**GOVERNMENT OF THE DISTRICT OF COLUMBIA**
**OFFICE OF THE ATTORNEY GENERAL**

**KARL A. RACINE**
**ATTORNEY GENERAL**

**Public Advocacy Division**
**Social Justice Section**

***E-Docketed***

June 1, 2020

Ms. Brinda Westbrook-Sedgwick
Public Service Commission of the
District of Columbia Secretary
1325 G Street, N.W. Suite 800
Washington, D.C. 20005

**Re: Formal Case No. 1156 – In the Matter of the Application of Potomac Electric Power Company for Authority to Implement a Multiyear Rate Plan for Electric Distribution Service in the District of Columbia.**

Dear Ms. Westbrook-Sedgwick:

On behalf of the District of Columbia Government (DCG), I enclose for filing the Surrebuttal Testimony of DCG Witness Courtney Lane – Exhibit DCG (3A), with accompanying exhibits DCG (3A)-1 through DCG (3A)-8. If you have any questions regarding this filing, please contact the undersigned.

Sincerely,

KARL A. RACINE
Attorney General

By: */s/ Brian Caldwell*
BRIAN CALDWELL
Assistant Attorney General
(202) 727-6211 – Direct
Brian.caldwell@dc.gov

cc: Service List

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

| | | |
|---|---|---|
| **IN THE MATTER OF THE APPLICATION OF POTOMAC ELECTRIC POWER COMPANY FOR AUTHORITY TO IMPLEMENT A MULTIYEAR RATE PLAN FOR ELECTRIC DISTRIBUTION SERVICE IN THE DISTRICT OF COLUMBIA** | ) | **Formal Case No. 1156** |

# Surrebuttal Testimony of

# Courtney Lane

## On Behalf of

## The District of Columbia Government

## Regarding the Potomac Electric Power Company's Proposed Multi-Year Rate Plan and Performance Incentive Mechanisms

**June 1, 2020**

**Exhibit DCG (3A)**

# Table of Contents

## I. INTRODUCTION AND QUALIFICATIONS

**Q. Please state your name, title, and employer.**

A. My name is Courtney Lane. I am a Senior Associate at Synapse Energy Economics, located at 485 Massachusetts Avenue, Cambridge, MA 02139.

**Q. Have you previously submitted testimony in this proceeding?**

A. Yes. On behalf of the District of Columbia Government (DCG or the District) I submitted direct testimony in this proceeding on March 6, 2020, and rebuttal testimony on April 8, 2020.

**Q. What is the purpose of your surrebuttal testimony?**

A. The purpose of my surrebuttal testimony is to respond to the Potomac Electric Power Company's (Pepco) rebuttal testimony and clarify portions of my direct testimony. My surrebuttal testimony rebuts several key aspects of Pepco's testimony, but does not attempt to address every instance of disagreement. Thus, silence on any particular issue should not be interpreted as agreement. In addition, as directed by the Public Service Commission of the District of Columbia's (Commission) Order No. 20349, I address how the COVID-19 pandemic impacts the evaluation of Pepco's rate application.[1]

**Q. What materials did you rely on to develop your testimony?**

A. The sources for my testimony and exhibits are public documents and responses to discovery requests, as well as my personal knowledge and experience.

[1] *Rel.* May 20, 2020, ¶11.

**Q. Did you prepare or direct the preparation of this testimony?**

A. Yes.

## II. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

**Q. Please summarize your conclusions.**

**A.** My conclusions are as follows:

1. It is highly probably that the global coronavirus pandemic has substantially altered demand and load patterns in the District of Columbia, and calls into question the accuracy of Pepco's forecasts, such as the need for nearly $133 million in load-related capital projects (excluding those related to the Mt. Vernon Substation), which Pepco has budgeted for 2020 – 2022.[2] Due to the great uncertainty regarding future electricity use in the District of Columbia, there is limited ability to establish the factual basis necessary to ensure that rates based on pre-pandemic forecasts are just and reasonable, and devoid of arbitrariness.

2. The economy of the District of Columbia is in crisis, with the unemployment rate near historic highs at 11.1 percent.[3] Given the depth of this economic crisis, additional relief may be needed in the future such as deferral of any rate increases in the interest of protecting the District of Columbia's residents and businesses.

---

[2] Pepco response to PSC Staff DR 13-1 (attached hereto as Exhibit DCG (3A)-1.

[3] DC Department of Employment Services, *DC Unemployment Stands at 11.1 Percent in April*, May 22, 2020, available at https://does.dc.gov/release/dc-unemployment-stands-111-percent-april.

3. Were Pepco's Multiyear Rate Plan (MRP) to be approved, the extraordinary public health and economic circumstances presented by COVID-19 would warrant an almost instantaneous petition to invoke the MRP's re-opener provision to exit the MRP, in order to protect customers from rate increases based on outdated cost projections and load forecasts.

4. Pepco's proposed MRP would not provide incremental benefits in terms of supporting the District's energy policy goals. The types of investments contained in the MRP that Pepco claims modernize the grid and support the District's energy policy goals simply represent a continuation of investments that have historically been made under cost of service regulation, rather than enhancing the District's progress toward grid modernization and other energy policy goals, which ought to be the rationale for adopting an MRP. Instead, Pepco argues that it must wait for the Commission to provide it with clear and definitive directives before it can develop and implement projects and programs that advance the District's energy policy goals. Thus, it is unclear why an MRP is needed at this time.

5. Pepco's provision of a construction report with a list of projects and forecasted future budgets does not meaningfully enhance transparency.

6. Pepco's proposed MRP design deviates from typical MRPs in several important ways, resulting in the shifting of risk to ratepayers and failure to provide many of the benefits commonly associated with MRPs. Specifically:

a. Well-designed MRPs can reduce administrative burden, but Pepco's proposed annual reconciliation filings and the up-front effort associated with determining the reasonableness of Pepco's cost projections would negate the benefits of a three-year interval between rate cases.

b. Pepco's proposed earnings sharing mechanism would allow the Company to recover a large proportion of any overspend. Such a mechanism is virtually unheard of in MRPs adopted in other jurisdictions and would *reduce* Pepco's incentive to contain costs relative to traditional cost of service regulation.

7. Pepco's proposed Performance Incentive Mechanisms (PIMs) do not make a meaningful contribution to achieving the District's clean energy goals.

**Please summarize your recommendations.**

A. I recommend that the Commission:

1. Reject Pepco's MRP and PIMs and continue traditional cost of service regulation until Pepco files a new MRP application that remedies the deficiencies in its current application and addresses the impact of COVID-19 on Pepco's cost projections and load forecasts.

2. Implement an integrated distribution planning framework in the District of Columbia and direct Pepco to develop such a plan. The planning framework

should be holistic and transparent, and should include the development of a grid modernization plan.

3. Consider alternative cost recovery mechanisms to provide funding between rate cases for projects that meaningfully advance the District's energy policy goals.

4. Require that any future MRP filing:

    a. Provide strong cost containment incentives by capping revenue requirements and only sharing utility over-earnings;

    b. Escalate the majority of the revenue requirement based on external indexes rather than utility cost forecasts;

    c. Include PIMs that advance the District's climate and energy goals as proposed in my Rebuttal Testimony.

## III. THE COVID-19 PANDEMIC NECESSITATES A CAUTIONARY APPROACH

**Q. In what ways does COVID-19 impact Pepco's Application?**

A. The coronavirus pandemic has had profound effects on public health and the economy of the District of Columbia. Since the spread of the COVID-19 virus in the Washington, D.C. metropolitan region, and the ensuing state of emergency and public health emergency declared by Mayor Bowser, the District of Columbia is experiencing a severe economic crisis. The unemployment rate in the District of Columbia quickly jumped from 5.1% in February 2020 to 11.1% in April 2020.[4] In this regard, I commend Pepco for proactively offering relief to our ratepayers such as suspending service disconnections, reconnecting previously disconnected customers, and waiving late payment fees. Given the depth of this economic crisis, however, additional relief may be needed in the future such as deferral of any rate increases in the interest of protecting District of Columbia residents and businesses. Further, the impact of this economic crisis may be most severe for low-and-moderate income residents and underserved communities, and therefore extra relief may be necessary to assist these households.[5] For example, I recommend that Pepco refer any customers to DOEE prior to disconnection to ensure that the customer receives all possible assistance prior to being disconnected. In addition, the Commission could consider extending the current enrollment period for Residential Aid Discount customers from18 months to 24 months, which will extend the benefits for these customers.

**Q. Is the economy likely to rebound in the coming months?**

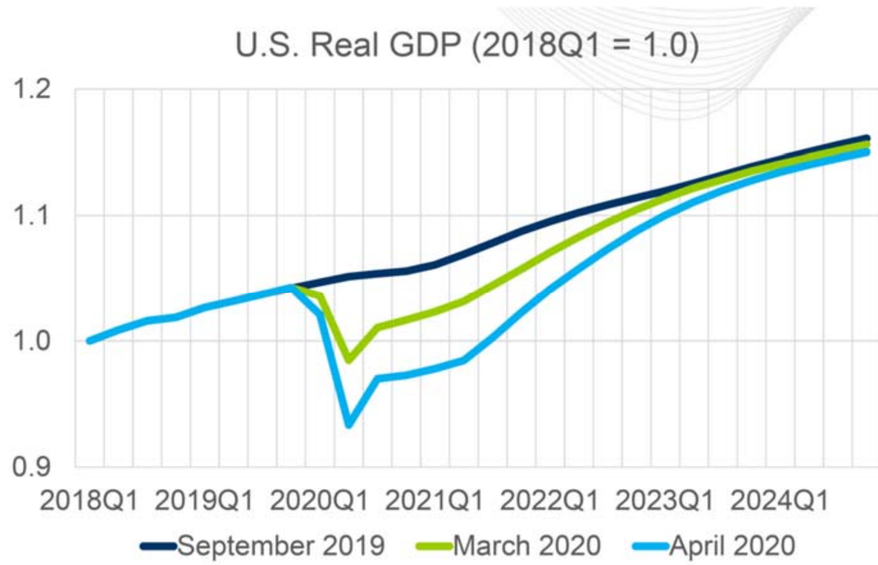
A. It is difficult to say how the economy will respond over the medium and long-term. However, PJM's forecasting team references Moody's Analytics April 2020 forecast, which indicates that recovery may be slow, and that a full recovery may not be made until mid-2023, as shown in the figure below.

---

[4] U.S. Bureau of Labor Statistics, https://www.bls.gov/eag/eag.dc.htm (viewed May 27, 2020).

[5] Indeed, the Commission recently opened a new docket to explore potential options available to the Commission to assist ratepayers struggling to pay their utility bills as a result of the COVID-19 pandemic (Formal Case No. 1164, Order No. 20358, *rel.* May 28, 2020).

**Figure 1. Moody's Analytics Forecast**




*Source: Update of COVID-19 Load Impacts, Presentation to PJM Planning Committee, May 12, 2020, citing Moody's forecast:* *https://www.inquirer.com/business/recovery-economy-zandi-moodys-virus-covid-19-jobs-prediction-20200423.html*

**Q. What has been the impact of COVID-19 on electricity usage?**

A. The immediate impact is that electricity usage across the region has declined precipitously. The crisis has forced major behavior change on energy users including the normalization of telecommuting as the default work mode for corporations, government agencies, and institutions. It has also forced the permanent closure of more than 100,000 small businesses nationwide, including many locally-owned businesses in the District of Columbia.

PJM reports that April 2020 weekday peak demands were nearly 10 percent lower than predicted, and energy use was 8 percent lower.[6] In the District of Columbia, these reductions have been much sharper. According to DOEE's preliminary benchmarking records for March and April of 2020, the total electricity used by the buildings subject to the District's benchmarking regulations[7] has decreased by about 24% in March 2020 compared to March 2019, and by about 35% in April 2020 compared to April 2019. These numbers represent preliminary reports from a group of buildings subject to the District's benchmarking law. While these values have not undergone the full review process, they provide an illustration of the magnitude of the load reduction impacts from COVID-19.

Over the medium and long term, there is great uncertainty regarding electricity usage. Telecommuting appears to be quickly becoming the new "norm" for many employees of both the public and private sectors, and a slow economic recovery will hinder the ability of many businesses to reopen. These effects may extend far into the future and make the task of forecasting load and investment needs extremely difficult.

[6] Andrew Gledhill, Update of COVID-19 Load Impacts, Presentation to PJM Planning Committee, May 12, 2020, available at https://pjm.com/-/media/committees-groups/committees/pc/2020/20200512/20200512-item-16-covid-19-load-impact-update.ashx.

[7] These buildings are 50,000 square feet or larger, and therefore include most of the office buildings, hotels, large multi-family apartments, and institutions, representing over half of total square footage in the District.

**Q. What does this mean for Pepco's proposed MRP?**

A. Pepco's proposed MRP revenue requirements are based on budget forecasts that were developed prior to the COVID-19 pandemic and do not reflect the profoundly altered economic reality and the resulting negative impact on energy usage in the District of Columbia that is likely to persist for years. Pepco's capital budgets contain nearly $180 million in load-driven investments for the 2020-2022 period[8] -- investments which may no longer be needed, or which could be deferred.

**Q. Has Pepco revisited its load forecast or revenue requirements in light of the COVID-19 impacts?**

A. No. When asked whether the COVID-19 crisis has impacted Pepco's load forecasts and revenue requirements forecast, Pepco responded that it had not performed such analysis.[9]

**Q. Would it be reasonable to approve an MRP based on cost forecasts at this time?**

A. No. The sharp decline in electricity demand in the District of Columbia and the uncertainties of future load patterns due to COVID-19 have called into question the accuracy of the factual record of this case. In particular, the effects of COVID-19 have compromised the Commission's ability to ensure that rates based upon Pepco's pre-pandemic cost forecasts are just and reasonable.

[8] Exhibit DCG (3A)-1.
[9] Response to FC 1156 Pepco response to DCG DR 8-11 (attached hereto as Exhibit DCG (3A)-2).

**Q. What information would be needed to develop an accurate factual record?**

A. At a minimum, it would be necessary to have updated expenditure and cost forecasts from Pepco, with an appropriate discovery period for the parties.

**Q. If the Commission were to approve Pepco's current MRP proposal, are there any measures in place that would protect customers?**

A. The primary customer protection measure is the re-opener provision. The re-opener provision, as proposed by the Company, would allow any party to file a petition to re-open and modify or terminate the MRP due to unforeseen circumstances.[10] The COVID-19 pandemic is a perfect example of unforeseen circumstances in which one would expect the re-opener provision to be invoked. Therefore, it should be expected that a petition to invoke the re-opener provision of the MRP would be filed almost immediately were Pepco's MRP to be approved.

**Q. Would Pepco's proposed annual reconciliation filing and earnings sharing mechanism protect customers if investments were lower than anticipated?**

A. No, not sufficiently. Pepco's MRP proposal establishes revenue requirements based on pre-COVID-19 forecasts, and allows Pepco to retain a portion of any profits that it makes if its costs are lower. Specifically, Pepco's proposed earnings sharing mechanism would allow Pepco to earn an additional 25 basis points above the allowed return on equity (ROE), plus 25 percent of any additional underspend. While allowing utilities to retain a portion of cost savings due to efficient management can be an effective means of incentivizing cost efficiencies, it is inappropriate when cost reductions are due to an

---

[10] Wolverton Testimony, Exhibit (C), at 44.

extraordinary event such as the COVID-19 pandemic. In fact, it would be particularly unfair to customers to allow Pepco to increase its earnings when its District of Columbia's customers are suffering great financial hardship.

**Q. In light of the COVID-19 pandemic, what do you recommend?**

A. I recommend that the Commission continue with traditional cost of service regulation until the impacts of the pandemic on system needs are better understood and until Pepco remedies the deficiencies in its MRP that I summarize in the following sections.

## IV. RESPONSE TO PURPORTED BENEFITS OF PEPCO'S MRP

### Energy Policy Goals

**Q. In his rebuttal testimony, Pepco Witness McGowan elaborates on the purported incremental customer benefits the Company's proposed MRP provides and claims that Pepco's proposed MRP would facilitate investments that support the District's energy policy goals.[11] Do you agree?**

A. No, and this is a critical failing of Pepco's proposed MRP, as supporting the District's energy policy goals is the primary reason that alternative forms of regulation (AFOR) should be explored in the District of Columbia. In its December 2019 policy order, the Commission stated that it views "alternative forms of regulation as a potential tool in assisting the District in achieving its clean energy and environmental goals to the benefit

[11] McGowan Rebuttal Testimony, at 10.

of District residents and ratepayers."[12] Thus, it is imperative that any AFOR be shown to advance the District's energy policy goals.

Yet despite being the key rationale for an AFOR, Pepco has not demonstrated that its MRP will facilitate investments that advance the District's energy policy goals.

Witness McGowan claims that "investments in reliability and resiliency helps create a more reliable grid that helps support modernization."[13] Though these investments may support modernization, as I discuss below, it is a public utility's core responsibility to provide reliable electric service, and the Company has not proposed any actions targeting resiliency specifically. In addition, witness McGowan admitted, with respect to greenhouse gas emissions in the Company's MRP proposal, "[t]here is no specific investment … that is targeted to have, to lower greenhouse gas emissions."[14]

**Q. Why do you claim that Pepco's proposed MRP would not facilitate incremental investments that support the District's energy policy goals?**

A. Pepco claims that, without the type of expedited cost recovery provided by an MRP, it would be challenging to fund projects that advance the District's public policy goals.[15] However, the Company's MRP contains no investments in the grid that would accelerate achievement of the District's goals; instead, the investments proposed by Pepco represent

---

[12] DC PSC, Order, December 20, 2019, at i.
[13] OPC-SI, page 158, lines 21-22 and page 159, lines 1-2.
[14] *Id. at* page 159, lines 11-13.
[15] McGowan Rebuttal Testimony, at 10.

the types of reliability investments that Pepco has been making under traditional cost of service regulation. While these may be worthy investments, they:

- Are not new types of investments that would be enabled by the expedited funding provided by an MRP; and
- Represent the continuation of historical investment patterns, rather than the types of innovative investments needed to transform the grid.

In other words, the proposed MRP would provide no incremental benefit to customers in terms of supporting the District's energy policy goals.

**Q. Why do you claim that the investments contained in the MRP are not new types of investments that would be enabled by the MRP?**

A. In his rebuttal testimony, Witness McGowan points to investments that he claims would "modernize the grid and advance the District of Columbia Goals."[16] These investments include projects such as "distribution automation and the continued installation of Remote Monitoring Systems, as well as Area Reliability Plans, network transformer and protector replacements, and increased cybersecurity efforts."[17]

Yet these types of investments are the same types of reliability investments that Pepco has been making in its system without an MRP. For example, Pepco reports that it spent approximately $19.56 million on Remote Monitoring System deployments between 2013

[16] McGowan Rebuttal Testimony, at 36.
[17] McGowan Rebuttal Testimony, at 36.

and 2018 and has an additional $14.73 million is budgeted between 2020 and 2023.[18] Likewise, Pepco spent approximately $2.9 million on distribution automation communications and integration projects between 2015 and 2018, and plans an additional $1.98 million between 2020 and 2023. Finally, Pepco's cybersecurity projects are simply aimed at increasing the capacity of existing firewalls[19] and upgrading router hardware to handle new router codes,[20] rather than innovative cybersecurity initiatives.

In other words, the types of investments that Pepco claims modernize the grid and support the District's energy policy goals simply represent a continuation of investments that have historically been made under traditional cost of service regulation, rather than any sort of new initiative supported by the MRP.

**Q. Witness McGowan claims that the Company's investments in energy efficiency or greenhouse gas emission reductions would represent a measurable and quantifiable benefit of its MRP.[21] Do you agree?**

A. No. Many of the clean energy and grid modernization activities touted by the Company in its filing, such as the implementation of battery storage, deployment of public purpose microgrids, deployment of electric vehicle charging infrastructure, continuing the deployment of community solar projects, advancing energy efficiency and demand response, and implementing new uses for Advanced Metering Infrastructure (AMI), are either largely dependent on other parties, or are generally funded through other means

---

[18] PEPCO (I)-1, page 38 of 78.
[19] PEPCO (I)-2, page 226 of 238.
[20] PEPCO (I)-2, page 233 of 238.
[21] McGowan Rebuttal Testimony, at 10.

and are not specifically included in the Company's MRP budget. Therefore, the proposed MRP will have no impact on these initiatives. In short, the clean energy and grid modernization activities touted by the Company are not a measurable and quantifiable benefit of the MRP.

**Q. Pepco Witness Brian Clark claims that a more reliable system will reduce greenhouse gas emissions and support the goals of the District. What evidence has Witness Clark provided to support his claim?**

A. Pepco Witness Clark touts that "a more reliable system requires fewer truck rolls for corrective maintenance and reduces the need for backup generation, which reduces greenhouse gas emissions and supports the goals of the District of Columbia and the Commission."[22] Yet when asked for the quantity of projected greenhouse gas emission reductions related to this reduction in truck rolls and backup generation, Pepco indicated it had not performed this study.[23] Further, when Pepco was asked whether it quantified the reduction in greenhouse gas emissions from investments outlined in its MRP proposal, the Company also responded that it had not performed that study.[24]

**Q. Pepco also claims that any of its projects that address reliability and resiliency "should be viewed as furthering grid modernization."[25] Do you agree?**

A. No. I do not disagree that a reliable grid is important. In fact, it is the basic obligation of Pepco. This is where Pepco and I disagree: A capital plan focused on Pepco's basic

[22] Clark Rebuttal Testimony at 34 and 36.
[23] Pepco Supplemental Response to DCG DR 8-4(A-C), attached hereto as Exhibit DCG (3A)-3.
[24] Pepco Supplemental Response to DCG DR 8-4(D). See Exhibit DCG (3A)-3.
[25] McGowan Rebuttal Testimony, at 38-39.

obligation to provide a reliable grid for its customers can be evaluated under the traditional rate case and does not justify an MRP.

Further, while I do not dispute that investments in reliability will also have incidental resiliency benefits, Pepco admits that it does not have a resilience plan,[26] nor does it have metrics for measuring resilience.[27] Instead, the resiliency benefits claimed by Pepco are those arising from its standard reliability investments, rather than the result of innovative projects aimed at utilizing new technologies and approaches (such as investing in distributed energy resource management systems (DERMS) to utilize DER as grid assets, developing rules to allow for DER islanding, or establishing ancillary service markets for DER).

**Q. Does Pepco's MRP contain a plan to make investments in the grid that would accelerate achievement of the District's Energy Policy Goals?**

A. No, Pepco's MRP contains no such plan. As described above, the investments contained in Pepco's MRP represent the continuation of historical investment patterns, primarily aimed at increasing reliability.[28] While reliability is certainly a worthy objective, these are not the types of investments that will transform the grid. To modernize the grid so that it can integrate greater levels of DERs and facilitate the District's energy policy goals, many new types of investments are required, some of which the Company listed in

---

[26] Pepco Supplemental Response to DCG DR 5-70, attached hereto as Exhibit DCG (3A)-4.
[27] Pepco response to DCG DR 8-23(D), attached hereto as Exhibit DCG (3A)-5.
[28] For example, Pepco states that "The justification for [distribution automation] is improved service reliability by reducing the impact of large feeder outages." PEPCO (I)-1, page 31 of 78.

response to DCG DR 5-10.[29] However, the Company states that it "does not have immediate plans for implementing any of the technologies it has not already implemented."[30] Further, Pepco has no overarching grid modernization plan or integrated distribution system plan that would guide transformative investments going forward.

**Q. Pepco states that you ignore that the District's clean energy and grid modernization goals are the subject of ongoing proceedings.[31] Should the fact that there are ongoing proceedings related to the District's clean energy and grid modernization goals prohibit Pepco from proposing investments related to these goals?**

A. No. Even though there are ongoing proceedings and working groups pertaining to several of the District's clean energy goals, there are numerous investments and PIMs the Company could propose to start advancing these goals today.

Within this proceeding I have suggested several investments and actions Pepco could propose in this MRP, including:

- Increasing DER hosting capacity through the use of advanced inverters,
- Reducing line losses on the distribution system through the deployment of conservation voltage reduction (CVR), volt/VAR optimization (VVO), and
- Screening proposed capital investments related to load growth for Non-Wires Alternatives (NWAs).

[29] Attached hereto as Exhibit DCG (3A)-6.
[30] Pepco response to DCG DR 5-11(F), attached hereto as Exhibit DCG (3A)-7.
[31] McGowan Rebuttal Testimony, at 37.

Further, Pepco could create a holistic grid modernization plan to lay out its investment schedule for investments related to distributed resource management, field automation, substation automation, operational communication infrastructure, and sensing and measurement equipment.

**Q. Pepco states that it will be able to develop and implement more projects and programs that advance the District's energy policy goals once clear and definitive directives from the Commission are in place.[32] Is it reasonable to approve an MRP in advance of such Commission directives?**

A. As noted above, there are many actions that Pepco could have proposed in its MRP to advance the District's energy policy goals, and which might have provided some justification for an MRP. However, given that Pepco feels that it is necessary to wait for clear and definitive directives from the Commission before it develops and implements more projects and programs that advance the District's energy policy goals, it is premature to approve an MRP at this time.

While an MRP can provide funding and flexibility for investments in grid modernization and energy policy goals, there is no justification to approve an MRP if the Company does not plan to undertake such actions, asserts that it needs to wait for guidance from the Commission before making any investments, and does not propose any measurable or quantifiable contributions towards the District's energy policy goals.

[32] McGowan Rebuttal Testimony, at 38.

**Q. Can the District's energy policy goals be advanced more efficiently and effectively than through the use of an MRP to provide annual revenue increases?**

A. Yes. Other cost recovery mechanisms (such as Massachusetts' "Grid Modernization Factor," described in my direct testimony) can be used to provide funding between rate cases for projects that advance the District's energy policy goals. However, Pepco should not be granted expedited cost recovery until the Company develops a comprehensive grid modernization plan with specific investments that would contribute to the District's energy policy goals.

**<u>Transparency</u>**

**Q. Witness McGowan states that a benefit of the Company's MRP is that it "provides customers, the Commission and interested parties a longer term view of future capital investments and operation and maintenance plans before the utility makes those investments." Do you agree that this is an incremental benefit provided by Pepco's proposed MRP?**

A. Although Pepco's construction report provides a list of projects and forecasted future budgets, I disagree with Pepco that this is a meaningful benefit of the MRP. The context of a rate case proceeding provides little opportunity for stakeholder comment, and the list of proposed investments fails to provide context for how the investments will further the District's energy policy goals. It is as though Pepco informed stakeholders of its driving route, but failed to specify the destination it was targeting. Without an overall destination in mind, how will we know when we get there? And how will we know whether Pepco's chosen route is the most efficient and cost-effective route?

**Q. Are there more efficient and effective means of providing transparency into Pepco's investment plans?**

A. Yes. In fact, an integrated distribution plan (IDP) is ideally suited for this objective. As explained in my direct testimony, an IDP is a planning process that looks ahead 5 to 10 years with the goal of optimizing grid assets, minimizing total system costs, and achieving energy policy goals, such as measurable progress toward the District's commitment to reduce greenhouse gas emissions by 100 percent by 2050. The IDP process involves two general efforts:

1) multiple scenario-based forecasts of DERs and load growth to anticipate potential distribution grid impacts to identify grid needs, and

2) a solutions assessment, including potential operational changes to system configuration, needed infrastructure replacement, upgrades and modernization investments, which favors DER aggregation and NWA solutions.[33]

This process enables the analysis of the locational value of DERs, helping to ensure that the grid is able to integrate distributed energy resources and optimize their use. Further, stakeholder input is an essential component of the IDP process, with such input helping to shape the assumptions and scenarios analyzed.

[33] ICF International, *Integrated Distribution Planning,* Prepared for the Minnesota Public Utilities Commission, August 2016, at vi. Available at https://www.energy.gov/sites/prod/files/2016/09/f33/DOE%20MPUC%20Integrated%20Distribution%20Planning%208312016.pdf

Pepco's "construction report" stands in stark contrast to an IDP. The construction report is provided in the context of a litigated proceeding, with no opportunity for collaborative stakeholder input. The construction report is not based on multiple scenarios of future loads or DER penetrations, and does not consider NWAs. Finally, the construction report provides no overarching plan to guide investments to modernize the grid.

**Administrative Burden**

**Q. Witness McGowan's rebuttal testimony claims that Pepco's MRP would decrease the administrative burden and cost for the Commission and stakeholders.[34] Do you agree?**

A. No, I do not believe that Pepco's proposal will be associated with a meaningful reduction in administrative burden for several reasons. First, Pepco's proposal increases the up-front administrative burden by requesting that the Commission pre-approve its spending plan. To provide such pre-approval, the Commission must determine whether Pepco's forecasts are reasonable, rather than simply review historical data to verify project needs. Second, the annual reconciliation filings create administrative burden by requiring prudency determinations around the execution of projects and investigations regarding cost variances. Therefore, while the annual reconciliation filings would not revisit issues related to rate design, ROE, or similar issues, they may require revisiting the prudency of investments multiple times. This, combined with the increased up-front burden of

[34] McGowan Rebuttal, at 11.

investigating cost forecasts, is likely to negate the benefits of a three-year interval between rate cases.

**Q. Is it possible for MRPs to reduce administrative burden?**

A. Yes, if designed correctly, MRPs can reduce administrative burden in several ways:

1) By not permitting annual reconciliations of costs, most MRPs avoid the need for prudency reviews between rate cases;

2) Where utility-specific cost forecasts are used, downward-only reconciliations at the end of the MRP term limit the scope of reconciliations to cumulative utility under-spend over the term of the MRP;[35]

3) The use of external indexes to escalate revenue requirements, rather than specific utility project forecasts, reduces up-front effort to review the utility's proposals and requires no pre-approval from the Commission for specific investments.

Because Pepco's proposed MRP does not adhere to any of these common MRP practices, it is unlikely that Pepco's proposal would reduce administrative burden.

[35] This approach is used in New York. See, for example, Joint Proposal in Case 16-E-0060, September 19, 2016, at 28-29.

**<u>Operational Efficiency</u>**

**Q. Witness McGowan claims that Pepco's proposal provides incentives for the Company to reduce costs and improve operational efficiency because the Company will share in a portion of the upside while having no guarantees of cost recovery if costs exceed the approved MRP plan.[36] Do you agree that the Company's proposal provides enhanced efficiency incentives?**

A. No. In fact, the proposed MRP *reduces* efficiency incentives relative to traditional cost of service regulation, in which regulatory lag between rate cases encourages the utility to limit its spending (since it would not recover any overspend between rate cases), and any cost savings between rate cases are retained by the utility.

**Q. Pepco Witness Zarakas notes that improving cost control incentives is a frequently cited reason behind commission adoption of MRPs.[37] Why do you assert that Pepco's proposed MRP would actually worsen cost control incentives?**

A. There are two key design flaws in Pepco's MRP that substantially reduce the Company's incentive to control costs. The first flaw is that the Company proposes to set the MRP revenue requirements based on its own cost forecasts. As described in my direct testimony, utilities have an inherent bias to overstate their costs. The bias exists because the utility may expect the regulator to lower its cost forecasts, and because there is little payback for a utility that underestimates costs since any overrun would jeopardize its rate of return and penalize its shareholders.[38] Due to information asymmetry, it is extremely

[36] McGowan Rebuttal Testimony, at 13.
[37] Zarakas Rebuttal Testimony, at 4.
[38] Costello, Ken, "Multiyear Rate Plans and the Public Interest" (National Regulatory Research Institute, October 2016), at 36.

difficult to ensure that utility cost forecasts are accurate, which puts customers at risk while reducing the utility's cost containment incentive.

Second, Pepco's proposal to reconcile costs associated with utility over-spending is highly unusual and significantly undermines cost containment incentives. While I understand that Pepco is not proposing a 100% true-up of costs in its proposed MRP, I stand by and reiterate my statement that its proposed earnings sharing mechanism design is more akin to a formula rate plan due to the fact that it prevents Pepco's ROE from deviating far from its allowed ROE, while shifting the majority of the risk of overspending to customers. Outside of the small deadband of 25 basis points, the Company would be allowed to recover 75% of any cost overruns unless a cost was found to be imprudent. This does not create an adequate incentive for cost-containment and this construct for allowing for reconciliation of utility under-earnings is virtually unheard of within an MRP.

**Q. Pepco Witnesses McGowan and Zarakas challenge your comparison of its proposed MRP to a formula rate plan. Witness McGowan points out that the Company's proposal includes a deadband, only 75% recovery of amounts below the deadband, and requires the Commission to approve recovery of any over-spend.[39] Do these design elements distinguish the Company's proposed MRP from a formula rate plan?**

A. No, not at all. In fact, deadbands around the ROE and prudency reviews of utility over-spending are common elements of formula rate plans. In response to discovery, the

[39] McGowan Rebuttal Testimony, at 34.

Company acknowledges that at least four utilities with formula rate plans have deadbands around the ROE within which the utility's revenues are not adjusted.[40] In addition, Company Witness Zarakas states that it is his general understanding that Commissions and interveners are able to review expenditures that result in revenue changes during the term of a formula rate plan, and that these reviews generally focus on the prudency of expenditures.[41] As I stated in my direct testimony, it is generally impractical and burdensome to establish imprudence of costs in all but the most egregious cases.[42]

Formula rate plans may limit the extent to which revenues can be adjusted to recover utility over-spend, with an effect similar to the Company's proposal to only recover 75% of over-spend outside of the deadband. For example, Arkansas limits annual rate adjustments under formula rate plans to 4%.[43]

Thus, the Company's assertion that these elements distinguish its MRP from formula rate plans is misleading and factually incorrect.

---

[40] In response to DCG DR 8-13(B), attached hereto as Exhibit DCG (3A)-8, the Company lists Alabama Power (Alabama, Docket 18416), Commonwealth Edison (Illinois, Docket D-11-0721), Entergy (Arkansas, Docket 15-015-U), and Southwestern Electric Power Company (Louisiana, Docket U-32220) as utilities with formula rate plans and deadbands.

[41] Response to DCG DR 8-13(C). See Exhibit DCG (3A)-8.

[42] Courtney Lane Direct Testimony, at 20.

[43] AR Code § 23-4-1207 (2015)

**Q. Pepco Witness Wolverton disputes your portrayal of the Maryland Public Service Commission's conclusions regarding cost reconciliations, and notes that the Maryland Commission's decision "includes a full reconciliation after-the-fact in the next rate case."[44] Is Witness Wolverton's statement accurate?**

A. No, not entirely. While the Maryland Commission has determined that it may allow the utility to reconcile prudently incurred costs at the next rate case, Witness Wolverton's neglects to mention that the Maryland Commission adopted an asymmetrical method for returning over- and under-collections of prudent expenditures. In cases of overcollection, the carrying costs shall continue to apply during the period of any repayment to ratepayers, while no carrying costs will be paid in cases of under-collection.[45] This asymmetrical reconciliation provide a greater incentive to control costs than if the utility were to be allowed to reconcile costs in each year of the MRP.

## V. MRP FRAMEWORK RECOMMENDATIONS

**Q. Does Pepco accurately portray your recommendations regarding an MRP framework?**

A. No. In some cases, Pepco is confused regarding my recommendations, while in other cases Pepco misconstrues my recommendations. I address these issues below.

---

[44] Wolverton Rebuttal Testimony, at 27.
[45] Maryland Public Service Commission, Order No. 89226, February 4, 2020, at 40.

**<u>Use of Indexes versus Cost Forecasts</u>**

**Q. Company Witness Zarakas states that you appear to recommend escalating revenue requirements by inflation, but that you also appear to recommend the use of an external index to escalate costs, not revenue requirements.[46] Do you wish to clarify your recommendation?**

A. Yes. Quite simply, my recommendation is that the Commission reject Pepco's proposed MRP for a variety of reasons, including the fact that the MRP shifts undue risk to ratepayers by relying on Pepco's cost forecasts. However, if an MRP framework is adopted in the District of Columbia in the future, then I recommend numerous modifications to the MRP design framework put forward by Pepco.

One of my core recommendations is that the historical test year revenue requirement be escalated according to an inflation index. Although I referred to California's approach of using various external indices to develop Southern California Edison's revenue requirement, I did not specifically recommend adopting California's approach, nor did I recommend escalating costs instead of revenue requirements.

At the same time, the use of an index-based approach provides several important benefits relative to an approach based on a utility's project-specific forecasts:

- First, delinking revenue growth from spending creates an incentive for the utility to identify cost efficiencies and encourages the utility to focus more on innovative solutions such as NWAs. This means that if Pepco can find a more

[46] Zarakas Rebuttal Testimony, p. 12.

cost-effective way to address the needed outcomes within its capital plan, it has the flexibility to do so.

- Second, customers are protected from inflated cost forecasts, since it is difficult for regulators to ensure that the utility's cost forecasts are reasonable, even when presented with detailed lists of projects. The use of an inflation index provides some comfort that the trajectory of revenue requirements provided to the utility between rate cases is reasonable.

**Q. Would an index-based approach prevent Pepco from investing in grid modernization and implementing the District's climate and energy goals?**

A. No. As indicated in my direct testimony, separate cost-recovery mechanisms can be used for large, unusual investments. For example, in Massachusetts, grid modernization costs are recovered separately through a Grid Modernization Factor (GMF). The utility is required to submit a GMF rate adjustment and reconciliation filing containing its proposed grid modernization factors, as well as testimony and supporting documentation, regarding documentation of projects completed, cost variances, and prudency.[47] A similar approach could be used for Pepco upon the approval of a grid modernization plan, or for other unusual investments identified as part of the Company's IDP.

[47] Commonwealth of Massachusetts Department of Public Utilities, Order on D.P.U. 15-120; D.P.U 15-121; D.P.U. 15-122. May 10, 2018.

**Earnings Sharing Mechanism**

**Q. Did Pepco Witness Wolverton accurately describe your position on the earnings sharing mechanism (ESM)?**

A. No. Pepco Witness Wolverton mischaracterizes my position on Pepco's ESM deadband on page 25, lines 16-20 of his Rebuttal Testimony and uses it out of context. Witness Wolverton seems to infer from my recommendation for a larger deadband that I also support not establishing any upper limit on earnings. This inference is incorrect. While I did not initially comment on whether there should be an earnings cap, I agree with OPC's concerns that that the lack of a cap creates the potential for the Company to have unlimited earnings as long as Pepco shared 75% of the excess with customers.

**Q. Do you agree with Witness Zarakas' rationale for the use of a 25-basis point ESM deadband?**

A. No. In response to my Direct Testimony that stated MRPs generally contain ESM deadbands of 100 basis points or more, Pepco Witness Zarakas states on page 9 of his Rebuttal Testimony that the Company has traded 75 basis points of potential earnings above the allowed ROE for some downside protection. While this structure benefits Pepco by reducing its risk, it increases risks to ratepayers. This response also ignores my stated rationale behind my support of a larger deadband to over-earnings.

First, I would like to reiterate that I only support an ESM for when Pepco does not use cost forecasts, as indicated on page 52 of my Direct Testimony. Allowing for any sharing of over-earnings if the utility is using a company specific cost forecast shifts risk to ratepayers due to information asymmetry. Regulators and intervening parties typically do not have the same level of expertise or access as the utility, thereby making it difficult to determine if a planned investment is necessary or prudent. If an ESM is applied to over-earnings in this situation, Pepco would benefit financially if it overstates its cost forecast and then produces cost "savings." In this scenario, the utility would keep 100% of the first 25 basis points of any cost "savings," plus 25% of any additional "savings" outside of the deadband. If these are not true savings, but instead the result of inflated cost forecasts, then ratepayers benefit very little from this plan, while the utility would take home a higher ROE. In short, under Pepco's proposal, it would be the ratepayer that bears the majority of the risk of cost overruns and forecast errors.

Only if an index-approach is used would an ESM for over-earnings be justified. In this case, a larger deadband would strengthen the utility's incentive to find cost efficiencies and provide a large enough incentive to promote investments in NWAs. This approach creates larger benefits to both the ratepayer and the utility.

Further, Pepco's proposed ESM deadband for under-earnings shifts most of the risk of overspending to ratepayers by allowing the Company to recover 75% of any cost overruns, unless found to be imprudent by the Commission. In this case the ratepayer has more risk, but no control over that risk. On the other hand, Pepco has control over the management of its expenses to address risk associated with overspend.

**Q. Pepco Witness Wolverton indicates on page 25 of his Rebuttal Testimony that none of the parties explain how the annual sharing will occur if there is not an annual reconciliation of some sort. What is your proposal for how annual sharing would occur if there is not an annual reconciliation filing as proposed by the Company?**

A. Earnings sharing mechanisms are common in MRPs, even though most MRPs do not contain annual reconciliation mechanisms. ESMs can be implemented by requiring the utility to submit an earnings report each year. If the calculated ROE exceeds the ROE authorized for that year, then sharing would occur. Specifically, the utility would calculate the amount of annual change to its distribution revenue that would be necessary to reduce its ROE to the allowed amount. The reduction in revenues would then be implemented through a separate rider or potentially combined with another rider, such as the Bill Stabilization Adjustment rider.

## VI. PERFORMANCE INCENTIVE MECHANISMS

**Q. Do you agree with Pepco Witness Clark's assertions on page 34 of his Rebuttal Testimony that Pepco's proposed PIMs contribute to clean energy goals?**

A. No. Pepco's proposed PIMs do not make a meaningful contribution to achieving the District's clean energy goals. As indicated in my Direct Testimony, the proposed Level 1 interconnection timeline PIM is a core responsibility of Pepco and is already governed under existing regulations. In addition, Pepco acknowledges that the other four proposed PIMs and tracking metric do not "necessarily align with [the District's or the

Commission's energy and climate] goals. They're not developed to address certain goals."[48]

**Q. Do you agree that Pepco's interconnection PIM will contribute to helping the District achieve its clean energy goals?**

A. No, I do not. As discussed on pages 60 and 61 of my Direct Testimony, when excluding Community Renewable Energy Facilities (CREFs) from Pepco's 2019 Level 1 interconnection data, Pepco's performance has been very high in each of the past three quarters in meeting the Commission's new timeline for Authorization To Interconnect (ATI). Pepco has achieved this performance without any positive financial incentive. Therefore, it is unclear why additional financial incentives should be provided in this area.

**Q. Has Pepco summarized your rationale for rejecting the SAIDI and SAIFI PIMs accurately?**

A. Not entirely. What Pepco Witness Clark fails to acknowledge in his justification for Pepco's SAIDI and SAIFI PIMs is that Pepco's reliability investments have yielded system-wide improvements in SAIDI and SAIFI without a positive financial incentive.

As Witness Clark states on page 27 of his Rebuttal Testimony, "the Company has made great strides over the past several years in terms of reliability, the Company has an obligation to deliver safe and reliable service to its customers, and customers expect us to continue to maintain and enhance reliability."

---

[48] OPC-SI, page 167, lines 18-22 and page 168, lines 1-4.

This speaks to my main concerns with Pepco's proposed SAIDI and SAIFI PIMs, which are:

1) These PIMs would reward the Company for an action that is part of its public service obligation, and

2) These PIMs would provide Pepco with a greater financial benefit than is needed to align its performance with the public interest.

To the first concern, Pepco has a core responsibility to provide reliable electric service to its customers.

For the second concern, Pepco already earns a return on its capital investments related to improvements in reliability, and Pepco's reliability performance has improved considerably in recent years. Between 2013 and 2018, Pepco's SAIDI level has improved by 58% and its SAIFI level has improved by 40%. The Company has shown that it is willing and able to improve performance without an additional performance incentive and does not provide adequate justification for why the Company should receive additional financial benefit for meeting standards it has been able to meet without such an incentive.

Lastly, Pepco has not quantified the incremental benefits customers will receive from the higher performance levels it is proposing for these PIMs, so it is unclear whether the benefits outweigh the costs of the additional reliability investments contained in its MRP, let alone the cost of an additional financial incentive.

**Q. Does this conclude your testimony?**

A. Yes, it does.

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO STAFF DATA REQUEST NO. 13

QUESTION NO. 1

Reference PEPCO (I)-3. Please prepare a revised version of PEPCO (I)-3 that adds the following information for each Work Breakdown Structure (WBS):

A. Four-year total dollar amounts (2019-2022) for each WBS project.

B. Four-year total dollar amount of project contingency funds included under each WBS project.

C. Project contingency funds as a percent (%) of total dollar amounts for each WBS project.

D. Provide the dollar amount of Allowance for Funds Used During Construction (AFUDC) included with each WBS project.

E. Provide the projected increase to revenue requirement for each WBS project in each of the four years.

F. Date for each WBS project when it will be in service and serving customers.

G. An indication whether or not each WBS project is sub-transmission and confirm that the dollars shown are only those allocated to District of Columbia customers.

H. Indicate whether each project is Customer-driven, Reliability-driven, or Load-driven.

RESPONSE:

A. See FC 1156 Staff DR 13-1 Attachment, column 11.

B – C. Contingency reserves for each project are developed based on identification of all project risks and the estimated cost of exposure to those risk. The probability of the risk is then factored into determining an overall quantitative value for what should be included in the contingency for each project. The requested study of the individual projects has not been performed.

D. AFUDC is not included in exhibit PEPCO (I)-3. For the amount of AFUDC expected to be added to plant in service for each project over the four-year period, please see FC 1156 Staff DR 13-1 Attachment, column 12.

E. See FC 1156 Staff DR 13-1 Attachment, columns 13-17. Please note that this does not factor in 1) depreciation expense or accumulated depreciation, 2) accumulated deferred income taxes, 3) any other tax impacts, 4) any averaging of rate base (i.e. 13-month average), or 5) accrued AFUDC in column 12. This calculation only reflects Pepco's requested rate of return on the plant additions in columns 5-8, times the tax gross-up factor.

F. This information is reflected in PEPCO (I)-3. If there are dollars in the column for a particular year, the project is projected to be in service and serving customers in that year.

G. See FC 1156 Staff DR 13-1 Attachment, column 10. This chart reflects total project costs (i.e. not only those allocated to DC customers). The DC sub-transmission allocation factor is 42.03%. It is important to note that this chart also does not include sub-transmission projects physically located in Maryland which would be allocated between MD and DC.

H. See FC 1156 Staff DR 13-1 Attachment, column 9.

SPONSOR: Bryan L. Clark & Tyler W. Wolverton

Pepco Distribution- DC Plant Additions
Excluding AFUDC

| 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | Line | PROJECT | WBS | Sum of Total 2019 | Sum of Total 2020 | Sum of Total 2021 | Sum of Total 2022 | Budget Category | Subtransmission? | 2019-2022 Total | 2019-2022 AFUDC (Not Incl'd in columns 5-8, 11) | 2019 Rev Req | 2020 Rev Req | 2021 Rev Req | 2022 Rev Req | 2019-2022 Total Rev Req |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DAB01 | UDLPOSV5D | (1,075) | (1,000) | (1,167) | (1,000) | Reliability Driven | | (4,242) | (40) | (114) | (106) | (124) | (106) | (450) |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DCB01 | DLPCMR2DXX | 835 | 850 | 935 | 1,029 | Customer Driven | | 3,649 | - | 89 | 90 | 99 | 109 | 387 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DDB01 | UDLPRDA1D | 1,536 | 1,988 | 632 | 115 | Reliability Driven | | 4,271 | 115 | 163 | 211 | 67 | 12 | 453 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DDB02 | UDLPRM4DR | 4,022 | 3,449 | 3,937 | 3,463 | Reliability Driven | | 14,871 | 413 | 427 | 366 | 418 | 367 | 1,578 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DE101 | UDLPLM72 | - | - | 44,971 | 175 | Load Driven | Subtransmission | 45,145 | 6,151 | - | - | 4,771 | 19 | 4,790 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DE102 | UDLPLM7W14 | 14,687 | 622 | - | - | Load Driven | | 15,309 | 1,101 | 1,558 | 66 | - | - | 1,624 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DE106 | UDLPLNJ1 | - | - | - | 6 | Load Driven | | 6 | 2 | - | - | - | 1 | 1 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DE108 | UDLPLWF6 | 5,650 | 241 | - | - | Load Driven | | 5,891 | 187 | 599 | 26 | - | - | 625 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DEB02 | UDLPLM7D2 | - | - | - | 3,653 | Load Driven | | 3,653 | 422 | - | - | - | 388 | 388 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DEB08 | UDLPLWF3 | 3,432 | 4,384 | 5,729 | 7,674 | Load Driven | | 21,219 | - | 364 | 465 | 608 | 814 | 2,251 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DEB10 | UDLPLM7W21 | 460 | 2,321 | 1,594 | 767 | Load Driven | | 5,142 | - | 49 | 246 | 169 | 81 | 545 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DEB11 | DLPLM7W223 | 14,094 | 674 | - | - | Load Driven | | 14,768 | 563 | 1,495 | 72 | - | - | 1,567 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DEB13 | UDLPRM4WA6 | - | - | - | 40,084 | Load Driven | | 40,084 | 6,246 | - | - | - | 4,253 | 4,253 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DMB01 | UDLPOEMGD | (445) | 317 | 324 | 337 | Reliability Driven | | 533 | 0 | (47) | 34 | 34 | 36 | 57 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DMB02 | DLPRM32DXX | 5,855 | 6,127 | 7,378 | 7,087 | Reliability Driven | | 26,446 | - | 621 | 650 | 783 | 752 | 2,806 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DMB04 | UDLPRM3K1 | 1,951 | 2,113 | 2,167 | 2,246 | Reliability Driven | | 8,476 | 75 | 207 | 224 | 230 | 238 | 899 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DMB05 | UDLPRM4BE | 698 | 732 | 751 | 771 | Reliability Driven | | 2,952 | - | 74 | 78 | 80 | 82 | 313 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DMB06 | UDLPRM4BO | 1,049 | 1,006 | 1,034 | 1,069 | Reliability Driven | | 4,158 | - | 111 | 107 | 110 | 113 | 441 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DMB07 | UDLPRM4S1 | 0 | - | 92 | 100 | Reliability Driven | | 192 | 2 | 0 | - | 10 | 11 | 20 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DN101 | UDLPCSCAP2 | 2,553 | 2,975 | 236 | - | Customer Driven | | 5,764 | 52 | 271 | 316 | 25 | - | 612 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DNB01 | UDLPCM72D | 359 | 11 | 1 | 1 | Customer Driven | | 373 | 18 | 38 | 1 | 0 | 0 | 40 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DNB03 | UDLPCM71D | 1 | 1 | 1 | 1 | Customer Driven | | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DNB04 | DLPCS1W007 | 25,414 | 29,157 | 29,266 | 29,400 | Customer Driven | | 113,236 | - | 2,696 | 3,093 | 3,105 | 3,119 | 12,014 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DNB05 | UDLPCS3W | 3,058 | 3,099 | 3,077 | 3,100 | Customer Driven | | 12,334 | - | 324 | 329 | 327 | 329 | 1,309 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DNB06 | DLPCS1W022 | 41,474 | 36,868 | 36,507 | 36,600 | Customer Driven | | 151,450 | - | 4,400 | 3,912 | 3,873 | 3,883 | 16,068 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DS101 | UDLPRM4WA1 | 644 | 110 | - | - | Reliability Driven | | 754 | 9 | 68 | 12 | - | - | 80 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DS102 | UDLPRM4WA2 | 10,075 | 2,516 | 70 | 2 | Reliability Driven | | 12,663 | 386 | 1,069 | 267 | 7 | 0 | 1,343 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB01 | UDLPLNW3 | 3,555 | 3 | - | - | Reliability Driven | | 3,558 | 99 | 377 | 0 | - | - | 377 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB02 | UDLPLWF7 | 4,753 | 388 | (0) | 0 | Load Driven | | 5,141 | 131 | 504 | 41 | (0) | 0 | 545 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB03 | UDLPRGST1 | - | - | 26,356 | 8,917 | Reliability Driven | | 35,273 | 3,752 | - | - | 2,796 | 946 | 3,742 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB05 | UDLPRM4WA3 | - | 690 | 748 | 72 | Reliability Driven | | 1,509 | 14 | - | 73 | 79 | 8 | 160 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB06 | UDLPRM4WA4 | - | 14 | - | - | Reliability Driven | | 14 | 2 | - | 2 | - | - | 2 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB07 | UDLPRM4WA5 | - | - | 5 | - | Reliability Driven | | 5 | 1 | - | - | 1 | - | 1 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB09 | UDLPRM8BT | - | 12,933 | 71 | - | Reliability Driven | | 13,004 | 1,546 | - | 1,372 | 8 | - | 1,380 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB10 | UDLPRM8BU | 3,415 | 105 | - | - | Reliability Driven | | 3,520 | 388 | 362 | 11 | - | - | 373 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB11 | UDLPRM8BY | 6,640 | 68 | - | - | Reliability Driven | | 6,708 | 566 | 705 | 7 | - | - | 712 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB13 | UDLPRM41D | 1 | 1 | 0 | - | Reliability Driven | | 2 | - | 0 | 0 | 0 | - | 0 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB14 | UDLPRM42D | 109 | - | - | - | Reliability Driven | | 109 | - | 12 | - | - | - | 12 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB15 | UDLPRM4BA | 409 | 404 | 399 | 400 | Reliability Driven | | 1,612 | - | 43 | 43 | 42 | 42 | 171 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB16 | UDLPRM4BCX | 3,826 | 3,997 | 3,980 | 4,000 | Reliability Driven | | 15,803 | - | 406 | 424 | 422 | 424 | 1,677 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB17 | UDLPRM4BF | 3,798 | 3,955 | 3,257 | 3,201 | Reliability Driven | | 14,210 | - | 403 | 420 | 346 | 340 | 1,508 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB19 | UDLPRM4BN | 12,059 | 14,635 | 16,759 | 16,384 | Reliability Driven | | 59,836 | 1,500 | 1,279 | 1,553 | 1,778 | 1,738 | 6,348 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB20 | UDLPRM4BQX | 1,215 | 1,708 | 1,698 | 1,700 | Reliability Driven | | 6,320 | - | 129 | 181 | 180 | 180 | 671 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB21 | UDLPRM4DJ | 1,807 | 250 | 250 | 250 | Reliability Driven | | 2,557 | 33 | 192 | 26 | 26 | 27 | 271 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB24 | UDLPRM63D | 1,917 | 1,998 | 1,995 | 2,000 | Reliability Driven | | 7,910 | - | 203 | 212 | 212 | 212 | 839 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB25 | UDLPRM9PD | 690 | 71 | 587 | 794 | Reliability Driven | | 2,142 | 63 | 73 | 8 | 62 | 84 | 227 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DSB26 | UDLPRPLIC | 4,958 | 9,594 | 5,382 | 9,583 | Reliability Driven | | 29,518 | - | 526 | 1,018 | 571 | 1,017 | 3,132 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17DZB01 | UDLPCH0W | 2,568 | 2,756 | 2,828 | 2,926 | Customer Driven | | 11,078 | - | 272 | 292 | 300 | 310 | 1,175 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QDB01 | UDSPRD8SD | 273 | 656 | 887 | 900 | Reliability Driven | | 2,715 | 88 | 29 | 70 | 94 | 95 | 288 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QEB02 | UDSPLM7WF3 | - | - | - | 9,513 | Load Driven | | 9,513 | 513 | - | - | - | 1,009 | 1,009 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QEB03 | UDSPLM7WF4 | 2,118 | 417 | - | - | Load Driven | | 2,535 | 83 | 225 | 44 | - | - | 269 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QEB05 | UDSPRD8AD2 | - | - | - | 40,860 | Reliability Driven | | 40,860 | 2,896 | - | - | - | 4,335 | 4,335 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QEB07 | UDSPLM722A | - | - | - | 3,377 | Load Driven | | 3,377 | 274 | - | - | - | 358 | 358 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QEB08 | UDSPLM7W | 268 | 199 | 199 | 200 | Load Driven | | 866 | 31 | 28 | 21 | 21 | 21 | 92 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QEB09 | UDSPRD8RN | 865 | 445 | 397 | 205 | Reliability Driven | | 1,912 | 50 | 92 | 47 | 42 | 22 | 203 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QMB01 | UDSPRD71D | 511 | 151 | 4 | 0 | Reliability Driven | | 667 | 20 | 54 | 16 | 0 | 0 | 71 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QS101 | DSPRD8AD14 | 2 | - | - | - | Reliability Driven | | 2 | 0 | 0 | - | - | - | 0 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QS102 | UDSPRD8RD1 | - | 10 | - | - | Reliability Driven | | 10 | 1 | - | 1 | - | - | 1 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB01 | UDSPLNW2 | 29,620 | 23 | (0) | 0 | Reliability Driven | | 29,642 | 3,634 | 3,142 | 2 | (0) | 0 | 3,145 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB03 | UDSPRD8AD1 | - | 7,391 | - | - | Reliability Driven | | 7,391 | 268 | - | 784 | - | - | 784 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB07 | DSPRD8AD13 | 1,099 | 208 | (0) | 0 | Reliability Driven | | 1,307 | 41 | 117 | 22 | (0) | 0 | 139 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB12 | UDSPRD8H | 715 | 271 | 8 | 0 | Reliability Driven | | 993 | 39 | 76 | 29 | 1 | 0 | 105 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB13 | UDSPRD8JD | 185 | 192 | 180 | 181 | Reliability Driven | | 738 | 19 | 20 | 20 | 19 | 19 | 78 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB14 | UDSPRD8KD | 2,099 | 3,857 | 4,559 | 6,361 | Reliability Driven | | 16,877 | 477 | 223 | 409 | 484 | 675 | 1,791 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB15 | UDSPRD8RJ | 569 | 44 | - | - | Reliability Driven | | 613 | 24 | 60 | 5 | - | - | 65 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB16 | UDSPRD8RK | 181 | 11 | (0) | - | Reliability Driven | | 193 | 9 | 19 | 1 | (0) | - | 20 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB18 | UDSPRD8SD1 | - | 7 | - | - | Reliability Driven | | 7 | 1 | - | 1 | - | - | 1 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB20 | UDSPRD8VD | 1 | 2,461 | 3,300 | 1,600 | Reliability Driven | | 7,363 | 186 | 0 | 261 | 350 | 170 | 781 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB21 | UDSPRD8Z | 496 | 14 | 0 | 0 | Reliability Driven | | 510 | 30 | 53 | 1 | 0 | 0 | 54 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB22 | UDSPRD9GD | 906 | 22,927 | 9,478 | 1,892 | Reliability Driven | | 35,204 | 949 | 96 | 2,432 | 1,006 | 201 | 3,735 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB23 | UDSPRD8AD | 315 | 342 | 144 | 4 | Reliability Driven | | 804 | 22 | 33 | 36 | 15 | 0 | 85 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB24 | UDSPRD8BD | 6 | 0 | 0 | 0 | Reliability Driven | | 6 | 0 | 1 | 0 | 0 | 0 | 1 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB25 | UDSPRD8D2 | 64 | 97 | 3 | 0 | Reliability Driven | | 164 | 5 | 7 | 10 | 0 | 0 | 17 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB26 | UDSPRD8ED | 305 | 400 | 435 | 392 | Reliability Driven | | 1,531 | 38 | 32 | 42 | 46 | 42 | 162 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB27 | UDSPRD8FD | 96 | 26 | 1 | 0 | Reliability Driven | | 123 | 4 | 10 | 3 | 0 | 0 | 13 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB28 | UDSPRD8FV | 60 | 72 | 79 | 76 | Reliability Driven | | 286 | 7 | 6 | 8 | 8 | 8 | 30 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB29 | UDSPRD8LD | 31 | 9 | 0 | 0 | Reliability Driven | | 41 | 1 | 3 | 1 | 0 | 0 | 4 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB30 | UDSPRD8SG | 466 | 1,722 | 2,156 | 2,178 | Reliability Driven | | 6,523 | 158 | 49 | 183 | 229 | 231 | 692 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB31 | UDSPRD8TD | 75 | 30 | 1 | 0 | Reliability Driven | | 106 | 3 | 8 | 3 | 0 | 0 | 11 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB32 | UDSPRD8UD | 396 | 185 | 108 | 100 | Reliability Driven | | 789 | 25 | 42 | 20 | 11 | 11 | 84 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB33 | UDSPRD8WD | 53 | 19 | 1 | 0 | Reliability Driven | | 72 | 2 | 6 | 2 | 0 | 0 | 8 |
| Pepco Distribution - DC | OU:[Total Book Cash Closed (To Use)] | PC17QSB34 | UDSPRD8YD | 124 | 49 | 1 | 0 | Reliability Driven | | 174 | 5 | 13 | 5 | 0 | 0 | 18 |
| | OU:[Total Book Cash Closed (To Use)] | PC17DCB02 | UDLPCMR2DX | 2,625 | 2,495 | 2,760 | 2,851 | Customer Driven | | 10,732 | - | 279 | 265 | 293 | 302 | 1,139 |
| Pepco Distribution - DC | | | | | | | | | | | | | | | | |

| Category | Line | PROJECT | WBS | Sum of Total 2019 | Sum of Total 2020 | Sum of Total 2021 | Sum of Total 2022 | Budget Category | Subtransmission? | 2019-2022 Total | 2019-2022 AFUDC (Not Incl'd in columns 5-8, 11) | 2019 Rev Req | 2020 Rev Req | 2021 Rev Req | 2022 Rev Req | 2019-2022 Total Rev Req |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DMB03 | UDLPRM32DX | 6,518 | 6,680 | 6,849 | 7,087 | Reliability Driven | | 27,134 | - | 692 | 709 | 727 | 752 | 2,879 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QE102 | UDSPRD8RO | - | 368 | 32 | (0) | Reliability Driven | | 400 | 4 | - | 39 | 3 | (0) | 42 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QEB01 | UDSPLM720A | - | - | - | 5,261 | Load Driven | Subtransmission | 5,261 | 555 | - | - | - | 558 | 558 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB04 | DSPRD8AD10 | - | - | - | 3,293 | Reliability Driven | | 3,293 | 161 | - | - | - | 349 | 349 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB05 | DSPRD8AD11 | 1,472 | 1,009 | - | - | Reliability Driven | | 2,481 | 50 | 156 | 107 | - | - | 263 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB06 | DSPRD8AD12 | 1 | - | - | - | Reliability Driven | | 1 | 0 | 0 | - | - | - | 0 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB11 | UDSPRD8AD9 | - | 1,379 | 3,329 | 292 | Reliability Driven | | 5,000 | 79 | - | 146 | 353 | 31 | 530 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB17 | UDSPRD8RM | - | 362 | 38 | - | Reliability Driven | | 400 | 5 | - | 38 | 4 | - | 42 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB19 | UDSPRD8SD3 | 454 | 23 | - | - | Reliability Driven | | 477 | 26 | 48 | 2 | - | - | 51 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB35 | UDSPRD9D4 | 94 | 3 | 0 | 0 | Reliability Driven | | 97 | 3 | 10 | 0 | 0 | 0 | 10 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB36 | UDSPRD9D5 | 212 | 121 | 121 | 121 | Reliability Driven | | 576 | 15 | 23 | 13 | 13 | 13 | 61 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DSB27 | UDLPRM4SD1 | 143 | 125 | 124 | 125 | Reliability Driven | | 517 | 14 | 15 | 13 | 13 | 13 | 55 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DSB28 | UDLPRM4WJ | 258 | 250 | 249 | 250 | Reliability Driven | | 1,006 | 9 | 27 | 26 | 26 | 27 | 107 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DSB30 | UDLPRM4WA9 | 1,263 | 2,989 | 3,476 | 3,499 | Reliability Driven | | 11,227 | 272 | 134 | 317 | 369 | 371 | 1,191 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QEB10 | UDSPRD8RW1 | - | - | 1,064 | 46 | Reliability Driven | | 1,110 | 43 | - | - | 113 | 5 | 118 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QSB37 | UDSPRD8Q1D | 21 | 1 | - | - | Reliability Driven | | 23 | 0 | 2 | 0 | - | - | 2 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DEB16 | UDLPRM8BB | 810 | 88 | - | - | Reliability Driven | | 898 | 10 | 86 | 9 | - | - | 95 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17QNB02 | UDSPCCPP | 2 | - | - | - | Customer Driven | | 2 | 0 | 0 | - | - | - | 0 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN041 | DLPCS6W016 | (1,034) | - | - | - | Customer Driven | | (1,034) | (16) | (110) | - | - | - | (110) |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DS414 | UDLPRM4BCX | 6 | - | - | - | Reliability Driven | | 6 | 0 | 1 | - | - | - | 1 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DM170 | UDLPRM32DX | 125 | 3 | 0 | 0 | Reliability Driven | | 128 | 5 | 13 | 0 | 0 | 0 | 14 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DMB08 | UDLPRM4BCX | 325 | 9 | 0 | 0 | Reliability Driven | | 334 | 13 | 34 | 1 | 0 | 0 | 35 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC17DSB33 | UORPODRC01 | 56 | 22 | 20 | 20 | Other | | 118 | 1 | 6 | 2 | 2 | 2 | 13 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN077 | DLPCS6W044 | 956 | 57 | - | - | Customer Driven | | 1,013 | 20 | 101 | 6 | - | - | 108 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN085 | DLPCS6W034 | 505 | 24 | - | - | Customer Driven | | 529 | 8 | 54 | 3 | - | - | 56 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN092 | DLPCS6W040 | 524 | 44 | - | - | Customer Driven | | 568 | 5 | 56 | 5 | - | - | 60 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN127 | DLPCS1W041 | 1,323 | 32 | - | - | Customer Driven | | 1,355 | 30 | 140 | 3 | - | - | 144 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN139 | DLPCS6W038 | 1,170 | 40 | - | - | Customer Driven | | 1,210 | 20 | 124 | 4 | - | - | 128 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DS245 | UDSPRD8ISS | - | 644 | - | - | Reliability Driven | | 644 | 65 | - | 68 | - | - | 68 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DS246 | UDSPRD8LSS | - | 695 | - | - | Reliability Driven | | 695 | 71 | - | 74 | - | - | 74 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DS247 | UDSPRD81S1 | - | 1,374 | - | - | Reliability Driven | | 1,374 | 105 | - | 146 | - | - | 146 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DS248 | UDSPRD8PS1 | - | 1,426 | - | - | Reliability Driven | | 1,426 | 110 | - | 151 | - | - | 151 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DE090 | UDLPLM7401 | 368 | 32 | - | - | Load Driven | | 400 | 6 | 39 | 3 | - | - | 42 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN152 | DLPCS1W029 | 506 | 44 | - | - | Customer Driven | | 550 | 7 | 54 | 5 | - | - | 58 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DN154 | DLPCS6W036 | 92 | 8 | - | - | Customer Driven | | 100 | 1 | 10 | 1 | - | - | 11 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DRB01 | UDLPCSCPDC | 564 | 661 | 641 | 640 | Customer Driven | | 2,507 | 22 | 60 | 70 | 68 | 68 | 266 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DSB06 | UDLPRM4FC2 | 369 | 522 | 540 | 558 | Reliability Driven | | 1,989 | 49 | 39 | 55 | 57 | 59 | 211 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18QS012 | UDSPRD8TC1 | 1,225 | 104 | - | - | Reliability Driven | | 1,329 | 51 | 130 | 11 | - | - | 141 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18QSB01 | UDSPRD8CR1 | 67 | 3 | - | - | Reliability Driven | | 70 | 4 | 7 | 0 | - | - | 7 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18QSB03 | UDSPRD89S1 | - | - | - | 1,875 | Reliability Driven | | 1,875 | 49 | - | - | - | 199 | 199 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18QSB04 | UDSPRD8OS2 | - | - | - | 3,296 | Reliability Driven | | 3,296 | 179 | - | - | - | 350 | 350 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC19DS001 | UDLPRM4LRD | 920 | 999 | 80 | - | Reliability Driven | | 2,000 | 32 | 98 | 106 | 9 | - | 212 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DEB19 | UDLPLM7D4A | 367 | 33 | - | - | Load Driven | | 400 | 5 | 39 | 4 | - | - | 42 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DNB06 | DLPCS1W043 | (9) | - | - | - | Customer Driven | | (9) | (0) | (1) | - | - | - | (1) |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DNB07 | DLPCS1W052 | 450 | - | - | - | Customer Driven | | 450 | 4 | 48 | - | - | - | 48 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DNB08 | DLPCS6W023 | 790 | - | - | - | Customer Driven | | 790 | 9 | 84 | - | - | - | 84 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DNB09 | DLPCS1W051 | 120 | 10 | - | - | Customer Driven | | 130 | 1 | 13 | 1 | - | - | 14 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DSB07 | UDLPRM4F02 | 1,604 | 146 | - | - | Reliability Driven | | 1,750 | 65 | 170 | 15 | - | - | 186 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DSB08 | UDLPRM4ER1 | 12,866 | 1,134 | - | - | Reliability Driven | | 14,000 | 278 | 1,365 | 120 | - | - | 1,485 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18DSW01 | UDSPSPDACR | 4,217 | 1,291 | 83 | - | Reliability Driven | | 5,590 | - | 447 | 137 | 9 | - | 593 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18SSB04 | UDSPRD8DFP | 557 | 48 | - | - | Reliability Driven | | 605 | 22 | 59 | 5 | - | - | 64 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18SSB05 | UDSPRD8PS9 | 825 | 72 | - | - | Reliability Driven | | 896 | 33 | 88 | 8 | - | - | 95 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18SSB06 | UDSPRD8PS2 | 825 | 72 | - | - | Reliability Driven | | 896 | 33 | 88 | 8 | - | - | 95 |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | PC18SSB07 | UDSPRD8PS3 | 825 | 72 | - | - | Reliability Driven | | 896 | 33 | 88 | 8 | - | - | 95 |
| **Pepco Distribution - DC Total** | | | | 275,325 | 219,880 | 243,198 | 283,956 | | | 1,022,359 | 36,265 | 29,211 | 23,328 | 25,802 | 30,126 | 108,467 |
| | | | | | | | | | | | | | | | | |
| **Pepco Distribution - DC** | **OU:[Total Book Cash Closed (To Use)]** | Fr. Do. Bridge | UDLPLM7001 | 4,500 | 19,000 | 15,100 | 10,000 | Load Driven | Subtransmission | 48,600 | N/A | 477 | 2,016 | 1,602 | 1,061 | 5,156 |

0.0769
0.724825

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO DCG DATA REQUEST NO. 8

QUESTION NO. 11

Refer to the rebuttal testimony of Pepco witness Kevin McGowan, page 8, lines 17-20. Has the COVID-19 crisis impacted Pepco's load forecasts and revenue requirement forecast? Explain.

RESPONSE:

The impact is unknown at this time, and Pepco has not performed the requested analysis.

SPONSOR: Kevin M. McGowan

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO DCG DATA REQUEST NO. 8

QUESTION NO. 4

Referring to the statement of Pepco Witness Clark in his rebuttal testimony (Exh. PEPCO (2I)), pages 34 and 36, that "a more reliable system requires fewer truck rolls for corrective maintenance and reduces the need for backup generation, which reduces greenhouse gas emissions and supports the goals of the District of Columbia and the Commission":

A. Has Pepco quantified the reduction in truck rolls? If yes, please provide the reduction.

B. Has Pepco quantified the reduction in backup generation? If yes, please provide the reduction.

C. Has Pepco quantified the reduction in greenhouse gas emissions from fewer truck rolls and backup generation? If yes, please provide the reduction.

D. Has Pepco quantified the reduction in greenhouse gas emissions from investments outlined in its MRP proposal? If yes, please provide. If no, please describe why the Company did not calculate greenhouse gas emissions reductions.

RESPONSE:

Pepco is still compiling this response and will provide it as soon as practicable.

SUPPLEMENTAL RESPONSE:

A – D. Pepco has not performed the requested study.

SPONSOR: Bryan L. Clark

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO DCG DATA REQUEST NO. 5

QUESTION NO. 70

Does Pepco have a resiliency plan? If yes, provide documentation of the plan.

RESPONSE:

No. See FC 1156 DCG DR 5-11 Attachment for Exelon's Maturity Model regarding grid modernization.

SPONSOR: Bryan L. Clark

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO DCG DATA REQUEST NO. 8

QUESTION NO. 23

Refer to the rebuttal testimony of Pepco witness Kevin McGowan, page 52, lines 11-14.

A. Provide the Company's definition of "resilience."

B. Provide the Company's definition of "reliability."

C. Explain how the Company's definition of "reliability" differs from "resilience."

D. Provide the metrics by which the Company assesses the "resilience" of its system.

E. Identify how each of the Company's proposed PIMs will contribute to the"resilience" of Pepco's system.

RESPONSE:

A. Resilience is the ability to prepare for and adapt to changing conditions, withstand, recover from and minimize the magnitude and/or duration of disruptive extreme events. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents.
B. Reliability refers to how well the system or component has performed under specified conditions during a given period. It is the ability of a power system to continuously provide service to the customers.
C. Reliability differs from resilience in that a reliable grid is one with fewer and shorter in duration, power interruptions. Whereas a more resilient system, is one that is able to sustain and recover from adverse conditions like severe weather. Also see response to 8-23(a) and 8-23(b).
D. The Company does not have a specific resiliency metric.
E. By incorporating reliability improvements, as measured through all-inclusive SAIFI and SAIDI, a system's resilience can increase. Basic reliability work adds system resilience. Also see Company Witness Clark's Rebuttal Testimony at pages 35 and 36. Also see Company Witness McGowan's Rebuttal Testimony at pages 52 and 53.

SPONSOR: Kevin M. McGowan/Bryan L. Clark

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO DCG DATA REQUEST NO. 5

QUESTION NO. 10

Refer to the testimony of Bryan Clark - PEPCO (I), page 19, regarding Pepco's deployment of distribution automation (DA).

A. Provide Pepco's forecast revenue requirements associated with Pepco's DA implementation for each of the next 5 years.

B. Provide the total cost associated with Pepco's DA implementation.

C. At the conclusion of this process, what percentage of Pepco's load will be equipped with automatic sectionalizing and restoration schemes and automatic circuit reclosers?

D. Is Pepco's DA deployment (particularly the use of Remote Monitoring System, automatic sectionalizing and restoration schemes and automatic circuit reclosers) equivalent to implementing fault location isolation and service restoration? If not, how does it differ?

E. Does Pepco currently have an advanced distribution management system or a distributed energy resource management system? If yes, describe this system.

F. Identify any additional technologies that would be required to enable Pepco to integrate and manage additional DERs on its system in the future.

G. Describe any plans that Pepco has for implementing any of the technologies identified in (e) above.

RESPONSE:

A. There are two capital projects for DC distribution automation:
Recloser Installations (ACR) - Pepco DC (UDLPRM4DJ) (Refer to PEPCO (I)-2, pp. 175 of 238).
Pepco DC - ACR/SF6 Control Install/Replace (Refer to PEPCO (I)-2, pp. 220 of 238).

The revenue requirement (excluding depreciation) based on the projected plant additions for each year of the MRP period 2020-2022 for these projects is as follows:
2020: $40,000
2021: $27,000
2022: $27,000

B. The following table shows the Company's annual DA implementation costs. The cost includes Automatic Circuit Reclosers and SF6 switch installation for Automatic Sectionalizing and Restoration schemes through 2019. The projected costs for 2020, 2021, and 2022 are in the Construction report.

| Year | **2015** | **2016** | **2017** | **2018** | **2019** |
|---|---|---|---|---|---|
| Total | $663,318 | $1,922,770 | $4,636,668 | $7,263,772 | $3,965,973 |

C. 17 percent of the Company's DC load will be equipped with automatic sectionalizing and restoration schemes.

D. Yes, the Company's DA deployment helps implement fault location isolation and service restoration.

E. No. The Company does not have an advanced distribution management system (ADMS) or a distributed energy resource management system.

F. As the penetration of DERs increase, the Company will need to incorporate more sensors, upgrade equipment to handle reverse power, add central monitoring and control for capacitor banks, Voltage Regulators and Reclosers, incorporate communication, monitoring and control to future DERs, upgrade protection and coordination to properly protect the system, continue to upgrade modeling capability and insure overall system safety as additional sources contribute to the available fault current. The Company does not have immediate plans for implementing any of the technologies it has not already implemented but that are mentioned in this response.

G. The Company is in the initial planning stages of implementing ADMS.

SPONSOR: Bryan L. Clark & Tyler W. Wolverton

QUESTION NO. 11

Refer to the testimony of Bryan Clark - PEPCO (I), pages 22-23, regarding Pepco's plans for "modernizing the distribution grid to enable advanced command and control systems supporting the transition of the grid to a platform for the provision of advanced energy and information services."

A. Describe specifically what investments and actions Pepco plans to take to modernize the distribution grid.

B. Identify the revenue requirements associated with these actions and investments for each of the next five years.

C. Explain whether the revenue requirements identified in (b) are included in Pepco's multiyear rate plan revenue requirement forecast.

D. Explain what is meant by "the provision of advanced energy and information services." How does this differ from the energy and information services currently provided by Pepco?

RESPONSE:

A-D: Please see FC 1156 DCG DR 5-11 Confidential Attachment. In sum, modernization of Pepco's electric grid encompasses a number of components, which include:

- Improving reliability for customers by creating a smarter grid that can "self-heal" and minimize disruptions
- Increasing resiliency and security against threats - cybersecurity attacks and extreme weather events
- Enabling customers to adopt distributed generation (e.g. solar, storage) and ultimately transact as prosumers in an open marketplace
- Helping achieve climate change objectives, through electrification – transport, business and residential
- Providing better city services for citizens – working with other entities (e.g., gas and water utilities, telecom providers and cities) to coordinate deployment of smart infrastructure to serve a wide range of community

Each of these components can run simultaneously with the ultimate goal being a connected community. At the same time, the components build upon one another. Without a system that minimizes disruptions and is hardened against severe weather and cyber attacks, interconnection of increasing levels of DER and increasing levels of electrification are not possible. With the necessary investments in place, increased adoption of DER, and increased electrification, a connected community that provides better city services for citizens is possible. The connected community is enabled by the electric grid but reaches beyond the electric grid, allowing for smarter services such as waste management and water management.

Pepco has been investing in numerous projects to help meet these ends and continues to invest in these projects through the MRP period. For example, in Pepco I-2 Pepco shows numerous projects, such as distribution automation and the continued installation of Remote Monitoring Systems, as well as Area Reliability Plans, network transformer and protector replacements, and increased cybersecurity efforts, all with the aim to minimize outages and modernize the electric grid. Pepco (I)-2 provides details regarding each of these projects, including the scope of work, justification, and budgets through 2023.

In addition, it should be noted that providing customer choice and increasing DER adoption is enabled by these and other reliability and resilience investments, as is transportation and other electrification initiatives. These and other future investments will lead to a grid that supports the transition of the grid to a platform for the provision of advanced energy and information services, which differs both in scope and due to customer expectation from the services Pepco has traditionally offered.

SPONSOR: Bryan L. Clark

POTOMAC ELECTRIC POWER COMPANY
DISTRICT OF COLUMBIA FORMAL CASE NO. 1156
RESPONSE TO DCG DATA REQUEST NO. 8

QUESTION NO. 13

Refer to the rebuttal testimony of Pepco witness Kevin McGowan, page 34, lines 13-21.

A. Is it the Company's position that a formula rate plan never includes a deadband around the ROE within which the utility's revenues are not adjusted? Explain.

B. Is the Company or its consultants aware of any formula rate plans that include a deadband around the ROE within which the utility's revenues are not adjusted? If yes, identify the utility, the jurisdiction, and the docket in which the formula rate plan was adopted.

C. Is it the Company's position that formula rate plans never include Commission review and approval of revenue increases between rate cases to allow the ROE to return to approved levels? If yes, identify the utility, the jurisdiction, and the docket in which the formula rate plan was adopted.

D. Is the Company or its consultants aware of any formula rate plans that include Commission review and approval of revenue increases between rate cases to allow the ROE to return to approved levels? If yes, identify the utility, the jurisdiction and the docket in which the formula rate plan was adopted.

RESPONSE:

A. No, a formula rate plan may include a deadband.
B. Company Witness Zarakas is aware of formula rates for the following electric distribution companies that have deadbands. Dockets listed represent the initial adoption of the formula rate plan.
    - Alabama Power (Alabama, Docket 18416)
    - Commonwealth Edison (Illinois, Docket D-11-0721)
    - Entergy (Arkansas, Docket 15-015-U)
    - Southwestern Electric Power Company (Louisiana, Docket U-32220)
C. No. It is Company Witness Zarakas's general understanding that Commissions and Interveners are able to review expenditures and supporting calculations that result in revenue changes during the plan term for a formula rate plan. It is Company Witness Zarakas's general understanding that the review under formula rate plans focuses on the prudency of expenditures. Company Witness Zarakas has not performed an analysis to determine the type or level of review applied to the jurisdictions referred to in Part B of this response.
D. Refer to part C.

SPONSOR: Bill Zarakas

## **CERTIFICATION**

I certify on this 1st day of June 2020, that the foregoing Surrebuttal Testimony is true and correct to the best of my knowledge, information and belief.

/s/ *Courtney Lane*
Courtney Lane

## CERTIFICATE OF SERVICE

I certify that on June 1st, 2020, a copy of the Surrebuttal Testimony of District of Columbia Government Witness Courtney Lane was served via electronic mail on the following parties:

Kimberly Lincoln-Stewart, Esq.
Public Service Commission
of the District of Columbia
1325 G Street, N.W. Suite 800
Washington, D.C. 20005
kstewart@psc.dc.gov

Kim Hassan, Esq.
Dennis Jamouneau, Esq.
Andrea Harper, Esq.
Potomac Electric Power Company
701 Ninth Street, N.W.
Washington, D.C. 20068
Kim.hassan@exeloncorp.com
djamouneau@pepcoholdings.com
ahharper@pepcoholdings.com

Brian Greene, Esq.
Eric Wallace, Esq.
Greenehurlocker, PLC
*Counsel for Maryland DC Virginia Solar Energy Industries Association*
1807 Libbie Avenue, Suite 102
Richmond, VA. 23226
bgreene@greenehurlocker.com
ewallace@greenehurlocker.com

Lucas Aubrey, Esq.
Logan Place, Esq.
Sherman Dunn, P.C.
*Counsel for International Brotherhood of Electrical Workers, Local No. 1900*
900 7th Street, N.W. Suite 1000
Washington, D.C. 20001
aubrey@shermandunn.com
place@shermandunn.com

Anjali Patel, Esq.
Office of the People's Counsel
of the District of Columbia
1133 15th Street, N.W. Suite 500
Washington, D.C. 20005
apatel@opc-dc.gov

Frann Francis, Esq.
Apartment and Office Building
Association of Metropolitan Washington
1025 Connecticut Avenue, N.W.
Suite 1005
Washington, D.C. 20036
ffrancis@aoba-metro.org

Michael Engleman, Esq
Engleman Fallon, PLLC
*Counsel on behalf of D.C. Water*
1717 K Street, N.W. Suite 900
Washington, D.C. 20032
mengleman@efenergylaw.com

Cathy Thurston-Seignious, Esq.
Washington Gas Light Company
1000 Maine Avenue, S.W., Suite 700
Washington, D.C. 20024
cthurston-seignious@washgas.com

Kristi Singleton, Esq.
United States General Services
Administration
1800 F Street N.W., Suite 2016
Washington, D.C. 20405
Kristi.singleton@gsa.gov
Lariza.sepulveda@gsa.gov
dgoinspmg@verizon.net

Brian Petruska, Esq.
Laborers' International Union of North America (LiUNA) Mid-Atlantic Region
11951 Freedom Drive, Suite 310
Reston, VA. 20190
bpetruska@maliuna.org
mlor@liuna.org

James Birkelund, Esq.
Small Business Utility Advocates
548 Market Street, Suite 11200
San Francisco, CA. 94104
james@utilityadvocates.org
microbiznetwork@gmail.com

/s/ *Brian Caldwell*
Brian Caldwell
Assistant Attorney General