

Formal Case No. 1130: Rate Design Working Group Second Meeting
1325 G Street, N.W., Suite 800
Washington, D.C. 20005



**FORMAL CASE NO. 1130, IN THE MATTER OF THE INVESTIGATION INTO
MODERNIZING THE ENERGY DELIVERY SYSTEM FOR INCREASED
SUSTAINABILITY**

SECOND RATE DESIGN WORKING GROUP
MEETING MINUTES

Meeting Commencement

By Order No. 20286,¹ the Commission directed the Rate Design Working Group (“RDWG”) to reconvene to review a holistic evaluation and assessment of current rate designs in the District of Columbia and other jurisdictions in order to propose best practice rate design solutions including a new residential Dynamic Pricing program. The RDWG commenced its second working group meeting via conference call, on September 24, 2020, from 10am to approximately 12:30pm.

Attendees

Sign-in Sheet (see Attachment No. 1)

Issues Discussed

Agenda (see Attachment No. 2)

Synopsis of Issues Discussed

- **Introduction and Scope of Working Group**
 - Commission staff commenced the RDWG by taking attendance. Staff mentioned that the scope of the RDWG is set forth in detail in Order No. 20286. Staff also mentioned that the working group was also assigned to review *Formal Case No. 1155*, Order No. 20609, implementation of Pepco’s Residential Whole-House EV Time-of-Use Rate (Schedule “R-PIV”). The Commission directed the RDWG to explore improvements to Pepco’s TOU tariff methodology and directed Pepco to file a progress report on behalf of the RDWG within six (6) months of the date of Order No. 20609. Specifically, the Order directs the RDWG to investigate the impacts of

¹ *Formal Case No. 1130, In the Matter of the Investigation into Modernizing the Energy Delivery System for Increased Sustainability*, Order No. 20286, ¶ 54, rel. January 24, 2020.

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implementing higher on- and off-peak ratios based on DC-specific data and explore input/data issues raised by DOEE in its comments regarding Schedule “R-PIV” in this case. Staff noted that this will be an action item for the next meeting.

- **Pepco’s Response to Prior Meeting Questions**

- Pepco addressed some of the questions raised at the last meeting. One of the questions Commission Staff asked Pepco to present was the wholesale PJM market earnings for dynamic pricing load (“DPL”) and Price Responsive Demand (“PRD”) for MD and DE. Pepco presented a chart indicating the splits between the jurisdictions. Items to be aware of:
 - DPL DE – only residential and small commercial customers receiving their energy through utility provided standard offer service (SOS) are eligible to participate in dynamic pricing.
 - Pepco MD and DPL MD – all residential distribution customers regardless of supplier are eligible to participate in dynamic pricing.
 - Dynamic pricing revenue – PJM market revenue from dynamic pricing.
 - Price Responsive Demand revenue – PJM market revenue available from the combination of dynamic pricing and direct load control. (Pepco showed the achieved revenue through PRD, but the Company noted that the revenue could not be achieved without the combination of both dynamic pricing and direct load control.
 - Pepco has data for PJM market revenue through PJM Delivery Year 2021/22, but not beyond because of ongoing changes with the future PJM capacity market.
 - Pepco continued to stress that the PJM market rules continue to change and that the Company’s prior experience with PJM market revenues for the program could differ in the future. The Company noted that if dynamic pricing were adopted in the District that PJM rule changes may result in changes to some components of dynamic pricing.
- Staff asked whether in aggregate, the revenue from the PJM wholesale market is greater than the dynamic pricing rebates? Pepco provided the dynamic pricing rebates paid to date. Pepco noted that all PJM market revenues flow back to customers either through bill credits or as a credit back to existing rates. To date overall dynamic pricing program revenue for Pepco MD, DPL MD, and DPL DE, including PRD and including market positions for PJM Delivery Year 2021/22 has been approximately \$100 million, and dynamic pricing bill credits have been \$69 million. Pepco noted that in Maryland that direct load control bill credits have not been included in the credit amounts paid out. In Delaware, as Pepco noted, there are no additional direct load control program credits.
- Staff asked about administrative costs of dynamic pricing. Pepco stated that, in addition to providing bill credits to customers, the primary cost is the cost of educational messaging and the communications costs of notifying customers of an event.

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- In the event that changes are made to the manner dynamic pricing is implemented in the District compared to the existing Maryland program, there could be potential incremental IT costs.
- Staff asked Pepco whether PJM had another round of changes for their rules? Pepco noted the future PJM capacity market rules were evolving and that the rules around how dynamic pricing can participate in the PJM market continue to evolve.
- Staff also mentioned DP will not be affected by FERC MOPR rules. Pepco agrees.
- Staff asked Pepco which model would it recommend, the DE or MD? Pepco recommends the MD model for DC so that the third-party supply customers can also participate in DP. Also, Pepco noted that small commercial customers' behavior is more difficult to predict under DP than residential customers and is therefore not currently recommended.
- Staff asked, what's the best way to avoid customer complaints? SOS only or all the distribution customers? Pepco recommended all distribution customers and noted that the education messaging needs to be similar across jurisdictional areas to avoid customer confusion.
- Ecobee asked whether any of the plans for DP rates include enabling technology (thermostats, etc.)? Pepco noted that, under the existing Price Responsive Demand (PRD) rules, a match with direct load control technologies is required.
- Staff asked Pepco to report on how quickly its options to participate in an event is posted after an event. Pepco will recheck the length of time currently required to provide this information to customers.
- Regarding dynamic pricing event notification, Pepco noted that, under the current program, all who are eligible receive a message, and if they do not want to receive messaging for future events, they can opt out. Pepco also noted that customers can specify the type of messaging or how often they want to receive the message.
- **Stakeholders Feedback on Dynamic Pricing Straw Proposal**
 - DOEE noted that it is supportive of the proposal, and since this is a program that has been implemented successfully in DE and MD, DOEE would like to encourage Pepco to investigate options for connecting enabling technologies, including Wi-Fi-enabled learning thermostats, and to look at the behavioral based programs. DOEE also noted that, while it understands the administrative efficiency by pegging the bill credit to \$1.25/KWh similar to Maryland and Delaware, with the transition to PRD, there is some expectation that revenues from these programs will be increasing, and there might be justification for changing the incentive for these programs. Pepco also noted that the \$1.25/ KWh was originally set based on the net cost of new entry of new power plants, as determined by PJM.
 - Pepco asked DOEE to elaborate by what it intends with "behavioral?" DOEE noted that messaging strategy involves, pre- and post-event notifications and that this approach is being applied at Baltimore Gas and Electric and Commonwealth Edison. Given this, looking at different strategies to increase customer responsiveness might be helpful. Pepco noted that this may be possible with the Oracle platform.

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- Staff asked, is there a preference if we were to move forward? DOEE noted that they support the participation of all residential distribution customers, similar to the MD model.
- DCCA asked, why can't we make a push to choose critical peak pricing (CPP) rather than critical peak rebate (CPR)? We would be leaving an opportunity to reduce peak demands and reduce GHG emissions. Pepco noted that, in its first dynamic proposal to the District in 2010, Pepco had included an opt-in CPP option, but concern had been raised that customers could be subject to higher electric bills under such a rate. Therefore, critical peak rebate was universally recommended initially to avoid any financial risk to customers -- Pepco noted that with the rebate, it does not increase their price if they did not reduce their load during a dynamic pricing event. DCCA asked, can it be advertised that it is an option and allow customers to choose? Pepco noted that this might cause some inconsistencies and complicate communications. GRID2.0 noted that they support having the option for customers to choose CPP or CPR. Pepco agreed to reexamine a CPP option.
- OPC asked to know the difference in revenue and credits and how the credits are paid out. Pepco noted that credits are posted on the customer bills that are issued. DOEE noted that it supports that the group reach the critical peak rebates first because CPR can be deployed universally on an opt-out basis, while CPP must be opt-in. Therefore, CPR has a larger potential impact. DOEE supports Pepco's CPP as an option once CPR is fully deployed. DOEE also notes, that it is possible to design a CPP to be cost neutral for customers that do not shift or reduce peak demand. Pepco again noted that the CPP design sometimes result in higher customer bills and CPR will only offer a rebate (the minimum is zero), so that is a no risk option.
- **Pepco's TOU Pilot Proposal Presentation**
 - Pepco presented its Time of Use ("TOU") Pilot Program (**See Attachment No. 3**) to the working group. Staff asked why the number of customers is only set for 835? Pepco noted that Pepco had worked with the Brattle Group to design the pilot and that they believe focusing on a selected number of customers would provide a more meaningful result before it is open to everyone; and this may cause the pilot to take some time. This is to learn first and then open to all. DCSUN asked, why 3 years? Pepco noted that this is similar to MD. Staff noted that in MD, the TOU incorporates both generation and distribution TOU, and this proposal is generation TOU? Pepco noted that the model used is similar to that used to generate R-PIV rates, but uses DC residential customer data instead of MD R-PIV data. Staff noted that MD TOU Pilot distribution rates have a peak/off peak ratio of roughly 8.75 and includes TOU in distribution rates and generation rates with roughly 1200 Pepco customers participating. Pepco noted that MD has a distribution and generation component, but for DC, it focused more on

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the generation because generally it is the appropriate place to place TOU based on the way the system functions. Pepco noted that they will have a report coming on the results of the MD program. Staff noted that TOU focusing on generation from the past didn't work well, thus looking at MD, we can learn from them. This is because Pepco's previous TOU rates had peak/off peak rates very close to each other as a result of generation bidding. Thus, TOU rates became almost a flat rate on the generation side. DOEE indicates that a Brattle evaluation of year 1 of the Maryland TOU pilot (with generation and distribution TOU) was quite successful.² Staff indicated that it will review the Brattle study to learn about their cost effectiveness. Staff also mentioned other Mid-Atlantic states have TOU rates applied to both generation and distribution, not just generation. DOEE further asked, where Pepco is targeting the group of customers for this study? Pepco, noted that on page 9 of the presentation, selection of customers are randomized, but it is willing to share customer representation. DOEE suggested potentially allowing an option for all residential SOS customers to opt-in, instead of only those who are randomly selected. DOEE suggested that non-selected opt-in customers could face the TOU price signal but be excluded from the program evaluation population, and that this approach would not impact Pepco's randomized encouragement experimental design. Pepco noted that they are hesitant to do that because customers who self-select to opt-in may not be representative of the broader residential customer population (e.g., more likely to be structural winners³ who do not need to change behavior to realize bill savings). DOEE remarked that generation TOU has been studied in pilot programs for decades, and it recommends that Pepco implement a more innovative approach to a TOU pilot in the District. DOEE continued that this innovative pilot approach might include enabling devices or other variants of TOU rates, and could be offered alongside a generic generation TOU rate available to all residential customers. Staff noted that the group could look at other innovations to consider. Pepco noted that for the District, the generation side of the TOU makes more sense than TOU distribution since distribution costs are not driven by TOU. DCSUN asked, for the first TOU rate from the past, do we know how many customers? Staff noted that there were about 800 customers, a closed class, and it decreased through time. DCSUN noted that it makes sense to include every customer for this program, not just a random sample. DCCA noted that a larger sample size would allow us to get more fine-tuned information for the Commission. Pepco noted that it is proposing to

² Reference: <https://www.brattle.com/news-and-knowledge/publications/pc44-time-of-use-pilots-year-one-evaluation>.

³ The term "structural winners" refers to customers that see a bill reduction solely from enrolling in a TOU program and not changing their consumption patterns. Such customers, due to their pre-existing consumption patterns benefit from the different rate structure as opposed to customers that see bill reductions from changing their consumption patterns in response to the new price signals.

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collect some of the demographic data within this sample data. Oracle noted that it encourages folks to use an attrition rate. Pepco replied that a 20 percent attrition rate is built into its target sample size. OPC asked whether Pepco would be able to share information on customer demographics of the pilot program. Pepco noted that it would.

- **Meeting Action Items**

- OPC requests that Pepco explain the difference in revenue and credits and how the credits are paid out.
- Pepco looks into the CPP option and let DCCA, Grid 2.0 and others know whether that can be an option for D.C.
- Pepco to share demographics of customers recruited for the TOU Pilot once the pilot has started.
- Participants to send questions regarding the TOU pilot to Andrea Harper, Matt Bonikowski, Peter Blazunas and Tyler Wolverton in advance of the next meeting.

Next Steps (Revised)

- Draft Minutes Circulated to Participants: Wednesday, September 30, 2020
- Comments from Participants to PSC Staff: Friday, October 2, 2020
- Report Filed with Commission: Wednesday, October 7, 2020

Rate Design Working Group (RDWG)

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Power Path DC – Rate Design Working Group

**1325 G Street, N.W., 8th Floor
Washington, D.C. 20005**

Virtual RDWG Meeting

September 24, 2020

10am – 12pm

AGENDA

I. WG Members - Identification

II. Introduction

- Housekeeping Rules

III. Discussion

- Members' Initial Feedback to Pepco's dynamic pricing proposal (filed 4/23 and presented to WG at first meeting)
- Scope of RDWG (Order No. 20286 and Member Suggestions)

IV. Presentation (Q&A during and/or following the presentation)

- Pepco – TOU Pilot

V. Next Steps

A. Working Group Minutes

Draft Circulated to Participants:

September 28, 2020

Comments from Participants to PSC Staff:

September 30, 2020

Minutes filed with Commission:

October 2, 2020

B. Next Meeting

(TBD)

ADJOURNMENT

Pepco Residential Time-of-Use Pilot Proposal



An Exelon Company

Agenda

- **Background**
- **R-TOU-P Program Overview**
- **Customer Education & Outreach**
- **Evaluation, Measurement, & Verification**
- **Incremental Budget Estimates & Cost Recovery**
- **COVID Impacts**

Background

- January 24 – Commission issued Order No. 20286 directing Pepco to “prepare a residential time-of-use rate proposal, within 45 days of this order”
- March 9 – Pepco filed Residential Time-of-Use Pilot (R-TOU-P) proposal
- May 8 – Pepco filed additional detail on its R-TOU-P proposal
 - Customer Education and Outreach (CE&O) plan
 - Evaluation, Measurement, and Verification (EM&V) plan
 - Incremental Budget Estimates and Cost Recovery

R-TOU-P Overview

R-TOU-P Summary

- Rates: Seasonal on-peak and off-peak TOU supply rates
- Eligibility: Available to Schedule “R” SOS customers (subject to some restrictions)
- Duration: 3-year pilot (data collection in years 1 and 2, final EM&V in year 3)
- Target pilot sample size: 835 customers
- Enrollment Method: Opt-in

R-TOU-P Rates

- Seasonal on-peak and off-peak R-TOU-P rates
- On-peak hours selected to reflect hours with high LMPs during summer and winter months

R-TOU-P Pricing Periods		
Period	Summer June 1 – October 31	Winter November 1 – May 31
On-peak	4pm – 8pm weekdays	6am – 9am weekdays
Off-peak	All other hours are off-peak, including weekends and holidays	All other hours are off-peak, including weekends and holidays
Note: Holidays include New Year's Day, Rev. Martin Luther King's Birthday (observed), Presidents' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day, as designated by the Federal Government.		

R-TOU-P Rates (Cont'd.)

- R-TOU-P rates apply only to supply rates and do not impact distribution rates or other applicable surcharges
- Rates derived by applying multipliers to Schedule “R” SOS rates and will be updated throughout the pilot to reflect changes to underlying Schedule “R” rates
- Multipliers are based on a ratio of estimated underlying market costs during on- and off-peak hours (same methodology as DC R-PIV but based on DC Schedule “R” customer data)

Season	Current	On-Peak	Off-Peak	Ratio
Summer	\$0.05757	\$0.13712	\$0.04480	3.06
Winter	\$0.06020	\$0.20692	\$0.04616	4.48

R-TOU-P Eligibility

- Order No. 20286: “...assume participants are limited to Standard Offer Service customers, and do not have electric vehicles or behind-the-meter generation.”
- R-TOU-P is available to Schedule “R” SOS customers who meet the following criteria:
 - Customer has at least one year of AMI data
 - Customer has resided at the same address for at least one year
 - Excludes customers with a medical needs flag
 - Excludes customers with electric vehicles or BTM generation

R-TOU-P Enrollment

- Randomly selected customers will be offered the opportunity to participate in the pilot
- Pepco will establish a pilot control group comprised of randomly selected customers who will not receive any pilot recruitment materials
- A proportionally stratified population of SOS customers designed to mirror Pepco's overall customer base will be recruited by ZIP code
- Phased recruitment approach
- Customers may voluntarily drop from the pilot at any time without penalty but may not re-enroll
- Target pilot sample size: 835 customers, with an equally sized matched control group
- Sample size calculated to detect a 6% peak reduction in summer and an 8% peak reduction in winter with 95% confidence

Original Proposed Timeline

- Original timeline included in Pepco's March 9, 2020 proposed program filing
- Approximately 4 months required for back-end IT work, meter programming, and marketing material development (Sep – Dec)
- 3-month customer recruitment period (Jan – Mar)

Date	Event
August 31, 2020	Commission approval
January 1, 2021	Recruitment period begins
April 1, 2021	Pilot year 1 begins
February 28, 2022	Optional interim EM&V report
April 1, 2022	Pilot year 2 begins
July 29, 2022	Year 1 EM&V report
April 1, 2023	Pilot year 3 begins
July 28, 2023	Final EM&V report
March 31, 2024	Pilot Ends

Pilot launch timing will be key to ensure program success

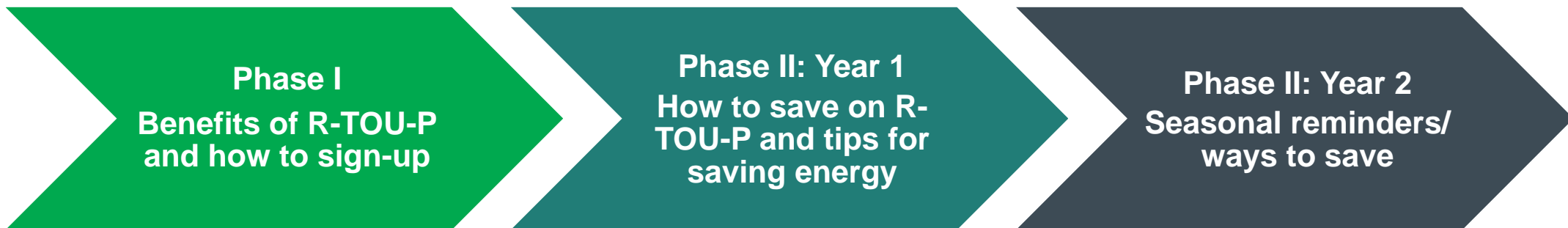
Customer Education & Outreach

Customer Education & Outreach Objectives

- Educate customers on the benefits of time-of-use rates and peak energy reductions
- Recruit customers to enroll in the pilot while ensuring they understand the rate and how to lower their energy use
- Assess how customers change their energy use behavior in response to the TOU rates
- Keep customers engaged throughout the two-year pilot to help customers lower their energy costs and reduce attrition
- Identify potential barriers to and impacts of a broader launch of time-of-use rates in the District of Columbia

Customer Education & Outreach Phases

- Phase I – Customer Recruitment
 - Educating customers on the pilot and its potential benefits
- Phase II – Customer Retention
 - Communication to keep customers engaged and encourage behavioral changes that may be necessary for customers to achieve bill savings



Market Research

- Pre-pilot focus groups
 - Refine educational strategy and materials
 - Test both recruitment and retention messaging
 - Identify educational needs of customers and craft an easily understandable message
- Enrollment survey
 - Collect customer demographic data and identify perceptions related to energy use
 - \$25 customer incentive to complete survey
- Post-pilot survey
 - Measure customer satisfaction, investigate successful energy-reducing behaviors, and assess interest in future TOU rates
 - \$25 customer incentive to complete survey

Customer Education Materials

- Recruitment phase – Distribute recruitment packages and email reminders to customers
 - Customized letters showing potential impact of switching to the R-TOU-P rate, based on current energy use and the impact of reducing usage by a specific percentage
 - One-page FAQ document
 - Brochure explaining pilot benefits and requirements
 - Email and postcard reminders
- Retention phase – Continue to engage customers throughout the pilot
 - Welcome kit for enrolled customers (enrollment letter, magnet with temperature gauge and peak hours, and FAQs)
 - Print/emailed reminders of seasonal hour changes and promoting energy savings tips
 - Weekly emails comparing week-over-week energy use with tips to save during on-peak times

Evaluation, Measurement, and Verification

EM&V Analyses

- Contracted with the Brattle Group to conduct EM&V analyses
- Ex-post load impact analysis – Change in customer loads resulting from R-TOU-P price signals
- Price elasticities – Estimate price elasticities representing customers' responsiveness to prices to inform future rate design efforts
- Process evaluation – Assess the implementation of the program, including recruitment and marketing efforts, in order to identify key lessons learned applicable to future pilots
- Analyses will be facilitated by AMI data, including hourly consumption data for treatment and control customers
- Key metrics related to customer participation, customer response to price signals, and customer satisfaction will be included in EM&V analyses

EM&V Timeline

- Three EM&V reports will be filed with the Commission over the course of the pilot:
- Interim EM&V report focusing on preliminary data from the first summer of the pilot
 - EM&V analysis will be performed once sufficient data is accumulated
- Year 1 EM&V report utilizing data from the first pilot year
 - Filed during pilot year two
- Final EM&V report utilizing data from the first and second pilot years
 - Filed during pilot year three

Incremental Budget Estimates & Cost Recovery

Incremental Budget Estimate

- Budget estimates represent only incremental costs to the Company associated with pilot design, development, and implementation

Activity	Development & Recruitment	Pilot Year 1 (April 2021 - March 2022)	Pilot Year 2 (April 2022 - March 2023)	Pilot Year 3 (April 2023 - March 2024)	Total Costs
Customer Education	\$326,750	\$73,500	\$67,500	\$54,250	\$522,000
Program Development and Evaluation	\$364,510	\$82,100	\$115,000	\$90,700	\$652,310
IT	\$191,690	\$0	\$0	\$0	\$191,690
TOTAL	\$882,950	\$155,600	\$182,500	\$144,950	\$1,366,000

Proposed Cost Recovery

- Pepco requests Commission approval to establish a regulatory asset to capture incremental program development and implementation costs
- Further request that Pepco be allowed to earn a return on this regulatory asset based on the Company's approved rate of return
- Pepco will seek recovery of the regulatory asset in a future rate proceeding

COVID Impacts

COVID Impacts

- Pepco continues to assess the impacts of COVID-19 on the proposed pilot, and will inform the Commission of any changes to its proposed pilot
- Appropriateness of on-peak and off-peak pricing periods
- Pilot timeline
 - Customer recruitment may prove challenging while COVID-19 remains a significant focus
- Customer eligibility requirements to ensure baseline data validity
 - Options outlined in Pepco's EM&V Plan
 - Lengthen residency requirements to ensure pre-COVID baseline data
 - Use normalized data for COVID-impacted months

Questions?