Value of Distributed Energy Resources
Value Stack Expanded Eligibility

Overview of PSC Order
Webinar for NYC DG Developers
December 3, 2018
Agenda

Value of DER Expansion Order Summary
Expanded Eligibility
Standby and Buy-back Provisions
Q&A
Expanded Eligibility Order Highlights

September 12, 2018: Order on Value Stack Eligibility Expansion and Other Matters ([link](#))

Effective 12/1/18

### Certain restrictions removed

- Removal of size limits based on customer type
- Interzonal credits for RNM & CDG permitted
- Any Tier 1-eligible technology\(^1\) can be a CDG host

### New technologies eligible for Value Stack

- Standalone Energy Storage, Regenerative Braking, and Vehicle-to-Grid (V2G)\(^2\)
- Tidal and Biomass/Biogas
- Newly eligible technologies are subject to Standby and Buy-back provisions

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1. Tier 1-eligible technologies include Solar PV, Wind, Tidal, Fuel Cell, Biomass/Biogas, Micro-Hydro
2. To be eligible for Value Stack accounts with these technologies must go on MHP for import (unless storage capacity < 115% of demand)
Removal of Size Limits Based on Customer Type

• “Removal of Customer-Type Based Technology and Size Limits”

• Any type of customer – any Service Class – can install any technology from PSL 66-j or 66-l up to 5 MW

• VDER Value Stack: no size limitations for residential customers; SC1/EL1 can solar install >25 kW

• Phase One NEM: size limits remain at ≤25 kW for solar, wind, and hydro, and at ≤10 kW for fuel cells
**Updates to Community DG and RNM Conditions**

<table>
<thead>
<tr>
<th>Host Rules</th>
<th>Customer Type / Service Class</th>
<th>Remote Net Metered (RNM)</th>
<th>Any except residential (SC1)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DER Technology</td>
<td>Farm waste, PV, wind, micro-hydro, fuel cell</td>
<td>All Tier 1-eligible technologies</td>
</tr>
<tr>
<td>Satellite Rules</td>
<td>Customer Type / Service Class</td>
<td>Any</td>
<td>Larger satellites, ≥25 kW demand, can only take ≤ 40% of output (unless SC8)</td>
</tr>
<tr>
<td></td>
<td>Account Ownership</td>
<td>Accounts owned in the same name as Host</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Geographic and NYISO zone</td>
<td>Any NYISO zone served by the same utility as the Host</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Minimum number of satellites</td>
<td>1</td>
<td>10 (unless all on same premise or SC8)</td>
</tr>
<tr>
<td></td>
<td>Minimum yearly offtake</td>
<td>N/A</td>
<td>1,000 kWh per satellite</td>
</tr>
<tr>
<td></td>
<td>Can a satellite also be a host?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Can a satellite have multiple hosts?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Can a satellite also be a net-metered customer-generator?</td>
<td>Yes, but not on Buy-back (SC11)</td>
<td>No</td>
</tr>
<tr>
<td>Forms</td>
<td>Application Forms</td>
<td>Form G</td>
<td>CDG Appendix A, B, and C</td>
</tr>
</tbody>
</table>

Yellow indicates recent change
## Value Stack for Stand-Alone Storage

- **Modified Value Stack**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (LBMP)</td>
<td>Yes</td>
</tr>
<tr>
<td>Capacity (ICAP)</td>
<td>Yes, Alternative 3</td>
</tr>
<tr>
<td>Environmental (REC)</td>
<td>No</td>
</tr>
<tr>
<td>Demand Reduction Value (DRV)</td>
<td>Yes</td>
</tr>
<tr>
<td>Market Transition Credit (MTC)</td>
<td>No, stand-alone battery not eligible for CDG</td>
</tr>
<tr>
<td>Locational System Relief Value (LSRV)</td>
<td>Yes, if in eligible location</td>
</tr>
</tbody>
</table>

- **Mandatory Hourly Pricing (MHP):** to be eligible for Value Stack accounts must go on MHP for import (unless storage capacity < 115% of demand)
Application Forms for Stand-Alone Storage: SIR Appendix K

“Energy Storage System (ESS) Application Requirements / System Operating Characteristics / Market Participation” (link)

• Enter all details on specs and planned operating parameters, for example:
  – How and when will it charge and discharge?
  – What is the Protection & Control scheme?
  – Will the system be compensated by the NYISO or a utility tariff?

• Complete electronically in PowerClerk as part of initial application submittal (same for Hybrid)
Application Forms for Stand-Alone Storage: Form G

“Application for Rider R or Standby Service and/or Buy-Back Service”

- Request type of service and compensation:

  - **Section 3. Type of Service Requested**
  
  Please check one of the following services that you are requesting:

  - □ Grand Fathered Net Metering (Rider R) □ Phase One Net Metering (Rider R)
  - □ Value Stack (Rider R)
  - □ Standby Service
  - □ Standby Service for Station Use
  - □ Buy-back Service (SC 11) with Payment for Energy
  - □ Buy-back Service (SC 11) with Value Stack compensation under Rider R
  - □ Standby Service and Buy-back Service (SC 11) with Payment for Energy
  - □ Standby Service and Buy-back Service (SC 11) with Value Stack compensation under Rider R

- Effective 12/1/2018

- Enter key information related to Standby and Buy-Back provisions

- Complete electronically (preferred) or by hand and then sign and attach in PowerClerk as part of initial application submittal
Standby Service & Standby Rates

- Standby Service is provided to backup and/or supplement the energy ordinarily generated by a generating facility on customer premises.
- Customers receiving Standby Service are billed under Standby Service Rates unless exempt.
- If exempt under Designated Technology or Targeted Exemptions, customers are billed under their corresponding standard rate.

**Standby Rate Components:**
- **Contract Demand:** based on the customer’s maximum potential demand on Con Edison’s system.
- **As-Used Demand charges:** based on the customer’s maximum actual demand for each weekday from 8am-10pm.
- **Other misc. charges:** Customer charges, metering charges, associated MACs, SBC, and taxes.
Standby Exemptions

Customers exempt from Standby Service Rates will be billed under standard rates:

- Customers with on-site generation equipment of a total nameplate rating <=15% of the Customer’s maximum potential demand
- SC 1, SC 2, or the energy-only rate of SC 12 Customers
- Customers with a Contract Demand < 50 kW

Designated Technologies Exemption:
- Fuel cells, wind, solar thermal, photovoltaics, sustainably-managed biomass, tidal, geothermal, and/or methane waste that commences operation between July 29, 2003 and May 31, 2019
- Uses Electric Energy Storage with maximum capability up to and including 1 MW
## Standby Exemptions

### Targeted Exemptions – Battery Storage Conditions

<table>
<thead>
<tr>
<th>Targeted Exemption: billed under Standard rates</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>New installs of battery storage no less than 50 kW on or after January 1, 2017</td>
<td>Submits a completed application for interconnection by December 31, 2019, and commences operation by December 31, 2021</td>
</tr>
<tr>
<td>Exempt from Standby Service rates for ten years from the date the battery storage project commences operation*</td>
<td>Total exemption limit of 25 MW of new battery energy storage projects across all customers</td>
</tr>
</tbody>
</table>

*Shadow billing will be provided, for informational purposes, at rates under Rider Q - Option B during the term of such rates, and at the then-effective Standby Service rates thereafter
Standby Exemptions
Additional Metering Requirements

- Customers with Targeted Exemptions must comply with these additional metering requirements:
  - The charging/discharge of the battery storage must be separately metered using an Output Meter that the customer arranges to be furnished and installed at their expense.
    - The Output Meter must consist of PSC-approved revenue grade metering equipment that can communicate with Con Edison metering data system and its associated IT infrastructure.
  - The customer, at its expense, must provide and maintain the communications service for the Output Meter.
Standby Pilot Rate Program (Rider Q)

- Pilot rate program allows options for Standby Service customers to:
  - Option A: Choose their own contract demand with penalties
  - Option B: Select a different As-Used demand period*
  - Option C: Receive credits for consistent export of power via the buy-back (SC-11) rate

* Customers under Option B will also receive shadow billing, for informational purposes, at the applicable Standby Service rates
Electric Buy-Back (SC-11)

- Customer pays a customer charge and a contract demand charge based the generating facility’s ability to deliver energy to the grid

- As an alternative to Value Stack, customers may sell energy to Con Edison:
  - The payment rate for energy will be based on the applicable wholesale rate, which is the Locational Based Marginal Price (LBMP) set by the New York Independent System Operator (NYISO)
  - Customers delivering energy at the secondary distribution level will have the LBMP increased by a factor of 1.066 to account for line losses
Resources

• Con Edison DG website: www.coned.com/dg
• Con Edison solar website: www.coned.com/solar
• Con Edison Guides: www.coned.com/privategenerationguides
• Con Edison VDER info: link
• Con Edison Standby Service, page 156
• Con Edison Customer Project Manager Contact Info: link
• Billing questions
  – Residential customers: netmetering@coned.com or 212-780-6600
  – Large/commercial customers: dl-CCGNet-metering@coned.com
• Technical, process, or rate questions: dgexpert@coned.com
Coming up next...

**DG Winter Installer Workshop**

December 12\(^{th}\), 2018  
1:00 – 4:30 PM  
Check-in begins at 12:30 PM

Con Edison, Edison Room  
4 Irving Place, New York, NY 10003

RSVP by COB Today – Email dgexpert@coned.com
Questions?
# Outcome of Value of Distributed Energy Resources (VDER) Orders

**Impacted Technologies:** Solar PV, Wind, Hydro, Farm Waste Generation, Fuel Cells, Biogas, Tidal, and Battery Energy Storage up to 5 MW AC; and Combined Heat and Power (CHP) up to 10kW AC

<table>
<thead>
<tr>
<th>Systems operating as of March 9, 2017</th>
<th>• No changes; receive Net Energy Metering (NEM) for life of system, can opt-in to new structure</th>
</tr>
</thead>
</table>
| New residential & small commercial systems installed through sooner of January 1, 2020 or Phase 2 Order. | • Eligible for 20 years of NEM (“Phase One NEM”)  
• Residential size restrictions: ≤25 kW for Solar PV, Wind, and Hydro; ≤10 kW for fuel cells |
| New large commercial and industrial, remote net metering installations | • Receive “Value Stack” without transition credit for 25 years |
| New Community DG projects | • Tranche 0 receives NEM for 20 years  
• Others receive “Value Stack” for 25 years  
• Mass market subscribers to Solar PV, Fuel Cell, Micro-Hydroelectric, and Wind CDG receive transition credit (MTC) that declines by tranche |