

Time of Use Rate Pilot Program Goal 5 Financial Stability and Sufficiency

August 18, 2023

6 Goals for Time of Use Pilot Program

Developed during discussions with Belmont Light, the Light Board Advisory Committee, and approved by the Municipal Light Board, these 6 goals provide the guiding principals of the Time of Use Pilot Program.

#1 Align Customer Savings with Savings for Belmont Light

Expected Outcomes

- Average Rate A customers with 20% load shifting: **\$6/month savings**
- Peak savings to Belmont Light: If pilot occurred in 2020, **\$124 per avoided kW** during annual FCM peak, **\$10.27 per avoided kW** during monthly RNS peaks (1 MW avoided peak load = ~\$134k)
- High likelihood of capturing annual FCM peak and RNS peaks in **10/12 months**. Chances for April and October RNS lower, but these are our cheapest months.

#2 Support Strategic Electrification

Expected Outcomes

- Average EV customer with no behavior change: **\$7.50/month savings (5%)**
- Average EV customer with 20% load shift: **\$15/month savings (-9%)**
- Average heat pump customer with no behavior change: **\$5/ month savings (3%)**
- Average heat pump customer with 20% load shift: **\$11.75/month savings (8%)**

#3 Protect Low-Income Customers

Expected Outcomes

- Average low-income customer with no behavior change: **\$1/month savings (2%)**
- Average low-income customer with 20% load shift: **\$5.75/month savings (10%)**

#4 Support Energy Efficiency and Solar

Expected Outcomes

- Energy efficiency: **1-3% aggregate kWh reductions**
- Energy efficiency: **3-8% aggregate kWh shift to off-peak usage**
- Solar: Average solar customer with buyback and no behavior change: **\$10.50/month savings (13%)**
- Average solar customer with buyback and 20% load shift: **\$20/month savings (17%)**

#5 Ensure Belmont Light Revenue Sufficiency and Stability

Expected Outcomes

- Rate designed to be revenue neutral.
- Expect pilot to cost some money if only obvious "winners" are enrolled. Enrollee cap will help address this.
- Minimal budget increase for Belmont Light from buyback rate change.

#6 Provide for Easy Implementation

Expected Outcomes

- Rate structure compatible with Belmont Light's meter and billing systems.
- Rate design not too complicated for ratepayers.

TOU Revenue and Cost Analysis

- Goal 4 result showed average 14.02% consumption shift from on-peak to off-peak for TOU Pilot group, which translates into ~\$18K savings in power cost associated with these customers in 2022

TOU Customer usage 2021 vs 2022 (Jan-Nov)

Year	Summer On-Peak	Summer Off-Peak	Non-Summer On-Peak	Non-Summer Off-Peak	Total On-Peak	Total Off-Peak
2021	28.14%	71.86%	19.82%	80.18%	22.89%	77.11%
2022	24.53%	75.47%	16.96%	83.04%	19.68%	80.32%
Shift	-12.83%	Summer shift to off-peak	-14.43%	Non-summer shift to off-peak	-14.02%	Total shift to off-peak

- 2022 TOU revenue & cost analysis (generation & transmission)

REVENUE		COST	
Transmission	\$ 32,225	Transmission	\$ 34,729
Generation	\$ 108,581	Generation	\$ 131,330
TOTAL REVENUE (TOU PILOT)	\$ 140,806	TOTAL PP COST (TOU PILOT)	\$ 166,058

- 2022 TOU customers collection estimate if on Rate A

REVENUE	
Transmission	\$ 31,883
Generation	\$ 118,725
TOTAL REVENUE (TOU PILOT)	\$ 150,608

Solar Buyback Analysis

2022 Solar buyback model analyzes buyback credits for EFR and TOU buyback customers compared to estimated cost of power a) based on average monthly cost and b) based on spot market power cost:

ALL IN COSTS (ENERGY, TRANSMISSION, CAPACITY, RECS & EFR)

2022	Rate A EFR	TOU Solar buyback	Total Solar
Total kWh Credits	1,238,906	253,946	1,492,852
Buyback credits, \$	\$ 136,279.62	\$ 34,067.89	\$ 170,347.51
Value to BL, \$ (Mly avg)	\$ 128,390.38	\$ 27,611.12	\$ 156,001.50
Value to BL, \$ (Unhedged)	\$ 148,868.93	\$ 31,954.56	\$ 180,823.49

Overview

- Estimated average value of TOU to BL is ~23% (\$6k) lower comparing to modeled credits, total estimated average value is ~9% (\$14k) lower than total modeled solar credits (TOU+EFR)
- Estimated unhedged value of TOU to BL is ~6% (\$2k) lower comparing to modeled credits, total estimated unhedged value is ~6% (10k) higher than modeled total solar credits (TOU+EFR)

Overview (cont'd)

- Overall annual estimated savings of capacity, transmission and RECs due to load shave is ~1% (\$48k), including ~0.1% attributed to TOU solar feed back to the system
- In 2022 MLP Solar Statewide Program involved 53 participants, including 13 on TOU rate (14% of total solar accounts,) contributing 1% of the required Class 1 RECs as per Power Supply Policy

Recommendations

- Adjust TOU Transmission & Generation charges to coincide with those for Rate A customers before COSS to recover BL power expenses
- Continue with existing buyback rate until more data is collected for COSS and rate design
- Maintain Time of Use Pilot Rate A TOU. Given the Pilot TOU enrollment cap, the budgetary increase is minimal.
 - Allow current participants to opt out but don't allow new participants to opt in
 - Continue to investigate greater impact of high adoption from Rate A customers
- Initiate COSS related to TOU and buyback, conduct separate investigation into feasibility of a TOU-Low Income rate