

Standby Rate + Con Ed Rider Q Fact Sheet

NY-BEST

Summer 2018 – NYSERDA Energy Storage Program

Summary

- Standby rates can give storage vendors more flexibility to manage their customers' electricity bills. This is because demand charges under standby rates are calculated on a daily, rather than monthly, basis.
- Con Ed's [Rider Q tariff](#) (page 68, Option B)¹ is a more granular time-of-use standby rate and has created new opportunities for storage. This rate signals a 4-hour daily peak window that aligns demand charges with when network peaks occur. This contrasts with the conventional standby rates that are structured so that storage vendors must find the customer's peak load within a 10 or 14-hour window.

Background

Customers that are billed for demand charges have multiple delivery rate options to choose from. The standard option is to be billed under a conventional monthly rate, but customers have the option to opt-in to a time of day rate,² a conventional standby rate, or Con Ed's Rider Q as an alternative standby rate. Rider Q is a pilot tariff rate in Con Ed's service territory that provides alternative rate options for energy storage customers receiving standby service. The standby rate was originally designed as the delivery rate for a customer using on-site power to receive supplemental, backup and maintenance power from the grid.³ These rates give electric customers more control of their electricity bill and support the deployment of distributed generation, including behind-the-meter energy storage systems in New York.

The Opportunity for Energy Storage Under the Standby Rate

The standby rate applies only to customers who have their own distributed energy resources ("DERs") on-site, including solar, combined heat and power ("CHP"), and storage. In Con Ed's territory, the conventional standby rates are Rate III or Rate IV of SC 5, Rate IV or Rate V of SC 8, 9, or 12, or Rate II of SC 13. The standby rate calculates demand based on daily, rather than monthly, peaks. Daily, rather than monthly, peak load management gives a storage vendor the flexibility to operate the storage system to best serve the customer without the risk that a missed peak could greatly increase the demand charges for the month. For example, a storage vendor has the flexibility to participate in a demand response event rather than reduce the customer's peak load on a given day.

Customers that install a storage system less than 1 MW, but at least 15% of the customers peak load, may voluntarily opt-in to receive conventional standby service (standby service is required if greater than 1 MW). However, under the Rider Q tariff, there is a standby option for all storage projects as long as they are sized at 50 kW or larger and receive service through one of Con Ed's eligible service classes (SC 5, 8, 9, 11, 12, and 13).

The chart below compares delivery service under a monthly demand rate and a standby rate that is based on daily demand.

¹ <https://www.coned.com/en/rates-tariffs/rates>

² This resource is focused on standby rates. For information on monthly rates: <https://www.nysesda.ny.gov/All-Programs/Programs/Energy-Storage/The-Opportunity/Building-Owners-and-Site-Managers/Benefits>

³ Please see: <https://energy.pace.edu/project/combined-heat-and-power/> for background on the standby rate.

Standard Demand-Billed Customer	Conventional Standby Rate or Rider Q Customer
<p>1. Demand charge is a \$/kW charge that is based on the customer’s peak demand in a monthly billing period.</p> <p>a. Some customers are billed based on a single month’s peak. For others on a time-of-day rate, three charges are summed that are based on the highest peaks reached within three time-intervals during the month.</p> <p>b. A single missed peak can result in a large increase in the bill for the entire month.</p>	<p>1. Demand charge is a \$/kW charge calculated on a daily basis. The customer pays the sum of daily demand peaks in a monthly billing period.</p> <p>a. Under the conventional standby rate, it is based on demand during Monday-Friday, 8 AM-10 PM in Con Ed’s service territory.</p> <p>b. Under Rider Q, option B (only available in Con Ed’s territory), it is based on demand during the same time window as the conventional standby rate. However, the demand charges are significantly higher during an identified daily 4-hour peak window.</p>
<p>2. Flexibility to forego demand charge reduction on a particular day to pursue other value streams is limited.</p>	<p>2. Compensation can be optimized by electing to forego demand charge reduction (allowing a daily peak) to pursue other value streams (such as demand response), without potentially greatly increasing the entire month’s bill.</p>
<p>A customer’s load profile will have to be analyzed under each billing structure to determine the optimal business model. A thorough evaluation and understanding of the conventional standby rate and Rider Q is vital to successful value stacking, and thus providing the most value to customers.</p>	

Rider Q Tariff and the Growing Opportunity

There are three different rate options for customers who decide to take advantage of the Rider Q tariff. Each of these options is a one-time election. Options A and B are both available to customers that would otherwise be billed under the conventional standby rate and may be a more beneficial variant of the standby rate.

Rider Q Option Name	At a Glance
<p>A: Customer Chooses Contract Demand</p>	<ul style="list-style-type: none"> • Customer takes standby service, but can choose and more frequently modify contract demand level, rather than being set by the utility (this is the customer’s maximum expected demand from the grid) • High penalties for exceeding contract demand
<p>B: Location-Based As-Used Daily Demand Delivery Charges</p>	<ul style="list-style-type: none"> • The tariff has three demand charge periods: <ul style="list-style-type: none"> ○ a decreased demand charge during the 8am-10pm window, M-F, June-September; ○ a significantly increased demand charge for a specified 4-hour peak window, M-F, June-September; and ○ an 8am-10pm window, M-F, all other months. • The time for the 4-hour peak-demand-charge window is pre-set by ConEd and is aligned with when the local network peak occurs. • A narrower time window with increased demand charges represents an opportunity for energy storage developers to target a customer’s peak billing rate while also providing system value.
<p>C: Export Pilot Credit [see Appendix 1]</p>	<ul style="list-style-type: none"> • This provides a method of valuing exported energy. • May create an opportunity for hybridized systems.

Rider Q is available for up to a total of 125 MWs of CHP capacity and battery storage inverter capability, which is allotted as follows: 75 MW for customers that qualify under General Rule 20.3.3⁴ and 50 MW for new or existing customers that do not qualify under that rule. The deadline to apply for the program is December 31, 2021 or when the available MW are fully subscribed, whichever comes first. The term of service under Rider Q is *ten years* from the date the customer commences taking service under this Rider or until the Rider expires (scheduled for January 1, 2032), whichever comes sooner.

Option A: Customer Chooses Contract Demand

Rider Q, Option A is an alternative method for determining the contract demand for a customer on the standby rate. The main components of the cost for electric delivery under the standby rate are the contract demand charge and the daily demand charge (which is the focus of this document and option B, below). The contract demand charge is a \$/kW charge based on a set kW level for each customer that is either chosen by the customer or by the utility. Under Option A, the customer is given the option to select their own contract demand, but they are not allowed to adjust their contract demand down within 12 months of an increase to contract demand.

An exceedance surcharge will apply if the customer’s demand exceeds the selected kW contract demand level (unless there is a preplanned maintenance outage that the utility agrees to). The exceedance surcharge will be equal to the product of (a) * (b) * (c), where:

- A. The maximum actual demand less the contract demand selected by the customer, in kW
- B. The number of months since the contract demand was selected by the customer, up to 36 months
- C. 1.5 times the applicable contract demand rate per kW, in \$/kW

This is an alternative method for calculating the contract demand, whether the customer is receiving demand delivery charges under the conventional standby rate or Rider Q. This may be appropriate for an installation that has predictable energy usage and can avoid the penalties for exceeding their contract demand.

Option B: Location-Based As-Used Daily Demand Delivery Charges

Rider Q, Option B is an alternative method for calculating the as-used daily demand for customers served under the standby rate. The rates for this option vary depending on the customer’s location in Con Ed’s territory. The conventional as-used daily demand charge under the standby rate is a set to a 10 or 14-hour window throughout the territory. Rider Q concentrates the peak hours into a 4-hour window each day, Monday-Friday, June-September. This 4-hour window varies depending on which demand response network (CSRP and DLRP) the customer is located in. The table below illustrates this variation. All demand delivery charges for overlapping periods are additive, so for the 11 AM-3 PM window (Rider Q, Option B) a customer would have an as-used demand delivery charge of \$1.5019/kW.

Conventional Standby Rate (Customer on SC-9 Standby Rate IV, Low Tension Service)	Rider Q: Option B (Customer on SC-9 Standby Rate IV in an 11AM-3PM CSRP Network, Low Tension Service)
As Used Daily Demand Charges: <ul style="list-style-type: none"> • Summer, M-F, 8 AM-6 PM → \$.4866/kW • Summer, M-F, 8 AM-10 PM → \$1.0052/kW • Charges Applicable to all other months, M-F, 8 AM-10 PM → \$.6820/kW 	As Used Daily Demand Charges: <ul style="list-style-type: none"> • Summer, M-F, 11 AM-3 PM → \$.7480/kW • Summer, M-F, 8 AM-10 PM → \$.7539/kW Charges Applicable to all other months, M-F, 8 AM-10 PM → \$.6820/kW
Customer Charge: \$99.42/Month	Customer Charge: \$99.42/Month
Contract Demand Charge: \$7.87/kW	Contract Demand Charge: \$7.87/kW

⁴ General Rule 20.3.3 details exemptions from the standby rate for certain customers that install energy storage and/or CHP, but may voluntarily opt-in.

The opportunity is the greatest in DLRP networks, where the applicable charges for peak hours are the highest. There is a 4-hour window where demand charges are high (the super-peak), and if project developers can focus on reducing demand within this window, valuable savings are available. For more information on the rates in specific networks, see page 68 (leaf 241) in this [PDF](#).

The modeling results below correlate with the modeling completed in the New York State Energy Storage Roadmap by E3.⁵ These models use a perfect knowledge approach and model based on a single representative load profile. The modeling below is an informational resource that may not reflect actual savings at an installed project. The charges below are broken out by whether they are assessed on an energy (\$/kWh) or demand (\$/kW) basis. Fixed monthly metering charges are not included. The energy storage system is sized for a power output of 20% of peak load with an energy capacity of four hours and assumes the customers are in the 2-6 pm CSRP Network.

The “Before Storage” scenario is the customer on the standard monthly rate; the Energy Charges = energy supply + energy delivery charges; and the Demand Charges = demand delivery charge.

The “Rider Q + Storage” scenario is the customer on the Rider Q Rate with storage installed; the Energy Charges = energy supply charge; and the Demand Charges = contract demand + demand delivery charges.

Battery Sized to 20% of Peak Load	Office		Multifamily High Rise, Common Area		K-12 School	
	Before Storage	Rider Q and Storage	Before Storage	Rider Q and Storage	Before Storage	Rider Q and Storage
Annual Bill Savings						
Energy Charges	\$1,117,974	\$943,894	\$214,573	\$142,870	\$62,058	\$42,162
Demand Charges	\$1,245,114	\$1,224,747	\$162,490	\$184,397	\$63,089	\$61,866
Bill Savings		\$194,447		\$49,796		\$21,120
Percent Savings		8.2%		13.2%		16.9%

Note: In some cases, the conventional standby rate may be slightly superior to the Rider Q tariff. Results depend on factors like facility type, CSRP network, whether assuming perfect knowledge or a savings discount, and load profile. Nevertheless, an important benefit of Rider Q tariff is that it provides a predictable 4-hour peak demand window.

Summary

Although the Rider Q tariff currently only applies to Con Ed’s service territory, the NYS Department of Public Service and NYSERDA staff have recommended in the New York State Energy Storage Roadmap that the remainder of the State’s utilities be required to develop a similar optional rate (see page 32 of the Roadmap). The primary opportunity for energy storage systems receiving Rider Q service will likely be through Option B. A project or fleet of projects that utilize Rider Q Option B to reduce demand charges could be a valuable use case, particularly if also accessing a NYSERDA funding opportunity. This resource was created in partnership with NYSERDA under its energy storage program. For more information on any of the opportunities discussed in this fact sheet, please contact info@ny-best.org or energystorage@nyserda.ny.gov.

⁵ See the second chart on page 24 of the Appendix (Table 6). The chart in this resource shows annual savings and the New York State Energy Storage Roadmap shows net present value (NPV) for 20% sizing from the same data: <https://www.nyserda.ny.gov/All-Programs/Programs/Energy-Storage/Achieving-NY-Energy-Goals/The-New-York-State-Energy-Storage-Roadmap>

Appendix 1: Rider Q, Option C: Export Pilot Credit

The Export Pilot Credit (“Credit”) is based on the performance of a customer’s generation facility during the previous two consecutive summers (June 1 through September 30) for which interval data was available (“Measurement Period”). However, the first year a customer seeks a Credit, it is based on the previous summer only. The Credit is based on performance during the Measurement Period, Monday through Friday, 10 AM to midnight for customers in the 7 PM – 11 PM CSRP window, and Monday through Friday, 8 AM to 10 PM for all other customers. The Credit measurement excludes Outage Events and holidays.

$$\text{Export Pilot Credit} = (\text{Performance Adjustment}) * (\text{Contract Demand Delivery Charge/kW under SC-11})^6$$

“Performance Adjustment” means the lesser of: (a) *the lowest kW recorded on the output meter during the Measurement Period* or (b) the Customer’s kW of Contract Demand under SC 11 in excess of the Contract Demand billed under Standby Service rates or the Contract Demand in excess of the as used demand billed under another rate.

Outage Events are made up of up to three events that, in aggregate, equal no more than five 24-hour periods excluding weekends and holidays. These periods are meant to prevent system maintenance from unfairly impacting the system’s compensation. The five 24-hour periods cannot be broken up into smaller periods of time, and the time is always rounded up to the nearest full 24-hour period.

For a project developer to confidently build a project under this rate structure, it would require in depth analysis of the facility’s load profile and the system’s operating constraints. The export pilot credit is applied to the customer’s bill each month for the 12-months from November to October, following the measurement period. This will provide a year-round credit on the customer’s bill, giving them an opportunity to benefit from their performance during the summer months. The performance adjustment is based on the system’s lower kW output during the measurement period, which includes a daily 14-hour (10 AM-Midnight or 8 AM-10PM) window. This means that this option will likely only be feasible for hybridized (e.g. CHP + Storage) systems.

⁶ This is the delivery charge that is in effect on October 1st of the year in which the credit is determined.