

Evolutions in Ratemaking

Tariff designs for residential customers

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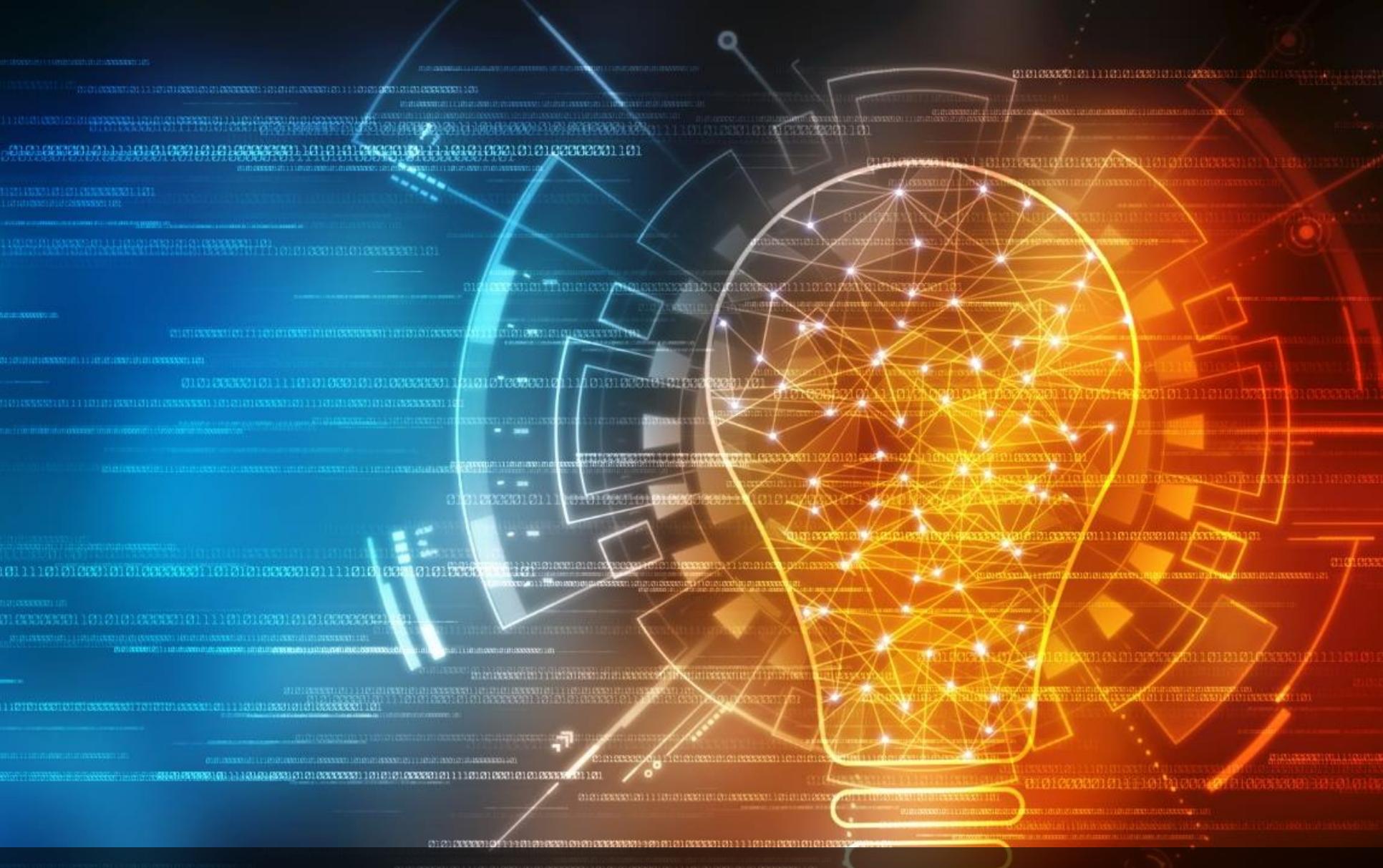
Background

- New service offerings and new ways of managing the system require new price signals
- Traditional metering infrastructure not up to the task

What drives change?



Policy



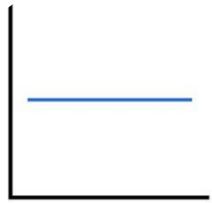
Technology

Rate Designs

“[A] single rate design may not meet all rate design principles and policy goals. Indeed, many of the goals and principles conflict with one another, and it is the job of the regulator to weigh these principles and goals and approve a rate design that best reflects the public interest as the regulator sees it.”

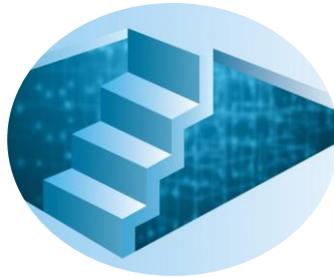
NARUC Manual on Distributed
Energy Resources Rate Design and
Compensation (2016)

Examples



Flat

Inclining Block



Time-Variant



3-Part Demand



Time of Use

- Price for electric service varies based on a pre-determined schedule of peak and off-peak periods and peak and off-peak prices.
- Usually two or three types of periods (there may be a “shoulder period”)
- Has been available in many jurisdictions as far back as the 1980s. Recently has been used to encourage optimal charging of EVs.
- California PUC has directed PG&E, SDG&E, and SCE to introduce default TOU rates in 2019.

Real-time pricing (for supply)

- Based on the price of energy in the wholesale market (where utilities buy energy in a wholesale market) or short-run marginal generation costs (where utilities are vertically integrated)
 - Available to residential customers in Illinois (ComEd and Ameren)
- 

Critical Peak Pricing

- Extra-high prices to be deployed for several hours during times of expected shortages or anticipated high-usage days.
- Applicable hours usually announced the day before.
- Sacramento Municipal Utility District piloted in combination with TOU in 2012 and 2013.
- A variation: “Critical Peak Rebates” (e.g. Baltimore Gas and Electric)

3-part rates/demand charges

- Demand charges are available to residential customers in 50 utility service territories in 21 states (Source: The Brattle Group, January 2018)
- Whereas traditional “flat rates” have 2 components – a fixed customer charge and a volumetric (per kWh) usage charge – “3-part rates” have three components.
 - Fixed monthly charge for customer-related costs
 - Demand charge (per kW) for delivery service
 - Volumetric charge (per kWh) for variable costs of energy
- Examples: Arizona Public Service, Oklahoma Gas & Electric



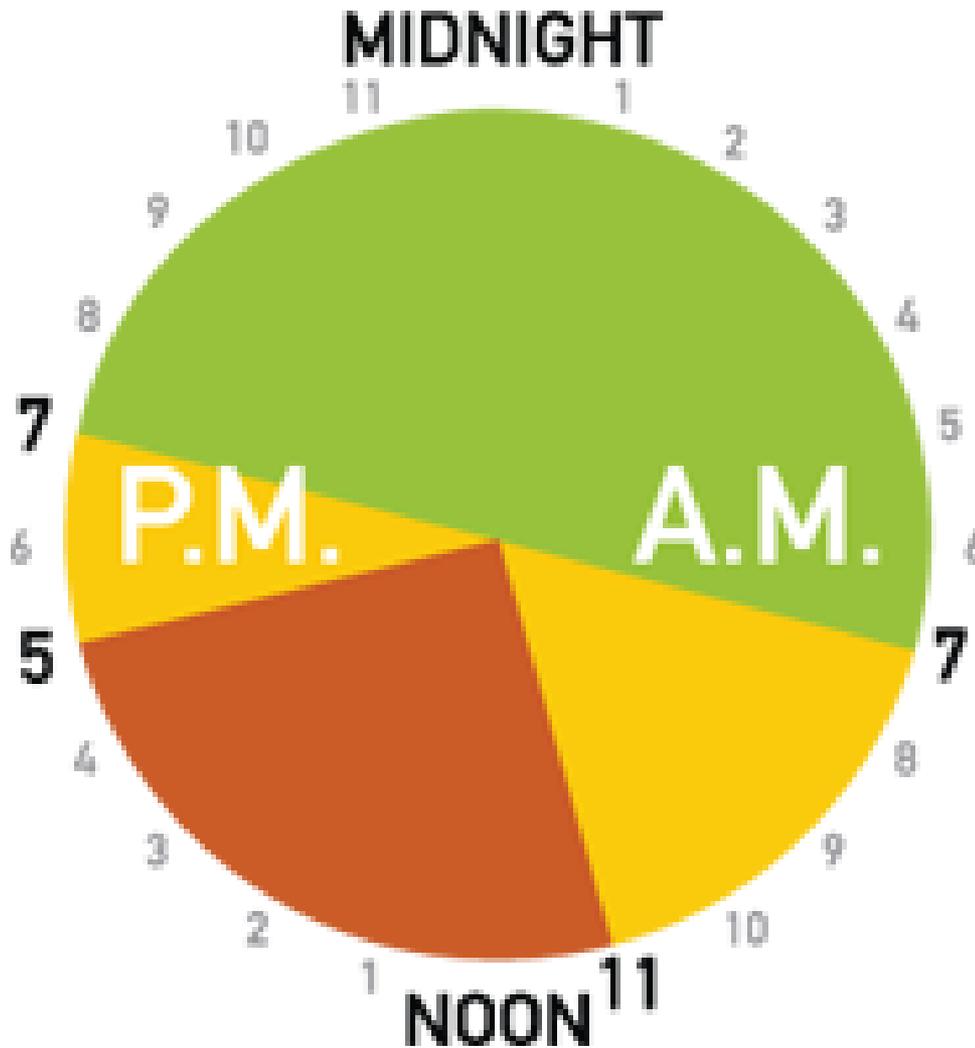
Research

“The lack of more widespread experience with certain types of DER, and the shortage of available data at this point in time, means that we have barely scratched the surface of what this future could look like.”

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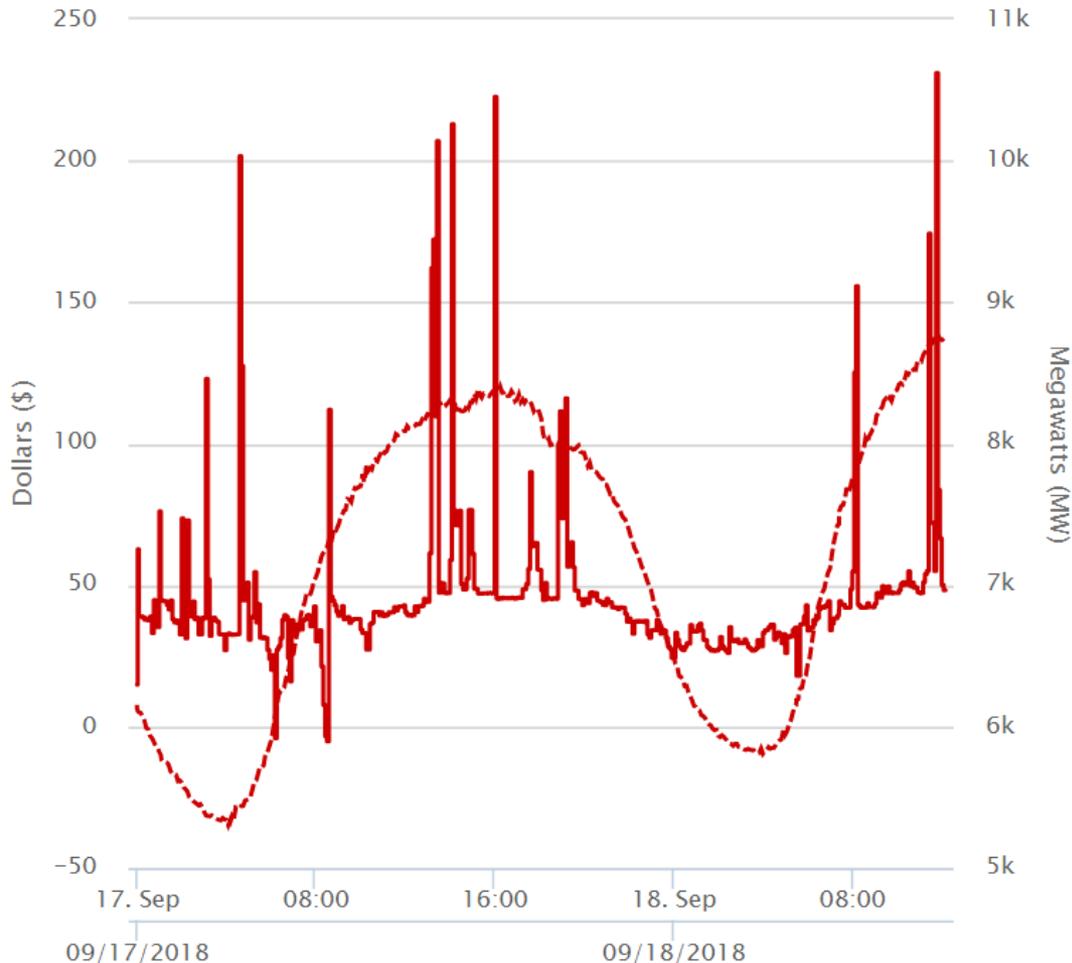
Time of Use Pricing



Real-Time Pricing

9/18/2018 – Real-Time LBMP & Actual Load

Click and drag in the plot area to zoom in



Select Zone(s):

- Zone A - West
- Zone B - Genesee
- Zone C - Central
- Zone D - North
- Zone E - Mohawk Valley
- Zone F - Capital
- Zone G - Hudson Valley
- Zone H - Millwood
- Zone I - Dunwoodie
- Zone J - New York City**
- Zone K - Long Island

Select Data Type(s):

- Display LBMPs
- Display Loads

Select Date Preferences:

- View Yesterday's Data

Notes:

-Actual Load includes losses

Demand charges



In New York...

Con Edison AMI Rate Design Pilot

APPENDIX B

Consolidated Edison Company of New York, Inc.

Proposed IPP Rate Structures - Rider Z

Rate Number	Summer ¹		Winter		Supply Based On	Billable Demand Based On
	Peak	Off- Peak	Peak	Off-Peak		
I	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Summer	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Winter	SC 1 - Rate I Supply Price (Full Service) or ESCO	Maximum daily demand ² calculated for each time period for every day in a billing cycle. The Billable Demand is the average of the three highest maximum daily demands occurring in the applicable period.
II	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Summer	No Peak versus Off-Peak Designation		SC 1 - Rate I Supply Price (Full Service) or ESCO	
III	Weekdays, 2 pm - 10 pm, excluding holidays	All Other Days and Times in Summer	Weekdays, 2 pm - 10 pm, excluding holidays	All Other Days and Times in Winter	SC 1 - Rate I Supply Price (Full Service) or ESCO	
IV	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Summer	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Winter	NEW TOU PRICING FOR RIDER Z RATE IV	
V	No Peak Vs. Off Peak Designation - Subscription Service - No Overages				SC 1 - Rate I Supply Price (Full Service) or ESCO	Subscribed demand determined by calculating the average of the three highest maximum daily demands occurring during each of the twelve months prior to when the Customer begins taking service. The average of these twelve averages will form the basis for Subscribed Demand, which will be redetermined annually.
VI	No Peak Vs. Off Peak Designation - Subscription Service - Overage Charges in Summer ³				SC 1 - Rate I Supply Price (Full Service) or ESCO	

Proposed IPP Rate Structure - Rider AA

Rate Number	Summer ¹		Winter		Supply Based On	Billable Demand Based On
	Peak	Off- Peak	Peak	Off-Peak		
I	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Summer	Weekdays, 12 noon - 8 pm, excluding holidays	All Other Days and Times in Winter	SC 2 - Rate I Supply Price (Full Service) or ESCO	Maximum daily demand ² calculated for each time period for every day in a billing cycle. The Billable Demand is the average of the three highest maximum daily demands occurring in the applicable period.

Notes:

1. Summer Months defined as June - September
2. Maximum Daily Demand calculated based on 60 minute intervals
3. Determination of overage charges in a summer month will be based on comparing the Subscribed Demand with the average of the three highest maximum daily demands for that month's billing cycle
Overages are only assessed during 12pm-8pm weekday non-holiday hours

Value of DER

Selected rate design proposals

Proposal	Comments
JU TOU Demand	As filed
Staff TOU Volumetric	Based on JU demand rate proposals
JU 2 Demand	As filed
Clean Energy Parties (“CEP”) TOU	Modified by Staff
Sensitivity: Staff TOU Volumetric	With reduced customer charge
Sensitivity: CEP TOU	With reduced customer charge

Thank you!

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