

GOVERNMENT OF THE DISTRICT OF COLUMBIA
OFFICE OF THE ATTORNEY GENERAL



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Public Advocacy Division
Social Justice Section

ELECTRONIC FILING

July 27, 2020

Ms. Brinda Westbrook-Sedgwick
Public Service Commission
Of the District of Columbia Secretary
1325 G Street, NW, Suite 800
Washington, DC 20005

**Re: Formal Case No. 1130 – In the Matter of the Investigation into the
Modernizing of the Electric Delivery System for Increased Sustainability
and
Formal Case No. 1155 – In the Matter of the Application of the Potomac
Electric Power Company for Approval of its Transportation Electrification
Program**

Dear Ms. Westbrook-Sedgwick:

On behalf of the Department of Energy & Environment (DOEE), please find DOEE's Comments in Response to the Notice of Proposed Tariff issued on June 26, 2020. If you have any questions regarding this filing, please do not hesitate to contact the undersigned.

Respectfully submitted,

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**BEFORE THE
PUBLIC SERVICE COMMISSION
OF THE DISTRICT OF COLUMBIA**

IN THE MATTERS OF:)	
)	
In the Matter of the Investigation into)	Formal Case No. 1130
Modernizing the Energy Delivery)	
System for Increased Sustainability)	
)	
In the Matter of the Application of the)	Formal Case No. 1155
Potomac Electric Power Company for)	
Approval of Its Transportation)	
Electrification Program)	

**COMMENTS OF THE DEPARTMENT OF ENERGY AND ENVIRONMENT ON THE
JUNE 26, 2020, NOTICE OF PROPOSED TARIFF REGARDING THE POTOMAC
ELECTRIC POWER COMPANY’S RESIDENTIAL SERVICE PLUG-IN VEHICLE
CHARGING SCHEDULE “R-PIV”**

Pursuant to the Notice of Proposed Tariff (NOPT) published in the *D.C. Register* on June 20, 2020, in which the Public Service Commission of the District of Columbia (Commission) gave notice of its intent to act upon the Potomac Electric Power Company’s (Pepco or Company) Residential Service Plug-in Vehicle Charging Schedule “R-PIV” and the invitation therein for interested parties to file comments, the Department of Energy and Environment (DOEE) hereby files comments responsive to the proposed tariff revisions filed by Pepco in the above-captioned proceedings.

I. Procedural Background

On September 6, 2018, Pepco filed an application to implement a Transportation Electrification Program (TE Program).¹ This application included Offering 1 - Residential Whole-House Time-of-Use Rate, which is a time-of-use (TOU) rate offering available to residential customers on Standard Offer Service (SOS) who own or lease electric vehicles (EVs).² The Commission, through Order Nos. 19898 and 19983, approved with modifications and conditions of Pepco's TE Program Offering 1.³

On January 31, 2020, the Commission issued a Notice of Final Tariff accepting Pepco's Residential Whole-House Time-of-Use Rate (Schedule "R-PIV"). On March 11, 2020, Pepco filed a proposed update to the Schedule "R-PIV" On-Peak and Off-Peak Generation Service Charges to correct two clerical errors and to update customer load and PJM cost data for calendar year 2019. On April 3, 2020, the Commission published a Notice of Proposed Tariff and invited public comment on Pepco's proposed updates to Schedule "R-PIV".

On April 17, 2020, DOEE submitted initial comments on Pepco's proposed updates to Schedule "R-PIV". In its comments, DOEE observed that Pepco's proposed updates reduce the on-peak and off-peak price differential and argued that this may result in a reduced shift in customer load from on-peak to off-peak periods. DOEE recommended that the Commission direct Pepco to refile its revised tariff with a summer price signal equivalent to the price signal in the existing Schedule "R-PIV". On April 27, 2020, Pepco filed a motion to leave to respond and limited response to DOEE's comments. Pepco's limited response further clarified the requested

¹ Pepco, *Application of the Potomac Electric Power Company for Approval of its Transportation Electrification Program*, Formal Case No. 1130 (rel. September 6, 2018).

² *Ibid.*, at page 28.

³ Public Service Commission of the District of Columbia, Formal Case No. 1130 and Formal Case No. 1155, *Order No. 19898*, (rel. April 12, 2019). Public Service Commission of the District of Columbia, Formal Case No. 1130 and Formal Case No. 1155, *Order No. 19983* (rel. August 2, 2019).

updates to Schedule “R-PIV” and acknowledged that the ratio of on-peak to off-peak prices is related to expected customer load shift, but justified the reduction in the ratio of on-peak to off-peak prices as being necessary to reflect updated PJM and customer usage data. On May 28, 2020, DOEE filed a motion for leave to file reply comments and reply comments to Pepco’s response comments. On June 8, 2020, Pepco filed a motion to reply and reply comments to DOEE’s reply comments, which also included a revised proposal to update Schedule “R-PIV” to reflect new Standard Offer Service (SOS) rates for the 2020-2021 summer and winter seasons. On June 26, 2020, the Commission, in response to Pepco’s filing of June 8, 2020, issued a NOPT and requested that interested persons provide comment within 30 days.

II. Pepco’s Proposed Update to R-PIV Fails to Address Deficiencies Raised by DOEE

In its reply comments of June 8, 2020, Pepco proposes a revised update to Schedule “R-PIV” rates and supports its proposal with two justifications.⁴ First, Pepco updates the Schedule “R-PIV” rate based on updated residential Standard Offer Service (SOS) rates for the 2020-2021 summer and winter seasons. Second, Pepco claims to have refined its model to develop Schedule “R-PIV” to better ensure that Schedule “R-PIV” generation services are revenue neutral.⁵ The updates proposed by Pepco in its June 8, 2020 filing do not address the deficiencies identified by DOEE in its initial or reply comments to the Commission’s NOPT of April 3, 2020.

⁴ Pepco, *Potomac Electric Power Company’s Motion for Leave to Reply and Reply to DOEE’s May 28, 2020 Comments Regarding Proposed Updates to Schedule R-PIV*, Formal Cases No. 1130 and No. 1155 (June 8, 2020) (Pepco Second Reply Comments) at pages 3-4.

⁵ Although not explicitly discussed in the rationale for the proposed update, DOEE assumes that the proposed update also corrects for the two clerical errors identified in Pepco’s tariff proposal of March 11, 2020.

III. Summary of DOEE Arguments from the Previous NOPT and Response to Pepco's Reply Comments of June 8, 2020

DOEE reaffirms the arguments set forth in its initial and reply comments on the Commission's previous NOPT of April 3, 2020, as being germane to the current NOPT and requests that those comments be incorporated into the record for this NOPT.⁶ These arguments are summarized below with further response to the arguments raised in Pepco's reply comments of June 8, 2020.

A. Pepco's proposed tariff "R-PIV" reduces the ratios of peak to off-peak prices and may result in a reduced shift to off-peak charging

Pepco's June 8, 2020, proposal for modification of Schedule "R-PIV" maintains the same reduction to the ratio of peak to off-peak prices for the summer and winter seasons as initially proposed in its April 3, 2020, filing. Therefore, DOEE maintains its concern that the reduction in the ratio of peak to off-peak prices is likely to result in reduced load shift from on-peak to off-peak periods.

⁶ DOEE, *Comments by the Department of Energy and Environment on the Notice of Proposed Tariff Regarding the Potomac Electric Power Company's Residential Service Plug-In Vehicle Charging Schedule "R-PIV"*, Formal Cases No. 1130 and No. 1155 (April 17, 2020). (DOEE Initial Comments)
DOEE, *Reply Comments of the Department of Energy and Environment to the Potomac Electric Power Company's Response to Comments Regarding Vehicle Charging Schedule "R-PIV"*, Formal Cases No. 1130 and No. 1155 (May 28, 2020). (DOEE Reply Comments)

Table 1: Summary of Current and Proposed Schedule “R-PIV”

	R-PIV, Current	R-PIV, Proposed 4/3/20	R-PIV, Proposed Revised 6/8/20
Summer On-Peak	\$ 0.09950	\$ 0.10201	\$0.09636
Summer Off-Peak	\$ 0.03034	\$ 0.04149	\$0.03919
Winter On-Peak	\$ 0.11199	\$ 0.13071	\$0.12380
Winter Off-Peak	\$ 0.03601	\$ 0.04248	\$0.04023
Summer On-Peak / Off-Peak Ratio	3.28	2.46	2.46
Winter On-Peak / Off-Peak Ratio	3.11	3.08	3.08
Summer Ratio Percent Change	N/A	- 25.0%	-25.0%
Winter Ratio Percent Change	N/A	- 1.1%	-1.1%

Empirical evidence from TOU pilots and programs in other jurisdictions reveals that the ratio of peak to off-peak price is directly related to the magnitude of load shift for generic residential TOU rates⁷ and EV-specific TOU rates.⁸ The relationship between peak and off-peak prices and the expected magnitude of load shift was acknowledged by Pepco in its limited

⁷ Faruqui, Ahmad et al., “Arcturus 2.0: A Meta-Analysis of Time-Varying Rates for Electricity”, *The Electricity Journal*, 30(10), at p. 67.

⁸ Nexant, “Final Evaluation for San Diego Gas & Electric’s Plug-In Electric Vehicle TOU Pricing and Technology Study (February 20, 2014) at page 38. Available: <https://www.sdge.com/sites/default/files/SDGE%20EV%20%20Pricing%20%26%20Tech%20Study.pdf>.

SDG&E customers given a price ratio of 1-to-1.2-to-2 (super off-peak, off-peak, and peak hours) shifted 73% of their EV charging while customers given a price ratio of 1-to-2.4-to-3.8 (super off-peak, off-peak, and peak hours) shifted 86% of their EV charging.

response of April 27, 2020.⁹ A reduction in the ratio of peak to off-peak price for Schedule “R-PIV” undermines Pepco’s stated objective for offering the Schedule “R-PIV” rate—specifically, to incentivize EV drivers “to shift their load and charge during off-peak hours, which will help the Company meet customer demand without, in most cases, needing to add infrastructure to serve increased load.”¹⁰ For this reason, it is premature to reduce the ratio of peak to off-peak prices from the existing, approved Schedule “R-PIV” before either (1) the impact of the existing tariff on customer load shift can be assessed and/or (2) a target for load shift to meet Pepco’s program goals has been defined.

B. The rate model used by Pepco focuses exclusively on cost causation and omits considerations of benefits created from customer load shifting

Pepco’s rate model focuses exclusively on cost-causation—setting the on-peak and off-peak rates directly proportional to the underlying generation costs—while ignoring the potential for load shift to create additional system benefits. The rate model omits the potential benefits of load shifting because it treats the on-peak to off-peak ratio as a model output rather than a model input that can be adjusted for efficient rate design. Pepco claims that an expanded rate model that treats on-peak and off-peak price differentials as model inputs constitutes an entirely distinct rate design methodology.¹¹ DOEE agrees with this assertion and is prepared to work with Pepco through the Rate Design Working Group to develop a “benefits-conscious” rate design model.

⁹ Pepco, *Potomac Electric Power Company’s Motion for Leave to Respond and Limited Response to DOEE’s Comments to Notice of Proposed Tariff*, Formal Cases No. 1130 and No. 1155 (April 27, 2020) (Pepco First Reply Comments) at page 5.

¹⁰ Pepco, *Application of Potomac Electric Power Company for Approval of its Transportation Electrification Program*, Formal Case No. 1130 (September 6, 2018) (Pepco TE Plan), at page 28.

¹¹ Pepco Second Reply Comments at page 8.

Pepco proposed its EV TOU Rate as an offering to encourage off-peak EV charging that would result in reduced distribution system costs.¹² This justification for the EV TOU Offering, which was accepted by the Commission in Order No.19898, adds a new dimension to the traditional rate design goals. It is not sufficient that Schedule “R-PIV” merely reflect generation service costs on a more granular, time-differentiated basis—it should also induce load shift through its pricing mechanism to achieve a target level system benefits. In this respect, TOU rates occupy a dual role as both a vehicle for utility cost-recovery and an incentive to encourage beneficial customer behavior through load shift. A new rate design methodology is needed that encompasses both of these important goals.

In its Power Path DC Order, the Commission identified the need to develop rate designs that work in concert with distributed energy resources (including EVs) to modernize the energy distribution system and achieve the District’s climate and clean energy goals.¹³ In this same Order, the Commission established seven goals that should be balanced as part of a best practice rate design implementation, including:

- Setting economically efficient prices that are forward-looking and lead to the optimum allocation of utility and customer resources; and
- Maximizing the value and effectiveness of new technologies as they become available and are deployed on, or alongside, the electric system”.¹⁴

Both of these goals point to the need to consider both system costs and system benefits resulting from customer load shift when assessing TOU rate design proposals.

¹² Pepco TE Plan at page 28.

¹³ Commission Order No. 20286 at ¶ 50.

¹⁴ *Ibid*, at ¶ 51.

The Commission concludes that these rate design goals will require “new and sophisticated methods of designing the rates charged to customers.”¹⁵ The rate model proposed by Pepco for Schedule “R-PIV” may be a new rate model, but the theory driving the rate model reflects a pre-Power Path DC framework that fails to recognize the varied goals that rate design—and especially the design of time varying rates—must balance to advance distribution modernization and achieve the District’s climate and energy goals.

The Commission has reconvened the Rate Design Working Group to provide a holistic assessment of rate design models, including TOU rates.¹⁶ DOEE proposes that the Rate Design Working Group work with Pepco to provide recommendations and feedback to the Commission on a new rate model that incorporates the peak to off-peak ratio as a modeling input for designing rates that achieve targets for customer load shift and balance the Commission’s rate design goals enumerated in Order No. 20286.

C. Average customer bills would increase under the proposal and bill reduction opportunities would be limited

On average, a Schedule “R” customer that opts into the Schedule “R-PIV” rate and does not change their energy consumption profile in response to the TOU price signals will see an increase in their energy bills. If that same customer then responds to the Schedule “R-PIV” price signals by shifting load from on-peak to off-peak, they are expected to pay the same amount for generation service that they paid under the flat Schedule “R”. There is limited opportunity for

¹⁵ *Ibid.*, at ¶ 52.

¹⁶ *Ibid.*, at ¶ 53.

customers to benefit from switching the Schedule “R-PIV”, and that is intentional in Pepco’s rate design. Pepco asserts that if Schedule “R-PIV” customers reduced their generation service charges by shifting discretionary load, including EV charging, to off-peak periods it would create “intraclass subsidies”.¹⁷

Pepco explains that if customers on Schedule “R-PIV” were provided the opportunity to reduce their bills by responding to the TOU price signal and shifting load from on-peak to off-peak periods, this would result in an under-collection of generation service charges. This under-collection would then be socialized across all residential SOS customers through the Procurement Cost Adjustment (PCA), resulting in intraclass subsidies. DOEE recognizes that intraclass subsidies may exist in the short-term, but in the longer-term Pepco would adjust its generation procurement obligation to reflect the actual load and forecasted load of customers on Schedule “R-PIV”, and thereby eliminate the intraclass subsidy.

The argument that Pepco offers regarding the short-term intraclass subsidies resulting from load shift under Schedule “R-PIV” could equally be applied to residential customers that participate in energy efficiency programs, and would be equally specious. Households that invest in energy efficiency and reduce their consumption similarly create short-term intraclass subsidies. But in the longer-term, as utility cost structures adjust to compensate for the reduction in energy efficient customer load, the energy efficient customers actually create positive system benefits. Some of the benefits are captured by the energy efficient customers through lower bills, while other benefits are socialized across the entire customer class in the form of lower rates. Just as we design our volumetric rates to encourage energy efficiency, we should also encourage

¹⁷ Pepco Second Reply Comments at page 6.

off-peak EV charging through TOU rates that allow customers to internalize a portion of the benefits they create through lower energy bills and socialize the remainder of the benefits through lower SOS generation rates in the longer-term.

There are obvious practical reasons to provide Schedule “R-PIV” customers the opportunity to reduce their energy bills by shifting load from on-peak to off-peak—program recruitment, customer satisfaction, and customer retention. If there is limited opportunity to reduce bills, there is limited incentive for customers to sign up for “R-PIV”. At the outset, it will not be obvious to the average EV owner that switching to the proposed Schedule “R-PIV” without significant load shift will result in higher bills, or that the opportunity to reduce bills through load-shifting are limited. But if after some experience with the TOU rate, the discerning EV owner discovers that their utility bills increase or remain similar to their bills under the flat Schedule “R”, despite their best efforts at load shifting, then that customer will be dissatisfied with the program and may opt out. There needs to be some reward for customers to shift load in response to TOU price signals, but the proposed Schedule “R-PIV” provides none.

D. Commission approval of the Schedule “R-PIV” tariff does not preclude reconsideration of the underlying rate model

In approving Pepco’s Schedule “R-PIV” tariff, the Commission approved the tariff, not the underlying rate model. Indeed, as discussed earlier in these comments, the Commission has articulated a need to develop new rate models that balance the seven rate design goals, contribute

toward distribution system modernization, and help the District achieve its climate and clean energy goals.¹⁸

E. A rate model based on Maryland R-PIV customer load is inappropriate for the District of Columbia Schedule “R-PIV”

Pepco’s proposed Schedule “R-PIV” calibrates the rate design based on consumption data from customers in Pepco’s Maryland service territory that are currently enrolled in a similar, but not identical, R-PIV rate.¹⁹ DOEE continues to believe that the use of Maryland R-PIV customer data is inappropriate for the following reasons:

1. The Maryland R-PIV customers are in a different service territory with different consumption and load profiles;
2. The Maryland R-PIV customers have already been exposed to TOU price signals and likely have already shifted some load in response to those price signals; and
3. The Maryland R-PIV customers face an on-peak/off-peak price ratio (4.52 summer and 3.58 winter) that is larger than either the price ratio in the current DC Schedule “R-PIV” (3.28 summer and 3.11 winter) or the proposed DC Schedule “R-PIV” rate (2.46 summer and 3.08 winter).

¹⁸ Commission Order No. 20286 at ¶¶ 51-52.

¹⁹ DOEE Reply Comments at pages 5-6.

IV. Conclusion

Pepco's EV TOU rate is not yet well subscribed—only 3 customers have signed up for the rate as of Pepco's latest quarterly report.²⁰ The ongoing impacts of the COVID-19 pandemic are further discouraging home-bound customers from signing up for the rate.²¹ Even though Schedule "R-PIV" reaches few customers today, that may not always be the case as EV adoption continues to increase and the effects of COVID-19 subside. More importantly, the design and implementation of Schedule "R-PIV" sets a precedent for future time variant rates, including the proposed Residential Time-of-Use Pilot²² and the Residential Dynamic Pricing Program.²³

Schedule "R-PIV" is significant as the first residential TOU rate authorized by the Commission in over a decade. The design of Schedule "R-PIV" cannot be divorced from either the load shift goals of Pepco's Transportation Electrification Program or the Commission's ongoing grid modernization efforts through Power Path DC. It is therefore critical that the design and implementation of Schedule "R-PIV" be conducted with attention to both the program goals and the seven goals of dynamic pricing established in the Commission's Power Path DC Order.²⁴

The updated revisions to the Schedule "R-PIV" rate design fail to address the concerns raised by DOEE in this and previous comments. The proposal weakens the price signal and will likely reduce the amount of customer load shift from on-peak to off-peak periods. Additionally, the proposed tariff would increase generation service costs for the average customer switching

²⁰ Pepco, *Quarterly Report on the Implementation of the Transportation Electrification Program*, Formal Case No. 1130 (July 15, 2020), at page 2.

²¹ *Ibid.*, at page 4.

²² Pepco, *Pepco Residential Time-of-Use Pilot Proposal*, Formal Cases No. 1130 (March 9, 2020).

²³ Pepco, *Potomac Electric Power Company's District of Columbia Residential Dynamic Pricing Program Strawman Proposal*, Formal Case No. 1130 (April 23, 2020).

²⁴ Commission Order No. 20286 at ¶ 50.

from Schedule “R” to Schedule “R-PIV” and minimizes the opportunity to reduce bills by shifting consumption to off-peak periods.

Finally, the rate model focuses exclusively on customer costs and ignores the benefits of load shift that are likely to result from adjusting the ratio of on-peak to off-peak prices. The rate model thereby elevates the importance of cost causation over the equally important goals of peak reduction and reducing the impact of unscheduled EV charging.

DOEE believes that the appropriate forum for resolving the disagreements presented in this NOPT is through the reconvened Rate Design Working Group. Therefore, DOEE requests that the Commission hold in abeyance consideration of Pepco’s proposed revisions to Schedule “R-PIV” pending detailed review by the Rate Design Working Group and recommendations from the Rate Design Working Group thereupon. Given the limited number of customers currently enrolled in Schedule “R-PIV”, this action is unlikely to cause Pepco undue burden or under-recovery of generation service costs.

DOEE appreciates the opportunity to again provide comments in this matter.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of July 2020, I caused true and correct copies of DOEE's Comments in Response to a June 26, 2020 Notice of Proposed Tariff to be electronically delivered to the following:

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