PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ITEM # 48
I.D. # 11046

ENERGY DIVISION **RESOLUTION E-4481**
March 22, 2012

R E S O L U T I O N

Resolution E-4481. Tariffs Compliant with CPUC Decision 11-07-031, O.P. 2, Relating to Expansion of Virtual Net Energy Metering (VNM) to Apply to All Multi-tenant and Multi-meter Properties.

Proposed Outcome: Within 10-14 days, Pacific Gas and Electric (PG&E), San Diego Gas & Electric (SDG&E), and Southern California Edison (SCE) will re-file tariffs called "Schedule for Virtual Net Energy Metering for Multi-Tenant and Multi-Meter Properties (NEMV)" to comply with this Resolution and CPUC Decision 11-07-031, Ordering Paragraph 2. The original proposed tariffs are adopted with modifications below.

Estimated Cost: $0

By PG&E Advice Letter (AL) 3902-E, filed on September 12, 2011.
By SDG&E AL 2286-E, filed on September 12, 2011.
By SCE AL 2625-E, filed on September 12, 2011.

Summary

In Decision (D.) 11-07-031, Ordering Paragraph (OP) 2 ordered PG&E, SCE, and SDG&E - known collectively, as the investor-owned utilities (the utilities or IOUs) to each file Tier 2 advice letters (ALs) containing modifications to their Net Energy Metering (NEM) tariffs to allow Virtual Net Metering (VNM) to apply to

all multi-tenant and multi-meter properties, with the limitation that sharing of bill credits can only occur for accounts served by a single service delivery point.[1] D.11-07-031 goes on to state:

> The revised tariffs in these advice letters should mirror the tariff created in compliance with Decision 08-10-036 for Multifamily Affordable Solar Housing (MASH) program participants. Any deviations from the MASH VNM tariffs should be explained and supported in the advice letter. The utilities may propose a one-time account set up fee and monthly administrative fee for VNM service. The utilities may seek recovery of VNM implementation and set up costs in their future general rate cases.[2]

To achieve compliance, the utilities filed three ALs: PG&E's AL 3902-E, SDG&E's AL 2286-E, and SCE's AL 2625-E. These ALs establish utility tariffs which describe the key responsibilities of participating accounts with respect to site-assessment fees, account set-up fees, account change fees, bill credit allocation, and program operation mechanics. The ALs were protested by the Interstate Renewable Energy Council (IREC), Vote Solar, and California Solar Energy Industries Association (Cal SEIA) (collectively, the "Joint Solar Parties"), Division of Ratepayer Advocates (DRA), and Récolte Energy. Based on these protests, the utilities' responses, and discussion at the Public Workshop held December 8, 2011, this Resolution modifies portions of the utilities' ALs.

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[1] CALIFORNIA SOLAR INITIATIVE PHASE ONE MODIFICATIONS, Decision D.11-07-031, July 20, 2011, at 65.

[2] *Id*.

Background

In May 2010, the Commission initiated a new Order Instituting Rulemaking ("OIR") for the California Solar Initiative, Self-Generation Incentive Program, and other Distributed Generation issues (Rulemaking 10-05-004). In July 2010, the assigned Administrative Law Judge (ALJ) issued a ruling containing recommendations for modifications to the California Solar Initiative (CSI) Program[3] from Energy Division staff. The ruling requested parties prioritize the program modifications proposed by Energy Division staff. In November 2010, a Scoping Memo was issued which set forth the modifications that are considered high priority and would be taken up in Phase 1 of this rulemaking.

In July 2011, the Commission adopted D.11-07-031 which modified the CSI Program based on the Phase 1 recommendations. These modifications covered a number of issues, including expanding VNM to all multi-tenant customers.

First established as part of the Multifamily Affordable Solar Housing (MASH) Program[4] in D.08-10-036, VNM allows customers to allocate the kilowatt-hour credits from the electricity generated from a single solar energy system on an affordable housing property to multiple customer accounts within that property. VNM was originally limited to MASH customers only, and D.11-07-031, among other directives, expanded both the types of customers and generation technologies eligible for VNM.

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[3] The CSI Program provides financial incentives to residential and non-residential customers of PG&E, SCE, and SDG&E who install rooftop solar photovoltaic (PV) systems.

[4] The MASH Program is a component of the CSI Program that provides incentives to multifamily affordable housing residences.

Specifically, D.11-07-031 does not limit the expanded VNM to CSI customers. Whereas VNM was previously limited to solar PV technologies, D.11-07-031 now allows all technologies that are eligible for the full retail NEM tariff to participate in VNM. D.11-07-031 also limits the expanded VNM to customers served by a single service delivery point (SDP).[5]

The decision directed the utilities to file Tier 2 advice letters "containing modifications to their Net Energy Metering tariffs to allow VNM to apply to all multi-tenant and multi-meter properties" within 60 days of the decision, and states that "Energy Division may hold a workshop or direct the utilities to host a workshop to resolve implementation issues that may arise relating to the VNM tariffs."[6]

On December 8, 2011, Energy Division staff held a workshop to vet various issues raised in the expanded VNM ALs and the subsequent protests. This resolution addresses these issues below.

NOTICE

Notice of PG&E's AL 3902-E, SDG&E's AL 2286-E, and SCE's AL 2625-E were made by publication in the Commission's Daily Calendar. PG&E, SDG&E, and SCE state that a copy of their ALs was mailed and distributed in accordance with Section 43.14 of General Order 96-B.

[5] Multifamily Affordable Solar Housing (MASH) participants remain the exception to the single SDP limitation in VNM.

[6] D.11-07-031 at 17 and 65.

SUMMARY OF PROPOSED VNM FEES[7]

Summary of Proposed Virtual Net Metering Account Assessment, Set-up and Billing Fees				
Utility	Site Assessment	Account Set-up	Monthly Billing	Modifications
PG&E AL 3902-E	$550.00 Billed to Owner; $91 per additional system on site	$12.00 per benefitting account; Billed to Owner	--	$3.00 per account being modified; Billed to Owner
SCE AL 2625-E	$600.00 Billed to Generating account; $65 per additional system on site	$33.00 per benefitting account; Billed to Generating account	--	$11.02 per benefitting account for each change; Billed to generating account.
SDG&E AL 2286-E	--	1-4 units--$100 5-10 units--$200 >10 units -- $500 Billed to Customer-Generator account	1-4 units--$5.00* 5-10 units--$10.00* >10 units -- $30.00* Billed to Customer-Generator account *Total Fee (Not per unit)	$8.00 per account modified* Billed to Customer-Generator account *Modifications are "free" if made only once in a 12 month period.

PROTESTS

All three ALs were timely protested by the Joint Solar Parties on October 3, 2011. PG&E's AL was timely protested by Récolte Energy on October 3, 2011, and the City of Santa Monica provided comments on the SDG&E AL on October 3, 2011. DRA protested all three ALs on October 28, 2011 following an extension granted by Energy Division.

[7] PG&E's AL 3902-E at sheet 7, SDG&E's AL 2286-E at sheet 1 and 3, and SCE's AL 2625-E at sheet 1.

Summary of the Protests and IOU Responses

The following summarizes the major issues raised in protests and the IOU responses to parties' concerns.

Issue 1: Justification for Site Assessment Fee

In their protest, Joint Solar Parties contend that while the utilities' proposed site assessment fees may be reasonable, their ALs "have not provided enough information to show that this is the case." Moreover, Joint Solar Parties question whether and to what extent such site visits are needed, and therefore whether VNM systems should be charged accordingly.[8]

DRA likewise requests that the IOUs provide a detailed justification for the proposed setup and monthly service fees including the proposed site assessment fee. (Issues 1 and 2 in this resolution.)

IOU Responses:

SDG&E

No Site Assessment Fee is proposed.

PG&E

In PG&E's response to protests regarding the $550 "Service Delivery Point and NEMV Arrangement Assessment Charge," PG&E asserts that, unlike standard NEM projects, it is often necessary to make site visits to assess the existing

[8] Protest of Joint Solar Parties, section entitled "Site Related Fees," October 3, 2011, at 4.

customer service panel equipment and to help determine how best to interconnect VNM projects, because "….the original panel was likely installed without the anticipation of a generator tie-in and may have constraints."[9]

SCE

In their response, SCE states that the $600 "Site Visit and Engineering Review Fee" is designed to recover the cost of a site visit and engineering review. SCE contends that VNM and multitenant systems have more complex service configurations, which require a "Local Service Planner, Distribution Engineer, and Metering Representative to visit the site prior to construction…In addition, other factors may require panel upgrades, modifications, and or relocation."[10] The costs of the Site Assessment fee include expenses for verification of the interconnection of all eligible generating facilities at the Service Delivery Point (SDP); as well as confirmation that the combined generators meet applicable size restrictions including:

- The generating unit may not exceed 1 MW in nameplate rated capacity;
- The annual metered output of all eligible generators interconnected and metered at any single SDP may not exceed the combined annual consumption of all Benefiting Accounts at that SDP; and
- The combined peak capacity of all eligible generators interconnected and metered at any SDP may not exceed the coincident peak demand of all Benefiting Accounts at that SDP.

SCE draws the following distinctions between the VNM and traditional NEM interconnection process to support its argument that VNM requires a site assessment including:

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[9] PG&E Protest Reply on Advice 3902-E, at 2.

[10] SCE Protest Reply on Advice Letter 2625-E, at 3.

- Most NEM projects do not require a site visit prior to installation;
- Most systems are residential (~90 %), and in most cases, the connection between a service panel and a meter and service configuration for residential systems is straightforward and the entire technical review can be completed by an engineer; and
- Most residential NEM projects do not require net generator output meters (NGOMs), distribution system modifications, and/or interconnection facilities.[11]

Issue 2: Set-Up and/or Monthly Fees, Modification Charges, and Frequency of Credit Allocation Changes

In their protest, Joint Solar Parties state that it is not clear what the PG&E and SCE set-up fee is intended to cover. While they did not find either fee so high as to deter project development, they assert that SCE's $33 set-up fee per Benefiting Account is more than what would be required to simply set up an entry into a billing system that was already developed through previous investments. Joint Solar Parties state that the utilities were awarded substantial budgets to establish their billing systems under the original MASH program and should already have the capability to bill customers without significant additional cost.

SDG&E was the only utility to propose a monthly billing fee, and Joint Solar parties questioned whether SDG&E provided any justification for a monthly fee or stated what it is intended to cover. On this issue, Joint Solar Parties note that "Solar systems are designed to last 20 years or more, and it is unclear why maintenance of a simple billing system could justify a monthly fee of up to $30."[12]

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[11] *Id*

[12] Protest of Joint Solar Parties, October 3, 2011, at 4.

With regard to Modification Charges and Frequency of Credit Allocation Change, Joint Solar Parties assert that "it is unclear why it costs SCE nearly four times as much as PG&E to do the same task….with the use of appropriate software, changing the allocations should be an extremely quick task."[13]

Both Joint Solar Parties and DRA accept that the utilities may charge a reasonable fee for account allocation modifications. Both would accept SDG&E charging a similar modification fee per Benefiting Account provided that SDG&E is required to remove its restriction on the frequency of allocation changes and instead allow allocations to be modified as-needed. Both protests argue that SDG&E's allocation modification policy is unduly restrictive and could unnecessarily hamper the adoption of VNM.

IOU Responses

PG&E

In its response, PG&E argues that the set-up fees represent the incremental costs to set up NEMV accounts due to the added complexity of VNM including: allocating and tracking generator output to multiple Benefiting Accounts, changing allocations, and in some cases multi-month reconciliation over potentially many accounts. Regarding the $3 per Benefiting Account Modification Charge, PG&E believes that this provides flexibility to reallocate credit when tenant units become vacant, which should be a significant benefit to operators. PG&E's AL did *not* restrict the frequency of account credit allocations.

[13] *Id*

SCE

Regarding the Modification Charge, SCE states that it is assessed when a customer adds Benefiting Accounts, deletes Benefiting Accounts, or modifies the allocation percentages, and that the charge is based on the staff time required to perform similar work for MASH-VNM networks.

SDG&E

Regarding set-up fees, SDG&E provided the same response as SCE, stating that its proposed service origination fee is based on costs previously approved under Schedule RES-BCT.

Regarding Modification Fees and Frequency of Account Modifications, SDG&E points out that the initial 12 month period was based on "free" changes to the allocation designations and is consistent with CPUC approved provisions in both RES-BCT and VNM-A for minimum 12 month effective periods. If SDG&E is directed to remove the 12-month anniversary limitation, they would instead propose to charge the participants a fee every time a change is made, regardless of the anniversary date.

Regarding the Recurring Monthly Fee (a fee that only SDG&E has proposed to charge), SDG&E believes that the recurring monthly service fees are appropriate for continued monthly maintenance required for eligible VNM customers. SDG&E acknowledges that its billing system will handle a large part of the VNM monthly processing, but says that exceptions will require manual intervention by an SDG&E billing analyst for tasks such as new customers moving in and moving out of eligible VNM services, customer consumption

validation, generation credit validation; meter data validation, and customer-requested updates to allocation percentages for eligible VNM units.[14]

Issue 3: Allocation of Credits that are not Applied due to Occupant Non-Participation or Inactive Account

Both Joint Solar Parties and DRA are concerned with the equity of SDG&E's tariff language, which states "Credit that is allocated to a particular unit, but not applied to a Qualified Customer's bill due to occupant nonparticipation or unit vacancy (no active account) will be retained by the Utility."[15] These parties believe it is unreasonable for the utilities to retain those credits, which they argue rightfully belong to the system owner and/or the other Benefiting Accounts. While PG&E and SCE do not specify in their ALs what will happen to credits in this situation, both protesters propose as a remedy that the "…system owners have the option of designating in their allocation forms what should happen to such credits (i.e. should be evenly allocated amongst the remaining accounts, or credited to the generating account or the common-area account or some other scenario)."

IOU Responses:

Each utility believes that the issue of how to deal with credits from vacancies has been resolved, because each allows the system owner to re-allocate the credits on a going-forward basis at any time using forms provided in their ALs.

SCE cites what it believes is common practice in VNM MASH arrangements: voluntary Owner/Tenant Agreements are often in place that automatically

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[14] SDG&E Reply to Joint Solar Parties Protest on Advice Letter 2286-E, at 2.

[15] SDG&E Schedule Expanded VNM at Sheet 3.

convert the account to the owner as the customer of record when the tenant requests to turn off service with SCE. In these instances, SCE says the VNM credits will be automatically directed to the owner's account and SCE believes this option adequately accounts for vacancies without having to create costly programming or unnecessary manual work.

SDG&E echoed the same point on voluntary "revert to owner" contracts and believes it is justifiable for unallocated VNM credits to revert to SDG&E because it states these credits are "recorded into SDG&E's Energy Resource Recovery Account (ERRA) to benefit the ratepayers providing the program subsidies."

Issue 4: Definition of System Owner or Operator

Joint Solar Parties note that each of the proposed IOU tariffs define system ownership in a different way, and register concern that SDG&E's definition is unnecessarily restrictive as it requires that the system owner be the property owner. They find SCE's definition to be more flexible by allowing for operators as well as owners, and PG&E's tariff to offer the greatest flexibility by not placing any restrictions on the ownership term. Due to the infancy of VNM the Joint Solar Parties believe it is too early to know which ownership structures will work best for participants, financiers or property owners. To facilitate VNM market development, the Joint Parties assert that VNM tariffs should allow a wide range of different ownership scenarios to exist. The Joint Solar Parties request the Commission to require the utilities to ensure that their tariffs do not restrict the types of ownership arrangements that may participate in the VNM tariff.[16]

[16] Protest of Joint Solar Parties, October 3, 2011, at 6.

IOU Responses

PG&E did not propose a change to the definition of owner. SCE acknowledged the Joint Solar Parties' concern by offering a modification to their definition:

"Qualified Customer: A Qualified Customer is either: (i) the Owner or Operator of the multi-tenant Property with one or more separately metered Bundled Service Accounts; (ii) an entity authorized by the owner to install and operate the generating facility and who will be SCE's customer of record for the Generating Facility; or (iii) a tenant/occupant of the Property with a separately metered Bundled Service Account, which is physically connected to the same SDP, as defined in Rule 16 to which the Eligible Generator is connected."[17]

SDG&E's VNM-A and Expanded VNM tariffs define Owner as "the Enterprise, or Entity, that owns a multi-tenant or multi-meter property."[18] In their reply they maintain that the current language does not limit the applicability of VNM-A or Expanded VNM to only situations where the owner of the property owns the generation system.

Issue 5: Generating Account Holder's Ability to Verify Allocations Made to Benefiting Accounts

In their protest the Joint Solar Parties proposed that the Commission add a provision to ensure that the system owner can properly track the credits being allocated:

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[17] SCE Protest Reply on Advice 2625-E, at 6.

[18] SDG&E AL 2286-E, at sheet 2.

> We propose that the utilities provide an online system that enables owners to see all of the accounts participating in their system and to track the allocations being made. Alternately, the utilities should issue a summary 'statement' to the system owner at the end of each month that details the billing for the participating accounts.[19]

IOU Responses

PG&E

PG&E supports the idea of providing generation data to the Generating Account Owner and will initiate discussions with the Joint Parties and the Commission to identify data that can be provided to the Generating Account Owner, while protecting the privacy of each of the Benefiting Account Owners' utility accounts. PG&E is concerned that even if there were no privacy concerns, the Generating Account and Benefiting Account details would not line up exactly on a monthly basis unless they were read at exactly the same moment given differences in interval read times between the Generating and Benefiting Accounts.

SCE/SDG&E

SCE and SDG&E each are concerned that due to confidentiality restrictions, neither can provide Benefiting Accounts' customer information to the owner nor publish such information online. They each point out that the generated kilowatt-hour total is presented on the generating account's monthly billing statement, and further point out that the owner establishes the allocation to each

[19] Protest of Joint Solar Parties, October 3, 2011, at 6.

account and thus should be able to calculate the amount of the credit from the aggregate information on this statement.

Issue 6: Definition of Service Delivery Point

Tariffs filed to serve MASH program participants initially limited VNM eligibility to a single SDP. The SDP is defined in utility practice as the demarcation between the customer-owned electrical system and the utility distribution system funded by ratepayers.[20]

The Commission adopted this SDP limitation for VNM eligibility in D.11-07-031 for two reasons: first, in response to the need for a physical boundary for the purposes of determining VNM eligibility and billing; and second, to protect ratepayers from cost shifts associated with wheeling power[21] over the utility-owned distribution system.[22]

At the VNM workshop, PG&E, speaking on behalf of the three utilities, displayed diagrams to illustrate their definition of SDPs and the conditions under which a property with multiple meters would be eligible for VNM. PG&E explained that the SDP is the point of termination in the service panel box where electric service from the utility is delivered to the meters along that meter bank. In essence, one meter or bank of meters where distribution lines terminate equals one service delivery point. PG&E also concluded that if there happens to be multiple buildings on the property, with distribution extensions serving the

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[20] Electric Rule 16, section H, *Definitions for Rule 16.*

[21] Power "wheeling" refers to the sale and/or distribution of energy from a non-utility using utility-owned distribution systems.

[22] D.11-07-031 Discussion §4.2 and Ordering Paragraph 2

meter banks located on the property's other buildings, then the property would have multiple SDPs and, accordingly, the meters located on these other buildings would not be eligible for VNM from a system interconnected at another SDP.

The SDP definition has caused significant confusion, and one party, Récolte Energy, criticized PG&E's advice letter for relying on an overly-restrictive definition of SDPs in their advice letter filings:

"The expanded VNM tariff that PG&E has proposed in its advice letter seems to comply with the Commission's decision and intent. However, unless the Commission requires PG&E to expand its current definition of SDP, only a fraction of the intended beneficiaries of VNM will actually be able to participate in VNM."[23]

IOU Responses

PG&E

In its response to this protest, PG&E states that "[Récolte's] comments are not really a protest of PG&E's advice letter but rather a critique of the Decision."[24] PG&E argues that changing the definition of SDP would be equivalent to changing the outcome of D.11-07-031.

Issue 7: Demand Response and Solar Tariffs

The Joint Solar Parties object to PG&E and SDG&E excluding VNM customers from participating simultaneously in demand response and solar tariffs. Given

[23] Protest of Récolte Energy, filed October 3, 2011, at 1.

[24] PG&E's Protest Reply on Advice Letter 3902-E, at 2.

that DR programs complement solar, and given that SDG&E Schedules DR-SES and DGR were created to recognize the value of a customer's investment in solar energy, the Joint Solar Parties argue that SDG&E has not identified why VNM participants should be excluded from participation in these tariffs.

IOU Responses

PG&E

In their response PG&E agreed to allow customers who participate in NEMV to also participate in its demand response programs. These programs include E-BIP, E-DBP, E-RSAC and E-CBP[25]. PG&E already allows such participation in its E-BIP and E-DBP programs but not in its E-CBP and E-PeakChoice programs.[26] PG&E also agreed to allow customers participating in its Aggregator Managed Portfolio (AMP) program to be eligible for NEMV at the point in time its contracts are renegotiated. However, PG&E would require that any payments for demand response be limited to the customer's load, and not include excess generation exported to the grid during the hours of a demand response event.

[25] PG&E Protest Reply on Advice Letter 3902-E, at 5.
[26] Id at 5, PGE says: "The pending Proposed Decision for PG&E's 2012-2014 Demand Response Programs eliminates E-PeakChoice and the Commercial AC program (E-CSAC). Also, before the E-CBP program would be available to NEMV Benefiting Accounts however, PG&E would need to submit an Advice Letter to change the E-CBP Eligibility language, since customers billed via net-metering (NEM, NEMFC, NEMBIO, etc.), and customers billed for standby service are not currently eligible for the CBP."

SDG&E

In the VNM Public Workshop SDG&E's slide presentation stated:

"SDG&E's Schedule DR-SES is intended for individually metered customers with solar energy systems. Because many of the tenants do not invest in a solar system, the Commission has approved the exclusion of DR-SES and DGR rates from participation in Schedule VNM-A. The Commission has also allowed the DGR rate option to be excluded from the tenant's subaccounts under RES-BCT. Expanded VNM would be available to non-residential customers."

Issue 8: VNM Tariff Sunset Dates

PG&E's tariff states the VNM tariff will expire upon reaching the net metering cap (of 5% of the utilities aggregate customer peak demand), on December 31, 2015, or "until all funds available for the incentives have been allocated, whichever comes first."[27] SCE's tariff provides that the schedule is only available until the net metering cap is reached or until December 31, 2015[28]. SDG&E's tariff expires upon reaching the net metering cap.

The Joint Solar Parties argue that PG&E's and SCE's proposed VNM tariff sunsets are not in compliance with D.11-07-31[29], clarifying that VNM was not limited to CSI-participating projects.

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[27] PG&E Electric Schedule NEMV at Sheet 2.

[28] SCE Schedule GM-VNM at Sheet 1.

[29] D.11-07-31 at 17.

IOU Responses

PG&E

At the Energy Division's request, PG&E has already agreed to remove the incentive program reference language plus the "on December 31, 2015" language and has submitted a supplemental advice letter 3902-E-A to make this change.

SCE

In their reply to the Joint Solar Parties' Protest SCE agreed to remove the December 31, 2015, expiration date from its proposed tariff.[30]

Summary of Other Issues Discussed at December 8, 2011 Public Workshop

The following summarizes several other issues that were not raised in formal protests, but were brought up for discussion at the public workshop and warrant brief clarification within this resolution.

Issue 9: Clarify Applicability of VNM General Market Expansion

D.11-07-031 expanded VNM to apply to *all* multi-tenant and multi-meter properties. In the workshop, participants asked if there was a meaningful distinction between a "multi-tenant" and "multi-meter property" in the context of VNM expansion.

Issue 10: Net Generator Output Meters (NGOMs) for VNM Generators

[30] Reply of SCE to Protests of Joint Solar Parties to AL 2625_E, at 7

Each IOU tariff requires a net generator output meter (NGOM) to be installed for VNM interconnection. At the VNM workshop, a PV developer asked whether installation of NGOM meters at VNM sites would always be required for CSI participants as it represents additional expense beyond the meter already required by the CSI program to calculate the performance-based incentive (PBI). The developer argued that the CSI Program requires a high degree of metering accuracy to satisfy incentive payment verification standards. In their view, if a meter is good enough for CSI, it could be good enough for VNM as well. The utilities responded that PBI meters perform CSI program specific functions mandated under CSI. NGOMs provide the generation output needed for credit allocation under VNM. Thus participants in CSI need both a PBI meter and an NGOM meter; non-CSI participants in VNM only need an NGOM meter.

Issue 11: Demand Charges for VNM Customers

One workshop participant sought clarification regarding how VNM customers would be treated with respect to demand charges. It could be argued that VNM customers should be treated the same as NEM customers with regard to demand charges.

Issue 12: Fuel Cell Customer Generators Eligibility for VNM

Senate Bill (SB) 489 extends net energy metering to all technologies eligible for the California Renewable Portfolio Standard (RPS).[31] Workshop participants

[31] "Renewable electrical generation facility" means a facility that generates electricity from a renewable source listed in paragraph (1) of subdivision (a) of Section 25741 of the Public Resources Code as amended by SB 2 (Simitian) is effective January 1, 2012 and reads: (a) "Renewable electrical generation facility" means a facility that meets all of the following criteria: (1) The facility uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean

Footnote continued on next page

requested clarification regarding whether fuel cell customer generators that are eligible for NEM would also be eligible for VNM, under SB 489.

DISCUSSION OF ADVICE LETTER PROTESTS

The conclusions in this section reflect the content of the Draft Resolution prior to the 30-day comment period.

Issue 1: Justification for Site Assessment Fee

D.11-07-031 Ordering Paragraph 2 allows utilities to propose a one-time account set-up fee and monthly administrative fee for VNM service, and to seek recovery of VNM implementation and set up costs in future general rate cases. The Decision does not expressly authorize site assessment fees, and the presently effective tariffs for VNM MASH and RES-BCT do not require site assessment fees.

We draw the following conclusions from the justifications provided by PG&E and SCE for their proposed site assessment fees:

- The services proposed under a site assessment fee are largely services that are already provided to MASH VNM and other NEM customers as part of the interconnection application process. The technical aspects of the "engineering review" seem vague. It seems likely that many projects will not require a site assessment, and that this expense should be more rationally applied on a case-by-case basis in accordance with some set of technical standards. While it is understood that VNM differs from NEM in that multiple meters are involved, SCE does not clarify how the specific technical components of the "engineering review" of a GM-VNM system

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wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology."

differ from the engineering review currently conducted under Rule 21, nor why they should be conducted at the front end of the interconnection process. Specifically, the bulk of Rule 21 engineering review is conducted in-office following the applicant's submission of documentation and electric line diagrams. Up-front verification of such technical components has not been required for traditional NEM projects under Rule 21 to date, including projects installed on older buildings, and SCE offers no justification as to why such verification is required in this instance. If SCE requires additional technical documentation for a VNM applicant, i.e. existing service, capacity, service panel, clearances, NGOM location, and line and load disconnects, then it should request such information in the up-front application.

- While it is conceivable that, as both PG&E and SCE state, a VNM project may be tying a newer generating facility into an older service panel, again, such a scenario would be made clear in the documents submitted with the application, and does not justify charging a site assessment fee to all VNM sites.
- Neither PG&E nor SCE clarify whether the site assessment fee is proposed in addition to standard Rule 21 fees.
- The information proposed to be collected in the site assessment, (such as nameplate rated capacity of the generating facility, as proposed by SCE,) is already required as part of the VNM interconnection application form included in each utility AL. In addition:
    - Coincident peak demand data of the Benefiting Accounts is based on the past 12 months of customer bills and is available to the utility through their own billing departments, and does not warrant a site visit; and
    - "Confirmation that the combined generators meet applicable size restrictions" is verified in an affidavit provided by the VNM applicant in their VNM interconnection application.

Conclusion Issue 1:
We reject the proposed site assessment fees. Utilities shall modify their application forms to collect the necessary technical details from VNM interconnection applications. If after review of the application the IOUs determine a site assessment is essential, the utilities may conduct a site assessment and track the expenses associated with such on-site VNM site assessments for the "complex service configurations" and one year from the effective date of this resolution may request recovery of those expenses and/or address the need for and criteria that would trigger a VNM site assessment going forward.

Issue 2: Set-Up and/or Monthly Fees, Modification Charges, and Frequency of Credit Allocation Changes

All three IOUs have proposed various Account Set-up Fees and Account Modification Fees on a per-Benefiting Account basis billed to the Generating Account.[32] SDG&E is the only IOU to propose a monthly billing fee.

The PG&E $12 per Benefiting Account set-up fee appears to be reasonable as a discrete value, but in very high -unit VNM arrangements this fee could be sizeable. SCE's $33 per Benefiting Account set-up fee is high, and will be especially so in high-unit VNM arrangements. SDG&E's account set-up fee is adjusted according to the number of Benefiting Accounts and is capped at $500. SDG&E's fee is also consistent with the currently effective RES-BCT tariff's account set-up fee structure, and it "scales" for high-unit arrangements.

SDG&E is the only utility to propose a monthly billing fee. However, SDG&E is currently working to automate its billing infrastructure to be more cost-effective.

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[32] SDG&E's proposed modification fee is waived if changes are limited to no more frequently than once every 12 months.

Once this system is operational,[33] there will be no need to recover billing costs from VNM customers. PG&E and SCE reported at the Workshop that monthly billing is automated and does not represent a significant marginal cost.

The account modification fees range from a low of $3 to a high of $11.02 per Benefiting Account. PG&E and SCE propose to charge a modification fee each time an account change occurs. SDG&E proposes to allow one "free" change per twelve month period and would charge a fee for changes that occur more frequently. The IOUs reported in the Workshop that changes are relatively infrequent in the MASH VNM program, while developers at the Workshop predicted that changes in the VNM general market could be quite frequent. Allowing one free modification per account free of charge each twelve months encourages efficient management of the VNM administration, while allowing needed changes to occur more frequently for a reasonable charge.

Based on the ALs, responses to protests, and the extensive workshop discussion on these issues, we conclude:

- All the utilities have established automated billing systems that can handle VNM monthly billing arrangements based on previous investments made to establish billing infrastructure for VNM MASH and RES-BCT.[34] The fixed costs for VNM billing infrastructure have been or soon will be expensed to the CSI general market program administration budgets, per D.08-10-036.

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[33] SDG&E staff stated to both CCSE and Energy Division staff that this system would be operational by July, 2012.

[34] SDG&E's billing automation project is still in progress, and will be fully-operational by July 2012. Likewise, SCE reports that it has automated its VNM billing system, but needs to make further changes to comply with D.11-07-031.

- The utilities will incur marginal costs, such as account set-up costs to establish VNM service, which are recovered from the user set-up fees.
- The utilities will incur marginal costs when VNM account modifications are required, such as changes to credit allocations or adding/removing VNM service for a Benefiting Account. These are recovered from the user modification fees.
- For VNM to be practical, necessary account changes should be accommodated at a reasonable cost.
- The IOUs have not adequately justified why the proposed fees are significantly different for each IOU.

Conclusion Issue 2:

- The utilities may charge to the Generating Account a one-time set-up fee per VNM arrangement (defined as a Generating Account providing credits for one or multiple Benefiting Accounts). Set up fees are not to exceed $25.00 per Benefiting Account, and are capped at $500 per arrangement.
- The utilities shall not charge a monthly billing fee.
- The utilities shall allow account modifications as frequently as needed. There shall be no charge for up to one change per Benefiting Account per 12 month period. Subsequent changes per 12 month period may be charged up to $7.50 per account change, billed to the Generating Account.
- Costs incurred to this point by the three utilities for automatic billing systems have been recovered from CSI general market administrative budgets. It is assumed that these systems are fully automated and that there will be no further costs; however, if there are reasonable costs associated with VNM billing infrastructure in the future then these should be capitalized and recovered in future rate cases.[35]

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[35] July 2011 CSI Program Administrator semi-annual expense reports for VNM show that CCSE expensed $267,597.04, PG&E expensed $475,936.02, and SCE expensed $915,906.28. SCE further states in it Comments on Draft Resolution E-4481 (at 2) that it

Footnote continued on next page

Issue 3: Allocation of Credits that are not Applied due to Occupant Non-Participation or Inactive Account

The utilities argue that Generating Account holders have two options to prevent the possibility of unallocated credits going unused: VNM operators are able to request a new allocation arrangement going forward with the forms provided in the ALs, and VNM operators are free to enter into "revert to owner" contracts with VNM Benefiting Accounts. The Joint Solar Parties contend that system owners should have the option of designating what should happen to unallocated credits including: evenly allocating such credits amongst the remaining Benefiting Accounts, or crediting them to the Generating Account or the Common-Area Account. In the event of unallocated credits, we agree with the Joint Solar Parties point that there should be a clear default provision, because requests for new allocation arrangements take effect on the proximate billing cycle and will not address the disposition of *unallocated* credits. SDG&E's proposal that unallocated credits revert to the utility is unfair to VNM customers.

Conclusion Issue 3:

- The respective credit allocation forms of each IOU shall provide the system operator the option to designate the disposition of unallocated credits to either the Generating Account, the Common Area Account, or evenly to all Benefiting Accounts.

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will expense a total of $1.45mm to complete automation of its VNM billing system inclusive of the above amount. SDG&E reports to CCSE and the Energy Division that its billing system will be completed in July 2012 for a total cost of approximately $900,000; thus, CCSE is expecting an invoice from SDG&E for the remaining billing infrastructure costs.

Issue 4: Definition of System Owner or Operator

While each of the IOUs' tariffs define VNM system ownership in a different way, there was general agreement at the Workshop that the IOUs' intent is to not restrict the types of ownership arrangements that may participate in VNM.

SCE's definition allows for operators as well as owners, while PG&E does not restrict or define an owner. At the Workshop, all parties agreed that the intent of VNM should be to enable a range of possible ownership structures, including but not limited to VNM arrangements wherein:

- The property owner and generation system owner are the same;
- The property owner and generation system owner are different (as may be the case in third-party lease and third-party PPA arrangements;) or
- The generation account and VNM arrangement is administered and operated on behalf of the building and/or system owner by a property management entity or some other owner-authorized third party service provider.

We will not attempt to envision every possible ownership structure. Rather, definitions and terms and conditions of the revised ALs should enable different types of ownership and operational structures without placing restrictions on the types of arrangements possible. SCE's revised language, with one modification (in bold below,) will accomplish this objective:

> *Qualified Customer: A Qualified Customer is either: (i) the Owner or Operator of the multi-tenant Property with one or more separately metered Bundled Service Accounts; (ii) an entity authorized by the owner to install and/**or** operate the generating facility and who will be SCE's customer of record for the Generating Facility; or (iii) a tenant/occupant of the Property*

with a separately metered Bundled Service Account, which is physically connected to the same SDP, as defined in Rule 16 to which the Eligible Generator is connected.[36]

Conclusion Issue 4:

- In order to enable a wide range of ownership and operational structures, the IOUs shall adopt SCE's revised version of SCE's definition of a *Qualified Customer* as their standard definition.

Issue 5: Generating Account Holder's Ability to Verify Allocations Made to Benefiting Accounts

While PG&E expressed a willingness to work with the parties, none of the IOU ALs sufficiently addresses the concerns expressed in the protest regarding this issue. Generating Account holders have a legitimate interest in verifying that Benefiting Account holders receive the benefits of the VNM arrangement. Developers are putting significant capital at risk and have a financial interest in Benefiting Account holders for project cost recovery. However, maintaining privacy of customer information is a valid concern for the utilities, making the provision of some customer information challenging. As a solution, the IOUs suggested in the workshop that the VNM Generating Account operators seek authorization from each Benefiting Account for access to the data necessary to confirm accurate account crediting. While this arrangement is theoretically possible, VNM proponents argued that it was a cumbersome and imperfect solution.

In the Smart Grid Rulemaking (R.08-12-009), D.11-07-056 directed the utilities to develop proposals by January 30, 2012 that address the terms under which

[36] SCE Reply to Protest of Joint Solar Parties, at 6.

authorized third party service providers may gain access to customer data for legitimate and authorized purposes. It is possible this process will result in a protocol that could cover the data needs discussed above. It is also possible for the utilities to provide accurate and timely aggregated VNM crediting information to the corresponding VNM operator to enable them to compare the aggregate kWh credits to the generation data available to the Generating Account.

Conclusion Issue 5:

- The utilities shall work with Generating Account Owners and will initiate discussions with the Joint Solar Parties and the Commission to identify data that can be provided to the Generating Account Owner to enable them to verify that Benefiting Account holders are properly credited. These discussions and subsequent solutions should take into account potential relevant outcomes of the Smart Grid Rulemaking (R.08-12-009). Within six months of this resolution the IOUs shall file Advice Letters with proposed solutions to this issue.

Issue 6: Definition of Service Delivery Point

The specific issue raised in both the Récolte protest and at the VNM workshop involved distribution extensions between buildings on a property. It should be clarified here that a distribution extension itself is not the same as a service delivery point, per Rule 16.

However, multiple parties at the workshop suggested that some of the arguments supporting the Commission's intent — to establish an appropriate VNM eligibility boundary and to protect distribution ratepayers — are not valid.

While the Commission established the single SDP as the demarcation point for VNM eligibility in the general market, it acknowledged that alternate proposals for sharing credits across multiple SDPs that minimize cost shifting and other concerns "may be worthy of consideration in the future."[37] Parties at the VNM workshop noted that under Rule 15, distribution extensions are paid for by the property owner; thus, distribution costs for wheeling power are not shifted to ratepayers in situations where multiple SDPs on a single property are served via distribution extensions, even if the ownership of such lines has been conveyed to the utility.

Parties also noted at the VNM workshop that since the MASH program now allows for VNM billing across multiple SDPs in a contiguous property under single ownership, meters across multiple SDPs are not difficult to identify or serve in the general market, particularly when any nominal costs associated with the arrangement are borne by the system operator.

While staff acknowledges that at some point it may be useful to revisit the rationale of the single SDP demarcation versus adoption of a site definition similar to that governing VNM eligibility for MASH participants, we nevertheless conclude that the ALs correctly limited VNM account eligibility to single SDPs, as currently defined.

Conclusion Issue 6:

- No changes to the tariffs are required.

[37] D.11-07-031 Discussion §4.2 p.16

Issue 7: Demand Response and Solar Tariffs

PG&E has agreed to allow VNM customers to participate in DR programs unless the program is about to be eliminated. SDG&E has not made a convincing argument as to why VNM customers should be precluded from participating in DR or solar tariffs. VNM customers should be allowed to manage their remaining load under the same terms as customers who participate in DR or solar tariffs in their corresponding customer class. Further, paragraph (4) of subdivision (a) of PU Code Section 2851 states that:

> (4) Notwithstanding subdivision (g) of Section 2827, the commission may develop a time-variant tariff that creates the maximum incentive for ratepayers to install solar energy systems so that the system's peak electricity production coincides with California's peak electricity demands and that ensures that ratepayers receive due value for their contribution to the purchase of solar energy systems and customers with solar energy systems continue to have an incentive to use electricity efficiently.[38]

For purposes of implementing all laws pertaining to NEM, VNM customers should be treated under the same terms and conditions as NEM customers in their corresponding customer class, i.e. a residential VNM Benefiting Account should be allowed to participate in a solar tariff open to residential solar customers. It is reasonable to require that any payments for demand response be limited to the customer's load, and not include excess generation exported to the grid during the hours of a demand response event, as PG&E has proposed.

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[38] California Public Utilities Code § 2851 (4)(a).

Conclusion Issue 7:

- Customers that participate in VNM shall not be precluded from participating in DR or solar tariffs for which they would be otherwise be eligible.
- Demand response payments to VNM customers shall be limited to the customer's load, and shall not include excess generation exported to the grid during the hours of a demand response event.

Issue 8: VNM Tariff Sunset Dates

At the Energy Division's request, PG&E has already agreed to remove the CSI program reference language and the "on December 31, 2015" language in its tariff, and PG&E has already filed a supplemental advice letter 3902-E-A to formalize these changes. SCE agreed to remove the December 31, 2015, expiration date from its proposed tariff.

Conclusion Issue 8:

- This issue is resolved for PG&E, and SCE shall remove the December 31, 2015 expiration language from their VNM tariffs.

Issue 9: Clarify Applicability of VNM General Market Expansion

The intent of the D.11-07-031 is to expand VNM to <u>all</u> multi-tenant and multi-meter properties. This includes all residential (whether rental properties or condominiums), commercial and industrial properties. There are no limitations as to the type of property that can participate in VNM with the exception that sharing of bill credits can only occur for accounts served by a single service delivery point.

Conclusion Issue 9:

- The IOU ALs shall be modified to further clarify the applicability of VNM to all multi-tenant and multi-meter properties which includes all residential (whether rental properties or condominiums), commercial and industrial properties.

Issue 10: Net Generation Output Meters (NGOM) for VNM

The PBI meter performs CSI program specific functions mandated under CSI. NGOM meters provide the generation output needed for credit allocation under VNM. Thus participants in CSI need both a PBI meter and an NGOM meter, while non CSI participants in VNM need an NGOM only.

Conclusion Issue 10:

- No changes to the tariffs are required.

Issue 11: Demand Charges for VNM Customers

Treatment of NEM customers with regards to demand changes is addressed in PU Code §2827(g) which states:

> (g) Except for the time-variant kilowatt hour pricing portion of any tariff adopted by the commission pursuant to paragraph (4) of subdivision (a) of Section 2851, each net energy metering contract or tariff shall be identical, with respect to rate structure, all retail rate components, and any monthly charges, to the contract or tariff to which the same customer would be assigned if the customer did not use an eligible solar or wind electrical generating facility, except that eligible customer-generators shall not be assessed standby charges on the electrical generating capacity or the kilowatt hour production of an eligible solar or wind electrical generating facility. The charges for all retail rate components for eligible customer-generators shall be based exclusively on the customer-generator's net kilowatt hour consumption over a 12-month period, without regard to the eligible customer-generator's choice as to from whom it purchases electricity that is not self-generated.
>
> Any new or additional demand charge, standby charge, customer charge, minimum monthly charge, interconnection charge, or any other charge that would increase an eligible customer-generator's

> costs beyond those of other customers who are not eligible customer-generators in the rate class to which the eligible customer-generator would otherwise be assigned if the customer did not own, lease, rent, or otherwise operate an eligible solar or wind electrical generating facility is contrary to the intent of this section, and shall not form a part of net energy metering contracts or tariffs.[39] [Emphasis added].

VNM customers should be treated like NEM customers, thus the same treatment as regards to demand charges is extended to VNM customers.

Conclusion Issue 11:

- For purposes of calculation of all customer charges, standby charges, and demand charges a VNM customer should be treated identically as a NEM customer, pursuant to PU Code § 2827(g).

Issue 12: Fuel Cell Customer Generators Eligibility for VNM

SB 489 extends net energy metering to all technologies eligible for the California RPS, and by extension expands the technologies eligible for VNM,[40] which relies on the same definition for eligible generation. Now all types of RPS-eligible generation can receive full retail rate NEM and can participate in VNM.

Existing law establishes a net energy metering program that is available to an eligible fuel cell customer-generator, as defined. SB 489 modifies existing law that requires an eligible fuel cell customer-generator to use technology that meets the definition of an "ultra-clean and low-emission distributed generation." The

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[39] California Public Utilities Code § 2827(g).

[40] D.11-07-031 at 17.

new law requires an eligible fuel cell customer-generator to use technology that the CPUC determines will achieve reductions in emissions of greenhouse gases and meets emissions requirements for eligibility for funding pursuant to the self-generation incentive program. Therefore, renewable-powered fuel cells get full retail rate NEM, and are thus eligible for VNM; and non-renewable fuel cells that meet the emission performance standard receive NEM at the generation rate only (PU Code § 2827.10), and are thus not eligible for VNM.

Conclusion Issue 12:

- VNM tariffs shall be updated to reflect the expanded technology eligibility set out in SB 489 which became effective on January 1, 2012.

COMMENTS ON DRAFT RESOLUTION

This section discusses the comments received on the draft resolution and changes made to the final revised draft resolution.

This resolution was served to the R.10-05-004 service list for a 20 day comment period. Ten parties commented on the Draft Resolution: PG&E, SCE, SDG&E, Joint VNM Parties[41], California Center for Sustainable Energy (CCSE), California Farm Bureau Federation (CFBF), Everyday Energy, TerraVerde, California's Coalition for Adequate School Housing (CASH), Bloom Energy Corporation and ClearEdge Power, Inc. (Bloom and ClearEdge). Four parties provided reply comments: PG&E, SCE, SDG&E, and Joint VNM Parties. The issues raised are discussed and addressed below.

[41] Interstate Renewable Energy Council, Inc., the Vote Solar Initiative, California Solar Energy Industries Association, and Recolte Energy.

Comment Issue 1: Justification for Site Assessment Fee (OP 2)

PG&E and SCE Comments

Both PG&E and SCE request that OP 2 be modified to reinstate their respective originally proposed Site Assessment Fees, and to remove the requirement that the IOUs modify their interconnection applications to "collect the necessary technical details" from VNM interconnection applications.

Conclusion: OP 2 will remain in place with one technical modification. To be clear, we did not reject the site assessment as a service that IOUs can provide to VNM customers –we rejected the fees as proposed at this time. We also asked the IOUs to track their site assessment costs and to seek recovery at a later time when the Commission can also consider if site assessment fees are justified for all VNM arrangements.

Comment Issue 2: Set-Up and/or Monthly Fees, Modification Charges, and Frequency of Credit Allocation Changes (OPs 3, 4, & 5)

PG&E, SCE, and CCSE Comments

PG&E does not object to the $25 per Benefiting Account Set-up Fee and $500 per VNM arrangement cap, but requests that language be modified in the Draft Resolution "so there is no tie between this fee and the fee in the RES-BCT program." PG&E requests that OP 5 be modified to reinstate its originally proposed Account Modification Fee of $3 per Benefiting Account change. It would rather charge the same fee for each account change so as to avoid the cost of tracking when a change is provide at no charge (1st change free each 12 months) and when it is charged for.

SCE requests the Commission to remove the Set-up Fee cap and to reinstate SCE's originally requested $11.02 Modification Fee to avoid shifting unrecovered costs to SCE's non-participating customers. SCE further clarifies that it expects

to incur $1.45mm to complete automation of its VNM billing system, which is higher than the $915,906 noted in the Resolution.

CCSE requests that Commission reconsider allowing Set-up and Modification Fees for the IOUs and it asks that the Resolution be modified to specify that "VNM [billing system implementation] costs incurred subsequent to the effective date D.11.07-031 should be recovered independent from CSI, in the IOUs future rates."

Conclusion: No modifications are made to the fee structure ordered in OPs 3, 4, and 5 of the Draft Resolution. Regarding fees, D.11-07-031, OP 2 allowed the utilities to "propose a one-time account set up fee and monthly administrative fee for VNM service. The utilities may seek recovery of VNM implementation and set up costs in their future general rate cases."

The Commission's decision in this Resolution on Set-Up and Modification fees strikes a balance for reasonable, scalable, uniform user fees based on justified marginal costs. The utilities should try to maximize their efficiency and minimize the cost of billing while leveraging their substantial prior investments in VNM billing automation. In their reply to AL protests SDG&E made reference to the fee structure adopted in RES-BCT as justification for their proposed VNM fee structure. Therefore this language shall remain in the Resolution discussion. Minor modifications to the Issue 2 Discussion have been made to reflect that SCE will incur $1.45mm in total when it completes automation of its VNM billing system.

Comment Issue 3: Allocation of Credits that are not Applied due to Occupant Non-Participation or Inactive Account (OP 6)

The IOUs all commented in opposition to the Draft Resolution's requirement that the utilities provide the "system operator the option to designate the disposition of unallocated credits to either the Generating Account, the Common Area Account, or evenly to all Benefiting Accounts."[42] SDG&E notes that "applying credits evenly to all benefiting accounts is extremely problematic from a billing perspective."[43] SCE, similarly, argues that there will be "an increase in system development costs for billing the unallocated credits for VNM."[44] PG&E expresses concern that it lacks the information to know when a unit associated with a benefiting account will go vacant, and that re-billing to account for potential frequent occupancy changes could be extremely resource intensive."[45]

The Joint VNM Parties acknowledged the IOUs concern that "administering unallocated credits could prove inefficient.."[46] and noted the importance of administrative inefficiency to a successful VNM program. The Joint VNM Parties support SDG&E's proposal that the Commission require the operator to designate a single account for the utility to apply the unallocated credit. The Joint VNM Parties, however, suggest that the owner have the prerogative of designating the account, and that the designated account need not be a "common area" account, as SDG&E proposes.

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[42] *See* Draft Resolution at p. 24.

[43] *See* SDG&E Comments at p. 1.

[44] *See* SCE Comments at p. 4.

[45] *See* PG&E Comments at pp. 5-6.

[46] *See* Joint VNM Parties Reply Comments at pp. 2.

Conclusion: The Commission agrees with the Joint VNM Parties' proposal. OP 6 is modified to read:

"The respective credit allocation forms of each IOU shall provide the system operator the option to designate the disposition of unallocated credits to either: the Common Area Account, or one Benefiting Account."

Comment Issue 4: Definition of System Owner or Operator (OP 7)

PG&E requested that the Commission clarify: 1) whether VNM service is limited to bundled service accounts customers; 2) whether VNM service is available to master metered accounts. SDGE asks that the language "one or more" be struck from the definition of "Qualified Customer" so as to prevent a situation where VNM is made available to a single Benefiting Account and because they believe the Commission did not intend VNM to be available for master metered customers. The Joint VNM Parties object to removal of this language pointing out that a building owner/operator could have one or more meters to which it wants to provide VNM service such as multiple Common Area accounts with separate meters.

Conclusion: There is nothing in D.11-07-031 that limits VNM service to bundled service accounts only. CCA and DA customers are currently eligible for NEM and now VNM. The issue of whether master meter accounts are eligible for VNM service is currently in dispute among SDG&E and Everyday Communications Corp[47]. We will not weigh in on that formal complaint, but instead reiterate the intent of VNM through the revised definition of "Qualified Customer" found in OP 7 which removes the "bundled service" language.

[47] Pending SDG&E Formal Complaint C.11-09-013.

Comment Issue 5: Generating Account Holder's Ability to Verify Allocations Made to Benefiting Accounts (OP 8)

Numerous parties wrote comments in support of the DR's proposal for resolving this issue. The Commission may also sponsor a workshop if needed to help the parties resolve this issue.

Conclusion: No changes needed.

Comment Issue 6: Definition of Service Delivery Point

Joint VNM Parties Comments:

The Joint VNM Parties are concerned that PG&E's definition of the term Service Delivery Point is unreasonably restrictive because it precludes ALL customers from participating in "expanded" VNM, and undermines "meaningful expression of VNM." despite the Commission's intent. The current utility definition of SDP limits VNM arrangements to a very small subset of all multi-tenant and multi-metered properties in the state. They suggest that the way to expand VNM consistent with Commission intent is to "define SDP in the multi-tenant or multi-meter context as the point at which a distribution line extension, coming off the general distribution systems, enters the multi-tenant or multi-metered property."[48]

The Joint VNM Parties accept the SDP restriction, but note that the source of disagreement among stakeholders concerns a scenario where there are several buildings on a property—each with one or more meter banks—that are served by a single distribution line extension. They ask "are those buildings receiving

[48] *See* Joint VNM Parties Comments at pp. 2.

service from a single distribution line extension served through a single SDP or through multiple SDPs?" and they recommend that the answer is one SDP. The argument put forward by the Joint VNM Parties is summarized as follows:

> In our view, however, the fact that a property owner pays for the installation of distribution extensions serving other buildings on their property should have some bearing. Even if those facilities are ultimately transferred to utility control, the property owner's payment for these facilities mitigates the cost-shifting concerns that animated the Commission's decision concerning need for an SDP limitation. Moreover, the property owner's payment for utility extension facilities to serve the multi-tenant buildings within the property boundary supports the view that the meter(s) or meter bank(s) at the end of these distribution extensions should not be seen as separate SDPs.[49]

The Joint VNM Parties believe it is appropriate for the Commission to further clarify that VNM is a unique circumstance, and agree on a different designation of SDP for purposes of determining VNM eligibility.

CCSE Comments:

CCSE requests that the Commission set a course for how a broader definition of a "site" – similar to that developed for the revised VNM MASH tariff – will be considered by the Commission for expanded VNM in the future.

[49] *Ibid* at 4.

California Farm Bureau Federation Comments:

The Farm Bureau is concerned that the SDP policy unreasonably limits VNM arrangements for renewables in the agricultural sector. They want clarity that each service line extending from the utility's grid into the multi-metered property should be eligible for VNM under one VNM arrangement.
Farm Bureau remarks that the tariffs should "ensure that the intent of the Commission decision to encompass multi-meters is facilitated."

Everyday Energy Comments:

Everyday Energy agrees with Joint VNM Parties about SDP, and suggests that the boundary for eligibility be defined where the utility de-energizes and re-energizes a building.

Terra Verde Energy Partners:

They represent "land-locked" school districts that have little or no access to solar with a potential capacity of 10MW. They recommend that the CPUC go further in expanding virtual net metering. They argue that limiting VNM to a single SDP limits eligibility for VNM in a way that is contrary to the public's interest in making solar PV a viable option for all School Districts and other public agencies. The believe cost shifting associated with sharing VNM credits across multiple SDPs is minimal, and that larger systems provide economies of scale that are a benefit to ratepayers.

Coalition for Adequate School Housing (CASH) Comments:
CASH considers the SDP limitation "discriminatory" and recommends that the CPUC expand VNM beyond the single SDP as defined. CASH believe it is in the public's interest to provide equal opportunities to all California schools to be able to benefit from solar and net metering. The believe cost shifting associated with sharing VNM credits across multiple SDPs is minimal, and that larger systems provide economies of scale that are a benefit to ratepayers.

PG&E and SCE Comments:

PG&E is firm in its request to maintain the boundary of VNM as one SDP. PG&E disagrees with the Joint VNM Parties proposed definition of SDP which it views as inconsistent with D. 11-07-031.

SCE urges the Commission to reject the proposals of the Joint VNM Parties, the Farm Bureau, and CCSE. Both utilities reiterate that D.11-07-031 resolved the issues of single SDP. Section 4 of D.11-07-031, pp. 5-22 discussed the SDP issue at length and defined the SDP as the "demarcation between the customer-owned electrical system and the utility distribution system." D.11-07-031 "expressly mentioned and then rejected" many of the arguments put forward at the time for allowing multiple SDPs in expanded VNM.

SCE argues that the Advice Letter process is not the appropriate forum to change a Commission-approved definition of VNM SDP boundary. Instead, SCE suggests the proper procedure is to file a petition for modification of the decision pursuant to Rule 16.4 of the Commission's Rules of Practice and Procedure.

Conclusion: While staff acknowledges that at some point it may be useful to revisit the rationale of the single SDP demarcation versus adoption of a site definition similar to that governing VNM eligibility for MASH participants, we nevertheless conclude that the scope of the definition of the single SDP should not preclude certain configurations, such as those involving multiple buildings with service line extensions connected by a single service drop onto the multi-meter property.

Staff also acknowledges that the decision to limit each VNM arrangement to meters served by a single SDP could result in some scenarios where VNM's availability is limited in ways that are counter-intuitive to the intent of VNM. For example there could be a property with two multi-tenant building served by two SDPs. If the solar resource of each building was equal then two separate VNM arrangements could be administered by the property manager. If building "A" had good solar and building "B" was shaded then only building A could

participate in VNM even though a large enough DG system could be built on building A to cover the load of both buildings via a VNM bill credit sharing arrangement. The alternative for B would be to install a separate inverter and connect physically with electric lines to building A which entails additional expense.

To clarify the Commission's intent D.11-07-031 at 16, states that "While SCE's proposal for a distribution charge for sharing across multiple SDPs may be worthy of consideration in the future, we do not want to delay implementation of VNM expansion while we examine this idea. Instead, we will limit VNM to customers served by a single SDP."

A new ordering paragraph 17 is added to read:

"For purposes of VNM service the Service Delivery Point (SDP) will be defined as the point where the distribution extension line drops from the utility's primary distribution lines to deliver power to the customer. Extension lines that deliver power to other meters on the property are not considered separate SDPs. The Commission shall initiate a process to consider alternatives to limiting VNM to a single SDP that enable more equitable access to VNM service by customers on multi-meter and multi-tenant properties served by multiple SDPs."

Comment Issue 7: Demand Response and Solar Tariffs (OP 9, OP 10)

SCE and CCSE are supportive of the language in OP 9 as currently written. PG&E is supportive of dual participation by VNM customers in many demand response programs in a manner consistent with the treatment of regular NEM customers, but prefers the language in OP 9 be simplified to: "NEMV customers are eligible for the same demand response programs as NEM customers." SDG&E is opposed to OP 9, because it believes it shifts costs to non-participants.

SCE supports the language in OP 10. PG&E supports the intent of OP 10, but seeks to further clarify the intent that any payments for demand response be

based solely on the changes to the customer's load, excluding the impact of any VNM generation.

Conclusion OP 9: We agree in part with the language proposed by PG&E. OP 9 is modified to read:

"VNM customers are eligible for the same demand response programs and solar tariffs as NEM customers."

Conclusion OP 10: We agree in part with the language proposed by PG&E. OP 10 is modified to read:

"Demand response payments to VNM customers shall be based on the customer's metered usage disregarding any contributions from virtually net-metered generation. Similarly, any other demand response programmatic elements that are affected by a customer's load (e.g., program eligibility) should also exclude from consideration any impacts of VNM generation."

Comment Issue 9: Clarify Applicability of VNM General Market Expansion (OP 11)

PG&E objects to the term "multi-meter" appearing in OP 11, because they argue that neither D.11-07-031 nor the DR define this term. We added OP 11 expressly to clarify the intent of D.11-07-03, OP 2 so that the IOUs would modify their tariffs to include language that is consistent with D.11-07-031. We believe DR OP 11 accomplishes this purpose, by clarifying that VNM expansion is intended for multi-meter and multi-tenant properties where tenants can be renters or owners.

Conclusion: No further changes are needed.

Comment Issue 10: Net Generator Output Meters (NGOMs) for VNM Generators (OP 15)

Joint VNM Parties Comments:

Requiring a net generation output meter (NGOM) and a performance-based incentive (PBI) meter used for the CSI Program is duplicative and unnecessary.

PG&E Reply Comments:

PG&E agrees with the Joint VNM Parties that "customers who are both participating in PG&E's NEMV tariff and receiving CSI Performance Based Incentive (PBI) payments do not need separate net generation output meters (NGOM) for reporting generation for billing and for calculating PBI payments."[50] PG&E currently employs a method of using a single NGOM for customers both participating in NEMMT[51] and receiving CSI PBI payments. PG&E could adopt a similar practice for VNM.

Conclusion: We make the same conclusion that all IOUs and CSI PAs could adopt the same practice for VNM as PG&E, though not all of the utilities responded to this point. The FC 15 is removed from the Resolution and a new Ordering Paragraph 15 is added that reads:

"Utilities shall ensure that customers using PBI meters for CSI incentives will not be required to install an additional NGOM meter for VNM. CSI Program Administrators shall make changes to the CSI Program Handbook to allow combined metering methods. Customers that are not taking PBI incentives under the CSI Program are required to install an NGOM meter. In order to inform customers, IOUs should include the cost of NGOM meters of various

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[50] *See* PG&E Reply Comments at pp. 8.

[51] NEMMT refers to a multiple tariff interconnection option.

classes in their revised VNM tariffs. The cost of these NGOM meters is subject to reasonableness review."

Everyday Energy Comments:

Everyday Energy raises different concerns over the cost of NGOM meters and specifically asks for an ordering paragraph that says: "The utilities must specifically provide a just and reasonable cost for a generator output meter used for virtual net metering."[52] Everyday Energy is concerned with the costs of the NGOM meters, citing unexpectedly high charges for meters at some projects.

Conclusion: Rule 21 (f) establishes the cost of meters. When customers exceed the amperage limitations of one meter, a 200-class meter, then they must use a CT-meter. The costs of these two meters are different. IOUs should inform customers of the costs of these meters. An additional sentence is added to the new OP 15 that reads:

"In order to inform customers, IOUs should include the cost of NGOM meters of various classes in their revised VNM tariffs. The cost of these NGOM meters is subject to reasonableness review."

Comment Issue 11: Demand Charges for VNM Customers (OP 12)

The IOUs all propose that "demand" charges be dropped from OP 12, which requires a VNM customer to be treated identically to a NEM customer "for purposes of calculation of all customer charges, standby charges, and demand charges." The Joint VNM Parties wrote in their reply comments: "The IOUs all observe that VNM customers and NEM customers are not identical for purposes

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[52] *See* Everyday Energy Comments at pp. 7.

of calculating demand; an eligible customer-generator serves the on-site load of a NEM customer, but does not offset the demand of a VNM customer."[53] SCE noted: "…creating a structure for 'virtual' demand credits can be an exceedingly expensive and complicated task."[54]

The Joint VNM Parties acknowledge the potential benefit to VNM customers of demand credits is "likely to be outweighed by the additional complexity and costs of administration for the IOUs." Further, they "believe that SCE and PG&E offer a practical compromise that should be pursued at this time: allow utilities to charge the incremental billing costs to customers who wish to receive a demand credit."[55]

Conclusion: The "demand" charges shall remain in OP 12, but additional language is added to OP 12:

"Utilities may charge the incremental billing costs to VNM customers who wish to receive a demand credit subject to a review for reasonableness."

Comment Issue 12: Fuel Cell Customer Generators Eligibility for VNM

Bloom and ClearEdge ask that non-renewable fuel cells that meet the emission performance standard receive NEM at the generation rate only (PU Code § 2827.10), and be eligible for VNM ***at the generation rate only***. D.11-07-031 limited VNM to generation technologies that receive full retail rate NEM.

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[53] *See* Joint VNM Parties Reply Comments at pp. 3.

[54] *See* SDG&E Comments at pp. 3.

[55] *See* SCE Comments at pp. 5; PG&E Comments at pp. 9.

Bloom Energy/ClearEdge argues that both non-renewable and renewable fuel cells should be eligible for NEMV. D.11-07-031 expanded VNM eligibility to "any DG technology that is eligible for full retail rate credit under NEM." (CoL 5 at pp. 62.) Non-renewable fuel cells only get a generation rate credit under Public Utilities Code section 2827.10(e). The decision stated that, "fuel cell NEM customers do not receive a full retail credit. Thus, … fuel cell NEM customers would not be eligible for the VNM program." (p. 17.) Fuel cells fueled by renewable fuel will be eligible for ordinary NEM, and so will be eligible for NEMV when the NEMV tariffs are updated to reflect the expanded technologies covered by SB 489. However, the request of Bloom/ClearEdge that non-renewable fuel cells should qualify for VNM is at odds with D.11-07-031, which says VNM is only available for DG technology receiving a full retail credit (pp. 17, 65, OP 2).

Conclusion: No further change required.

Comment Issue 13: De-Energize, Re-Energize Interconnection Services and Fees (new issue)

Everyday Energy Comments:

Everyday Energy brought up some issues surrounding De-energizing and Re-energizing a building during interconnection of the system. Because the nature of VNM arrangements requires that the system be wired into the utility side of the line, power to the building must be disconnected so that this procedure can be safely performed. Everyday Energy objects to recent charges for this service, claiming that on numerous projects SDG&E established a "course of dealing" in which they did NOT charge the customer for the de-energize process. Everyday Energy proposes that "De-energize and Re-energize interconnection services ordered at the utilities' [sic] convenience during normal business hours by or on

behalf of a host customer for a line side buss tap to establish virtual net metering shall be conducted by the utility at no charge so long as no changes are being made to the underlying existing service."[56]

SDG&E Comments:

Pursuant to Electric Rule 16 (f)(2)(a), SDG&E says it typically handles requests to de-energize buildings at no charge to customers when the work is considered simple, relative to other work they might perform on the distribution system on a customer's behalf, and can be conducted at the utility's convenience. With solar PV, this typically would include smaller systems on a panel that is 200 amps or less. SDG&E responded to Everyday Energy's comments, and noted that the system described by the party was a 1200-amp 3-phase panel. Due to the size and relative complexity of this system configuration, SDG&E charged the customer per Rule 16 (F)(2)(b).

Conclusion: Staff acknowledges the utility's right to charge customers for work on existing services under Rule 16 (f)(2)(b), and denies that a "course of dealing" prevents SDG&E from charging the customer. While this rule does refer to "Applicant Convenience," it does not necessarily refer to a timeframe, but rather the scope of work to be performed. In this case, the customer had a more complex arrangement than what is typical or considered utility convenience. However, staff also shares concerns that uncertainty regarding utility charges—or seemingly high charges—might be objectionable to solar customers, and that the utilities shall inform the customer at the site assessment about what reasonable disconnect/reconnect procedure charges they may expect at the time of interconnection and also include this information in the VNM tariff.

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[56] *See* Everyday Energy at pp. 7.

New Finding and Conclusion 16:

"The utilities can follow Rule 16 (f)(2)(a) for disconnect/reconnect procedures considered simple and straightforward and perform the work at their own convenience and expense. Disconnect/reconnect procedures for larger systems may be considered atypical, and therefore utilities are allowed under Rule 16 (f) 2 (b) to charge customers for work to existing service."

New Ordering Paragraph 16:

"The utilities shall inform the customer at the site assessment about what reasonable disconnect/reconnect procedure charges they may expect at the time of interconnection and also include this information in the VNM tariff."

FINDINGS AND CONCLUSIONS:

1. PG&E's AL 3902-E, SDG&E's AL 2286-E, and SCE's AL 2625-E were filed to create tariffs to implement Ordering Paragraph 2 of D.11-07-031.
2. In D.11-07-031, Ordering Paragraph 2 allowed utilities to propose a one-time account set-up fee and monthly administrative fee for VNM service, and permits the utilities to seek recovery of VNM implementation and set up costs in future general rate cases. The Decision did not expressly authorize site assessment fees, and the presently effective tariffs for VNM MASH and RES-BCT do not require site assessment fees. SDG&E did not propose a site assessment fee for VNM in its AL.
3. The services proposed under a site assessment fee are largely services that are already provided to other NEM customers as part of the interconnection application process.
4. All the utilities have established automated billing systems that can handle VNM monthly billing arrangements based on previous investments made to establish billing infrastructure for VNM MASH and RES-BCT. The fixed costs for VNM billing infrastructure have been or will be expensed by July 2012 to the CSI general market program administration budgets, per D.08-10-036. Costs incurred to this point by the three utilities for automatic billing systems have been or will be recovered from CSI general market administrative

budgets. It is assumed that these systems are fully automated or will be fully automated by July 2012 and that there will be no further costs; however, if there are reasonable costs associated with VNM billing infrastructure in the future then these should be capitalized and recovered in future rate cases.

5. The utilities will incur marginal costs, such as account set-up costs to establish VNM service for multiple accounts under each VNM arrangement which are recovered from the user set-up fees.
6. The utilities will incur marginal costs when VNM account modifications are required, such as changes to credit allocations or adding/removing VNM service for a Benefiting Account. These are recovered from the user modification fees.
7. For VNM to be practical, necessary account changes should be accommodated at a reasonable cost.
8. The IOUs have not adequately justified why the proposed fees are significantly different for each IOU.
9. In the event of unallocated credits there should be a clear default allocation provision.
10. A range of possible ownership structures may arise to implement VNM.
11. Investors and operators of VNM arrangements have an interest in the owner/operator's ability to verify that Benefiting Account holders receive the proper amount of credits allocated to them in the VNM arrangement.
12. For purposes of the General Market Virtual Net Metering tariff, the SDP identifies the physical location at which the Generating Account, its designated Benefiting Accounts, and the eligible generating facility, are all connected with the utility distribution system.
13. The utilities have not made a convincing argument that VNM customers should be precluded from participating in a DR or solar tariff program.
14. The intent of D.11-07-031 was to expand VNM to all multi-tenant and multi-meter properties, including but not limited to residential (whether rental properties or condominiums), commercial and industrial properties.
15. SB 489 extends net energy metering to all technologies eligible for the California RPS, and by extension expands the technologies eligible for VNM, which relies on the same definition for eligible generation.

16. The utilities can follow Rule 16 (f)(2)(a) for disconnect/reconnect procedures considered simple and straightforward and perform the work at their own convenience and expense. Disconnect/reconnect procedures for larger systems may be considered atypical, and therefore utilities are allowed under Rule 16 (f) 2 (b) to charge customers for work to existing service.

THEREFORE IT IS ORDERED THAT:

The request of PG&E, SDG&E, and SCE to implement D.11-07-031, O.P. 2, as detailed in Advice Letters 3902-E, 2286-E, and 2625-E (respectively) is approved with the following conditions and modifications:

1. All tariffs shall be re-filed within 10 days to comply with the orders herein.
2. We reject the proposed site assessment fees. Utilities shall modify their application forms to collect the necessary technical details from VNM interconnection applications. If after review of the application the IOUs determine a site assessment is essential, the utilities may conduct a site assessment and track the expenses[57] associated with such on-site VNM site assessments for the "complex service configurations" and one year from the effective date of this resolution may request recovery of those expenses and/or address the need for and criteria that would trigger a VNM site assessment going forward.
3. The utilities may charge to the Generating Account a one-time set-up fee per VNM arrangement (defined as a Generating Account providing credits for one or multiple Benefiting Accounts.) The fee may be no higher than $25 per Benefiting Account and is capped at $500 per VNM arrangement.
4. The proposed monthly billing fees are denied.
5. The utilities shall allow account modifications as frequently as needed. There shall be no charge for up to one change per Benefiting Account per 12 month

[57] Recovery to occur in future rate case.

period. Subsequent changes per 12 month period may be charged up to $7.50 per account change, billed to the Generating Account.

6. The respective credit allocation forms of each IOU shall provide the system operator the option to designate the disposition of unallocated credits to either: the Common Area Account, or one Benefiting Account.
7. The IOUs shall adopt a definition of a *Qualified Customer* as their standard definition as follows:

> *"Qualified Customer: A Qualified Customer is either: (i) the Owner or Operator of the multi-tenant, multi-meter Property with one or more separately metered accounts; (ii) an entity authorized by the owner to install and/**or** operate the generating facility and who will be the IOU's customer of record for the Generating Facility; or (iii) a tenant/occupant of the Property with a separately metered account, which is physically connected to the same SDP to which the Eligible Generator is connected."*

8. The IOUs shall work with Generating Account Owners and will initiate discussions with the Joint Solar Parties and the Commission to identify data that can be provided to the Generating Account Owner to enable them to verify that Benefiting Account holders are properly credited. These discussions and subsequent solutions should take into account potential relevant outcomes of the Smart Grid Rulemaking (R.08-12-009). Within six months of this resolution the IOUs shall file Advice Letters with proposed solutions to this issue.
9. VNM customers are eligible for the same demand response programs and solar tariffs as NEM customers.
10. Demand response payments to VNM customers shall be based on the customer's metered usage disregarding any contributions from virtually net-metered generation. Similarly, any other demand response programmatic elements that are affected by a customer's load (e.g., program eligibility) should also exclude from consideration any impacts of VNM generation."
11. The IOU ALs shall be modified to further clarify the applicability of VNM to all multi-tenant and multi-meter properties which includes all residential

(whether rental properties or condominiums), commercial and industrial properties.

12. For purposes of calculation of all customer charges, standby charges, and demand charges a VNM customer should be treated identically as a NEM customer, pursuant to PU Code § 2827(g). Utilities may charge the incremental billing costs to VNM customers who wish to receive a demand credit subject to a review for reasonableness.
13. SCE shall remove the December 31, 2015 sunset language from their VNM tariffs.
14. VNM tariffs shall be updated to reflect the expanded technology eligibility set out in SB 489, which became effective on January 1, 2012.
15. Utilities shall ensure that customers using PBI meters for CSI incentives will not be required to install an additional NGOM meter for VNM. CSI Program Administrators shall make changes to the CSI Program Handbook to allow combined metering methods. Customers that are not taking PBI incentives under the CSI Program are required to install an NGOM meter. In order to inform customers, IOUs should include the cost of NGOM meters of various classes in their revised VNM tariffs. The cost of these NGOM meters is subject to reasonableness review.
16. The utilities shall inform the customer at the site assessment about what reasonable disconnect/reconnect procedure charges they may expect at the time of interconnection and also include this information in the VNM tariff.
17. For purposes of VNM service the Service Delivery Point (SDP) will be defined as the point where the distribution extension line drops from the utility's primary distribution lines to deliver power to the customer. Extension lines that deliver power to other meters on the property are not considered separate SDPs. The Commission shall initiate a process to consider alternatives to limiting VNM to a single SDP that enable more equitable access to VNM service by customers on multi-meter and multi-tenant properties served by multiple SDPs.

This Resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on March 22, 2012 the following Commissioners voting favorably thereon:

PAUL CLANON
Executive Director