Proposed Net Energy Metering 3.0 Tariff Approach

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for
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Basic Principles

- Customers should not be charged for reducing load with solar
- Bypassable charges should be included for imports, not credited for exports
- NEM should not reduce incentives for efficiency
- Exports should be priced at full avoided costs
- NEM 3.0 should encourage grid integration of storage resources
- Short-term load fluctuations do not impose additional costs on the system and should not increase charges
- DAC and small-business should receive preference
No Penalties for reducing use of system

• Meeting carbon targets requires zero net-carbon buildings
• There are no rate penalties for reducing system load through:
  • Insulation
  • Efficient appliances
  • Solar water heating
• Replacing grid energy with DER energy is just another way of reducing consumption
• Customers should not be penalized for reducing their load on the system through BTM
  • No grid access charges should be assessed on solar system capacity or output
Nonbypassable Charges

- Include in all energy imported and charged to NEM customers
- Exclude from all energy exported and credited to NEM customers
- NEM customers pay nonbypassable charges whenever they take grid energy over the netting period.
NEM and Efficiency

• Do not reduce incentives for energy efficiency or conservation
• Energy prices should be maintained
• Revenues should not be diverted to
  • High monthly fixed charges
  • Demand/subscription/access charges
• Existing demand charges should be reduced to:
  • Improve efficiency incentives
  • Focus incentives for storage and load shifting on system conditions, not customers’ individual peaks
    • Net load, not total load, matters
    • Peak net loads matter over multiple hours, not minutes
Exports at full avoided costs

• Current annual netting limited to some average energy costs
• All the marginal/avoided benefits should be included:
  • Energy cost
  • Environmental benefits
  • Generation capacity
  • Transmission capacity
  • Distribution capacity
    • Export value may be negative in some periods
• Net by TOU period, including full export benefits for each period
Encourage grid integration of storage

• NEM customers currently cannot charge storage from grid
  • Constrains preparation for potential outage conditions
  • Precludes use of BTM storage for shifting grid energy from off-peak to peak periods
  • Discourages installation and optimal use of storage

• SBUA proposal allows NEM customers full use of storage
  • Export rate set at marginal cost for most customers
  • No uneconomic shifting between periods

• Allow storage of grid energy in midday surplus for evening peak
• {Reflect full marginal-cost differentiation in TOU rates}
Load fluctuations and netting periods

• A customer’s variation in net load in a daily TOU period does not cost the system more than a flat load
  • Generation energy cost is unlikely to correlate well with the customer’s load
  • Generation reliability (LOLE) is determined by hours of high net load
  • T&D stress is from cumulative heat buildup, over hours of a high-load day

• Short netting increases charges without cost justification

• SBUA proposes initial averaging over
  • Daily TOU period for customers with storage, eventually for all NEM
  • Monthly TOU period initially for most non-storage NEM
  • Annual TOU for disadvantaged groups
Netting Details

• Daily Netting
  • On each day, for each period (e.g., 5 PM to 9 PM peak period)
  • Compute net imports or exports
    • If imports > exports, charge at full retail rate
    • If exports > imports, credit at full export rate
  • Sum over month

• Monthly Netting
  • For each TOU pricing period, sum $imports - exports$ over the month
    • If sum is positive, charge at full retail rate
    • If sum is negative, credit at full export rate

• Annual Netting
  • For each TOU pricing period, sum $imports - exports$ over the year
    • If sum is positive, charge at full retail rate
    • If sum is negative, credit at full export rate
### Effect of Netting Rules

#### Annual Electric Bills Under NEM Billing Scenarios, SDG&E TOU-DR1 Rate

<table>
<thead>
<tr>
<th>Billing Approach</th>
<th>Energy Charge</th>
<th>Export Credit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEM 2.0</td>
<td>$3,441</td>
<td>-$3,267</td>
<td>$431</td>
</tr>
<tr>
<td>Monthly Netting</td>
<td>$1,732</td>
<td>-$304</td>
<td>$1,642</td>
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<tr>
<td>Daily Netting</td>
<td>$2,881</td>
<td>-$436</td>
<td>$2,659</td>
</tr>
<tr>
<td>No DER System</td>
<td>$5,948</td>
<td></td>
<td>$6,114</td>
</tr>
</tbody>
</table>

Total includes Net Surplus Compensation, Minimum Bill, Baseline, and Nonbypassable Charges

Coastal load shape from Lookback Study workpapers
Accelerating targeted solar adoption

- Keep CARE, FERA and small commercial solar on annual netting
  - Require TOU rate
  - Maintains benefit of exports in high-value periods
- These groups receive lower solar compensation than general residential, due to lower standard rates
Thank you

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