

STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

LIBERTY UTILITIES (GRANITE STATE ELECTRIC) CORP.
d/b/a LIBERTY

Docket No. DE 19-064

Distribution Service Rate Case

2020 Step Increase

Record Request #4

REQUEST:

Please provide the benefits to the battery storage customers for Q1 2021.

RESPONSE:

Please see Attachment RR-4 for the bill calculation of benefits to battery storage customers during the first quarter of 2021. The customers with batteries during that period used 39,099 kWh from the batteries to power their homes during critical peak hours, 6,026 kWh during mid peak hours, and used 53,250 kWh from the grid to charge the batteries during off peak hours. The total charging kWh does not equal the total discharging kWh for several reasons. First, the kWh are a net of charging and discharge during the time period such that some batteries may not be at 100% charge when they are scheduled to be discharged for a peak event and may have charged during mid peak hours to ensure they are available for the peak event. Second, the batteries go into “storm mode” whenever the National Weather Service issues a watch or warning, which means the batteries may start to charge to ensure the customer has enough energy in the batteries to power their home during an outage. Given these nuances to the battery behaviors, the off peak charging kWh do not equal the mid peak plus critical peak kWh.

During the quarter, there was a rate change for energy service on February 1, 2021, thus the calculation provides for two periods of bill calculations. As of March 31, 2021, 77 customers had batteries installed and saved a total of \$7,041.72 by using the batteries to power their homes during the quarter based on the output of the batteries. To the extent that customers with batteries were in an area that experienced a power outage, these customers’ batteries also provided backup power during that outage, thus the customer was not interrupted.

Liberty Utilities (Granite State Electric) d/b/a Liberty
DE 19-064 2020 Step Adjustment
Record Request 4 Customer Benefits of Battery Storage for Q1 2021

Period	Total kWh
Critical Peak	(39,099)
Mid Peak	(6,026)
Off Peak	53,250

Rates Effective January 1, 2021, through January 31, 2021

	Critical Peak	On Peak	Off Peak
Distribution	\$ 0.08955	\$ 0.06289	\$ 0.04196
REP/VMP	\$ 0.00008	\$ 0.00008	\$ 0.00008
Total Distribution	\$ 0.08963	\$ 0.06297	\$ 0.04204
Transmission	\$ 0.13615	\$ 0.00337	\$ 0.00212
Energy Service	\$ 0.10379	\$ 0.10000	\$ 0.08354
SBC	\$ 0.00678	\$ 0.00678	\$ 0.00678
Consumption Tax	\$ -	\$ -	\$ -
Stranded Costs	\$ (0.00072)	\$ (0.00072)	\$ (0.00072)
Total	\$ 0.33564	\$ 0.17240	\$ 0.13376

Rates Effective February 1, 2021, through March 31, 2021

	Critical Peak	On Peak	Off Peak
Distribution	\$ 0.08955	\$ 0.06289	\$ 0.04196
REP/VMP	\$ 0.00008	\$ 0.00008	\$ 0.00008
Total Distribution	\$ 0.08963	\$ 0.06297	\$ 0.04204
Transmission	\$ 0.13615	\$ 0.00337	\$ 0.00212
Energy Service	\$ 0.10354	\$ 0.09973	\$ 0.08325
SBC	\$ 0.00678	\$ 0.00678	\$ 0.00678
Consumption Tax	\$ -	\$ -	\$ -
Stranded Costs	\$ (0.00072)	\$ (0.00072)	\$ (0.00072)
Total	\$ 0.33538	\$ 0.17214	\$ 0.13347

Bill Calculation

Usage kWh	Critical Peak	On Peak	Off Peak
	(16,528)	(3,183)	23,079
Distribution	\$ (1,480.07)	\$ (200.19)	\$ 968.38
REP/VMP	\$ (1.32)	\$ (0.25)	\$ 1.85
Total Distribution	\$ (1,481.39)	\$ (200.45)	\$ 970.22
Transmission	\$ (2,250.37)	\$ (10.73)	\$ 48.84
Energy Service	\$ (1,715.52)	\$ (318.28)	\$ 1,928.10
SBC	\$ (112.06)	\$ (21.58)	\$ 156.48
Consumption Tax	\$ -	\$ -	\$ -
Stranded Costs	\$ 11.90	\$ 2.29	\$ (16.62)
Total	\$ (5,547.44)	\$ (548.75)	\$ 3,087.02
Total Charges	\$ (3,009.17)		
Final Total	\$ (7,041.72)		

Bill Calculation

Usage kWh	Critical Peak	On Peak	Off Peak
	(22,571)	(2,843)	30,171
Distribution	\$ (2,021.21)	\$ (178.81)	\$ 1,265.95
REP/VMP	\$ (1.81)	\$ (0.23)	\$ 2.41
Total Distribution	\$ (2,023.02)	\$ (179.04)	\$ 1,268.37
Transmission	\$ (3,073.15)	\$ (9.59)	\$ 63.85
Energy Service	\$ (2,337.00)	\$ (283.53)	\$ 2,511.74
SBC	\$ (153.03)	\$ (19.28)	\$ 204.56
Consumption Tax	\$ -	\$ -	\$ -
Stranded Costs	\$ 16.25	\$ 2.05	\$ (21.72)
Total	\$ (7,569.95)	\$ (489.38)	\$ 4,026.78
Total Charges	\$ (4,032.55)		

- [1] The kWh are the total kWh dispatched to the home and grid during peak events plus the kWh used to charge the batteries.
[2] Negative kWh are those that were used to provide power to the home and/or dispatched to the grid during peak events.