Proposed Net Energy Metering 3.0 Tariff Approach

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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

Billing Approach	Energy Charge	Export Credit	Total
NEM 2.0	$3,441	-$3,267	$431
Monthly Netting	$1,732	-$304	$1,642
Daily Netting	$2,881	-$436	$2,659
No DER System	$5,948		$6,114

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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