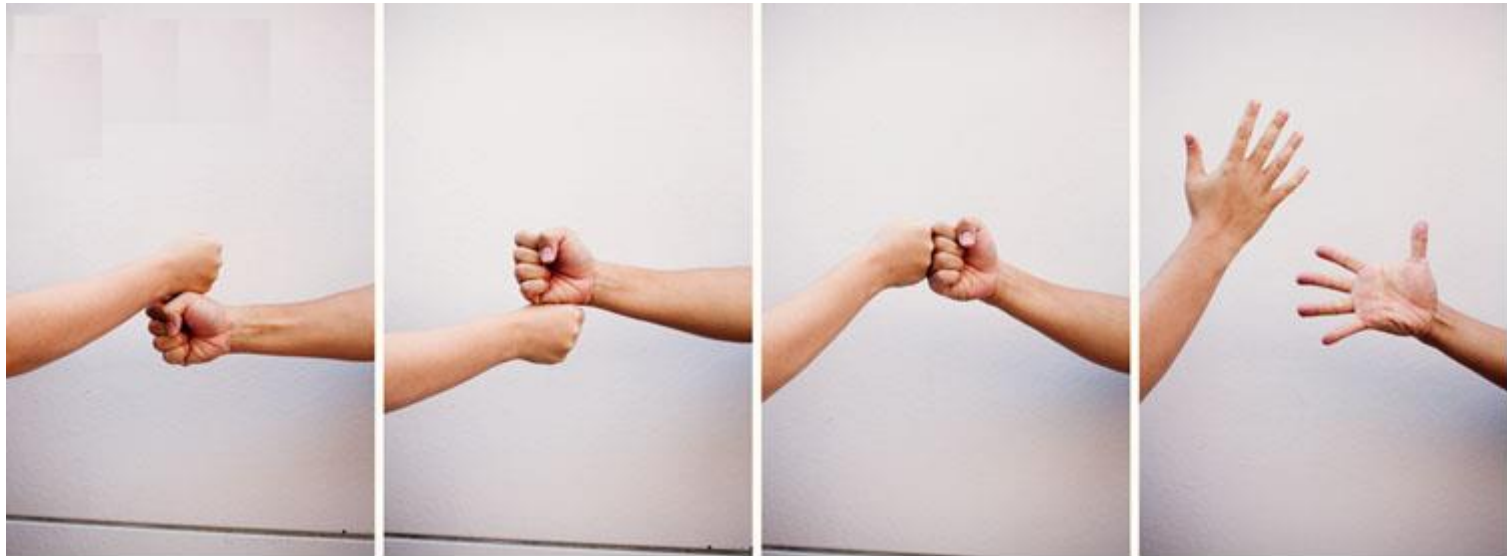
Scope and Goals of Today's Workshop

- Provide an overview of existing VNEM and VNEM MASH tariffs to help Liberty and PacifiCorp develop VNEM tariffs
- Receive stakeholder feedback on SOMAH VNEM tariff design development process
- Discuss how the SOMAH VNEM tariffs might improve, rather than replicate, the current regime of VNEM tariffs?





Introductions





SOMAH Decision Requires the use of a VNEM Tariff

D.17-12-022 (Pages 14-15)

- “...the SOMAH Program will use a VNEM tariff to provide benefits to tenants through the allocation of credits.”
- “Participating utilities are ordered to file a Tier 1 advice letter designating a VNEM tariff for use by SOMAH participants **within 90 days of the issuance of this decision**. The advice letter may modify an existing VNEM tariff used for the MASH program, such as that used by MASH participants, to comply with this decision, or may develop a new VNEM tariff based on the VNEM tariff used for the MASH program, as appropriate. **If needed, Energy Division may hold a public workshop to assist utilities, especially Liberty and PacifiCorp, in the development of an appropriate VNEM tariff.**”





Overview: Virtual Net Energy Metering for Low Income Multifamily Housing*



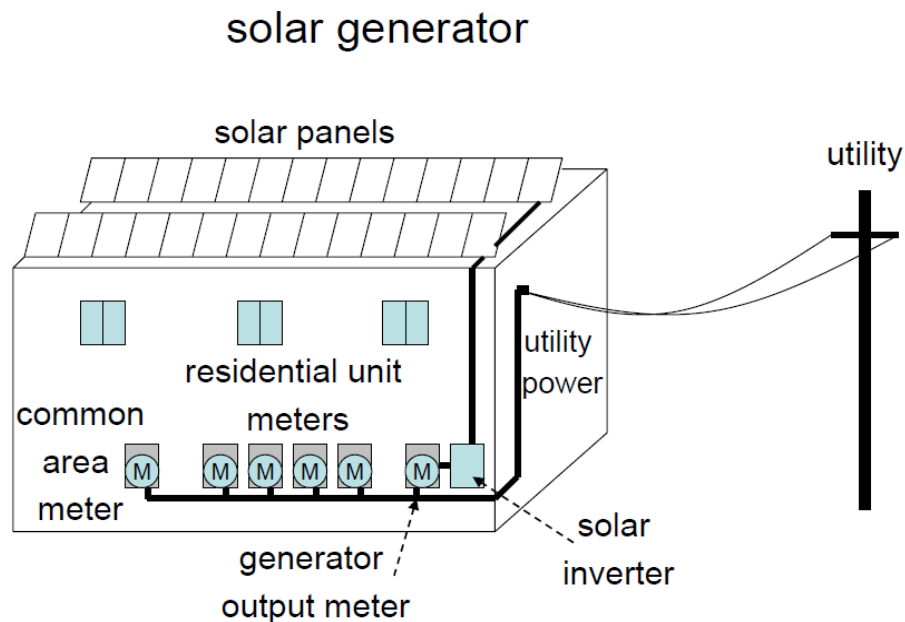
- First created July 14, 2011 (CPUC Decision D. 11-07-031)
- Offers customers the benefit of NEM without requiring each meter to be physically connected to the solar generating system.
- Allows a multi-unit residential or commercial customer with eligible solar generating system(s), that is sized to historical load, to set up a *Generator Account* to export energy to the grid for retail credits.
- The exported kWh are allocated and excess retail credits applied to designated, individually metered, *Benefitting Accounts* within the same site.





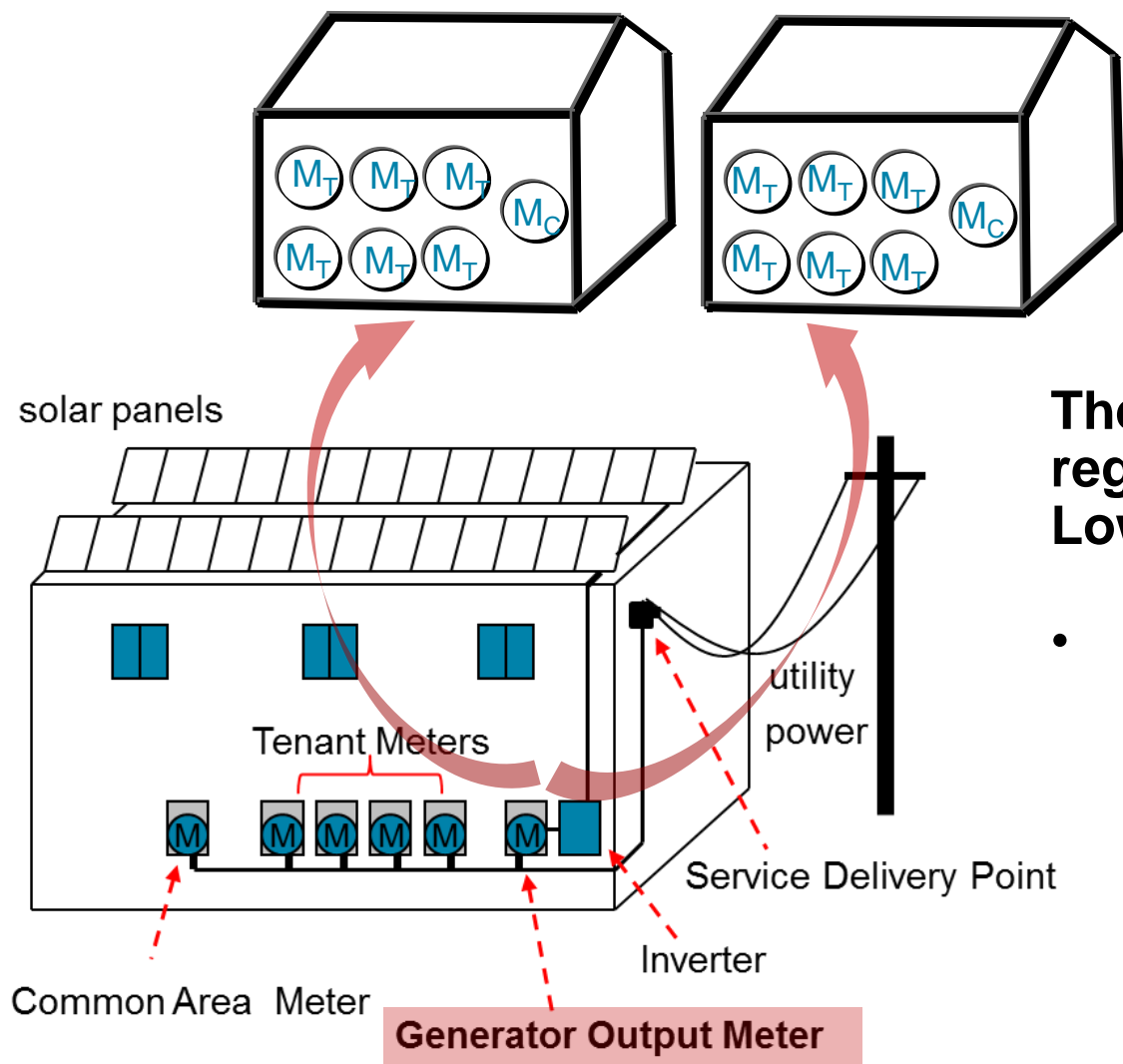
Virtual Net Metering for Low Income Multifamily Housing

- ❑ PV system installation on an eligible low-income development (see Figure) where the electricity generated by the solar system is fed back into the grid through a **Generator Output Meter**, which measures the kilowatt-hours produced
- ❑ The initial breakdown between common and combined tenant accounts are determined by the property owner, concurrent with the incentive application request
- ❑ The energy allocation to the tenant accounts is based on the relative size of the tenant's unit, consistent with the manner in which affordable housing rents are established
- ❑ The allocated kilowatt-hours are then netted with the customer's usage and then billed in the same manner as a regular NEM customer's account
- ❑ Generator Output Meter is physically tied to the PV system and has no customer load





Additional flexibility for Low Income Multifamily VNEM



The main difference between regular VNEM and VNEM for Low Income Programs:

- **Generator Owner can aggregate multiple generators at the same low-income development**





Interconnection: Steps

- 1 • Customer/contractor submits completed application and single line drawings
- 2 • Application will go through an initial engineering review conducted by utility
- 3 • Customer has the option to schedule a onsite field visit to find the point of interconnection. Highly recommended, especially for first time installers.
> During this time nothing should be installed
- 4 • Customer installs systems to Utility's service standards and get the final sign-off from the building department
> The new VNEM meter socket must also be tagged by the building dept.
- 5 • The signed off building permit must be submitted to Interconnection and the local building department must submit the Green Tags to the meter set desk
- 6 • Once utility receives the building permit and green tags, utility will schedule the meter to be set up
- 7





Interconnection: Tips

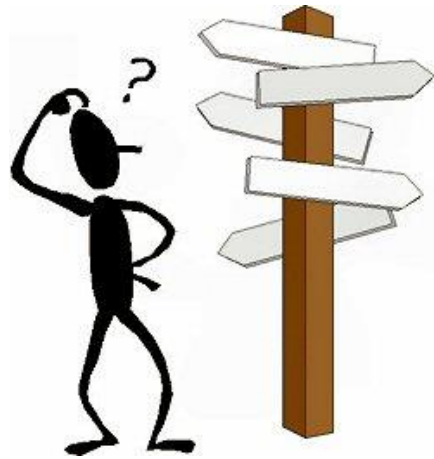


- ✓ Don't install anything until utility comes out for a pre-site field visit
- ✓ Follow the Utility Service Standards
- ✓ Do not open any utility sealed section of the service panel
- ✓ Reminder: for safety reasons, do not operate a generator in parallel with utility grid until you have permission from utility to operate.





Interconnection: Common Mistakes



Many Owners Make these Common Mistakes:

- ❖ Misunderstanding the difference in connection between NEM and VNEM (such as the generator behind it's own meter with no load)
- ❖ Not following Utility Preferred Interconnection Standards
[For example: https://www.pge.com/greenbook](https://www.pge.com/greenbook)
- ❖ Installing equipment first and contacting utility after installation
- ❖ Not budgeting for needed service panel upgrades

We must always follow the approved Tariffs





VNEM Billing

- The Owner of the **Generator Account** and each **Benefitting Account** Customer (which may be tenant accounts and/or common area accounts) will receive their own monthly bill



Example in PG&E's territory:

- The **Generator Account** will receive an Energy Statement and a Detail of Bill*
- Monthly each **Benefitting Account** will receive an Energy Statement and a Detail of Bill
- The Detail of Bill breaks down all costs
- The Energy Statement includes all charges due for that month





Monthly Billing: Benefitting Accounts

Each *Benefitting Account* will receive a monthly Energy Statement and a Detail of Bill

- The Detail of Bill includes:
 - The Otherwise Applicable Rate Schedule (OAS) they are being billed on
 - The True-up date
 - The Allocated generation kWh (by time-of-use, if applicable)
 - Energy Consumption kWh (by time-of-use, if applicable)
 - The value of the net kWh of Allocated generation and Energy Consumption based on the Benefitting Accounts rate schedule
 - **A reconciliation of charges and credits to date in their true-up period**
 - A breakdown of all non-per-kWh charges (e.g., customer charges, meter charges, demand charges, etc. as applicable)
 - Monthly Minimum Charges for residential customers
 - A breakdown of all rate components
- The Energy Statement lists monthly charges (e.g., minimum charges, customer charges) due that month

*SDG&E combines energy statement and bill





PG&E Allocation Table*

Account Type	Account Address <i>(required field)</i> (for Generator Account use street address for building with generator account)	Occupant's Name, <i>(Required field)</i> (Generator Accounts <i>should be under the Owner's Name</i> Please use name listed on PG&E Account bill)	PG&E Meter Number <i>(Required field)</i>	Otherwise Applicable Rate Schedule <i>(Required field)</i>	Eligible Allocation Percentage <i>(required – to 2 decimal places, the sum of all Benefitting Account Allocation must total 100%. For changes to Existing NEMV Arrangements, list all percentages but circle all changed percentages)</i>	Designated Unallocated Credit Account <i>(optional – check one Common Area or Benefitting Account to receive unallocated credits)</i>
Generator Account						
Benefitting Accounts						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Project Identification Number _____ (for PG&E's use only) Account List - Appendix A, Section 2 Page _____ of _____
 Is this a reallocation of an existing NEMV Arrangement? Yes N

*Each Utility has their own allocation table





Key MASH ST VNEM Similarities and Differences Between IOUs

Category	Description	PG&E	SCE	SDG&E
Eligible Property	A) Multifamily Affordable Solar Housing: Residential housing that satisfies the criteria for low-income residential housing as provided in PU Code Section 2852(a)(3) or B) New Solar Homes Partnership (NSHP): As defined in Public Resources Code Sections 25401.6 and 25744, residential housing that qualifies as affordable housing projects in communities with a plurality of minority or low-income populations and that utilizes eligible distributed emerging technologies including, but not limited to, projects undertaken pursuant to Section 50052.5, 50053, or 50199.4 of the Health and Safety Code.	SAME		
Qualified Customer	A Qualified Customer is either: (i) the Owner or Operator of a Residential Complex that is qualified to participate under the Multifamily Affordable Solar Housing (MASH) program or the New Solar Homes Partnership (NSHP) who may or may not have received MASH incentive funding; (ii) the Owner or Operator of a Residential Complex whose name is on the TOU Service Account(s) of the common areas of the Residential Complex; or (iii) a tenant of the Residential Complex with a separate TOU Service Account.	SAME		
Mandatory TOU	Mandatory TOU for tenant and common area accounts	SAME		
Non-bypassable charges	Based on total energy delivered by the utility	SAME		
Application Fee		\$145 up to 1MW \$800 >1MW	\$75 up to 1MW \$800 >1MW	\$132 up to 1MW \$800 >1MW
Billing Meter	Meter must be on TOU rate; one-time upfront charge (includes material, labor maintenance and replacement and may vary from project to project.	SAME		





Key MASH VNEM Similarities and Differences (cont.)

Category	Description	PG&E	SCE	SDG&E
20-Year Transition Period	Eligible to continue receiving service on this Schedule for a period of 20 years from the original year in which their Eligible Generator was interconnected to the grid, indicated by and measured from the date on which the Owner or Operator originally received permission to operate (PTO) the Eligible Generator from Utility and ending at the conclusion of the Qualified Customer's applicable Relevant Period that ends immediately on or after the 20th anniversary of the original PTO date.		SAME	
VNM Allocation	<p>The Owner or Operator must designate the percentage of the Gross Credit that will be allocated to Common Area Service Accounts and/or Tenant Service Accounts on the VNM Allocation Request Form.</p> <p>The allocation will become effective on the date the Qualified Customer begins receiving service under this Schedule, and will remain in effect for a minimum of five years.</p>		SAME	
Interconnection Costs	<p>Primarily for the purposes of interconnection, interconnection cost responsibility (as outlined in Electric Rule 21) and NSC eligibility, certain provisions apply differently to Eligible Generators served under this Schedule depending on whether they have a capacity of (1) 1 MW or less or (2) greater than 1 MW. Both the CEC-AC rating and the aggregate inverter capacity must not be greater than 1 MW for an Eligible Generator to be considered a 1 MW and smaller Eligible Generator.</p> <p>Owners or Operators seeking to interconnect their Eligible Generator(s) for the purpose of receiving service under this Schedule are subject to the interconnection requirements and interconnection cost responsibility provisions for NEM-ST Qualified Customers as established in Electric Rule 21. These costs may include interconnection application fees, study costs and/or costs for upgrading the Distribution and/or Transmission Systems, depending on the size of the Generating Facility. Owners or Operators are also responsible for the costs of any applicable Interconnection Facilities, as defined in Electric Rule 21, and applicable re-wiring, trenching, conduit, and other facility costs as needed.</p>		SAME	
NEM-Paired Storage	Per D. 17-12-005, storage device could be added to be located behind the same output meters as the VNEM generator if it included a non-import relay to prevent grid power from flowing toward the battery.			Tariff Change Pending





Other Considerations

- Rule 21 Study interconnection fees waived (but certain upgrades may be the responsibility of the owner)
- Standby fees waived
- NBCs apply only on net usage. (No Departed Load charges)





Q&A





SOMAH VNEM Tariff Design Goals/Principles

Implement quickly and efficiently by:

- ✓ Maintaining MASH VNEM structure
- ✓ Follow mandated requirements
- ✓ Avoid complex and costly system changes
- ✓ SCE: Jeopardize implementation schedule for enterprise-wide system replacement





New SOMAH VNEM Tariff

Mandated requirement summary:

- ❖ Eligible Property definition has changed (at least five units, deed-restricted affordable housing as defined by PUC 2852(a)(3)(A)(i), and either in DAC or at least 80% of households have incomes at or below 60% of county AMI)
- ❖ Qualified customer must include a SOMAH incentive reservation
- ❖ Tenants are not required to be on TOU rate; mandatory TOU for common areas still in effect

All other aspects of tariff are still to be determined and must comply with Rule 21





Stakeholder Feedback on Current VNEM Regimes

- Areas for improvement?
- Identified barriers?
- Unintended consequences?
- Lack of uniformity across IOUs?





Future Designs for the SOMAH VNEM Tariff

Eligibility* Considerations for the New SOMAH VNEM Tariff

- What are the pros and cons of allowing LIWP Projects and/or all other sub-metered deed restricted MF properties with solar onto the SOMAH or MASH VNEM tariff?





Q & A





Next Steps

- SOMAH for VNEM Advice Letters (Tier 1) Due 3/14/2018
- SOMAH/AB 693 Balancing Account Advice Letters (Tier 1) Due 2/16/2018
- SOMAH RFP for Program Administration - Bidders Conference 2/21 (online)
- SOMAH Bids due: TBD

