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May 1, 2023

PUBLIC VERSION

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

Re: Formal Case No. 1050, In the Matter of Investigation of the Implementation of Interconnection Standards in the District of Columbia

RM40-2023-01, In the Matter of the Title 15 DCMR Chapter 40 – District of Columbia Small Generator Interconnection Rules

ET2023-02 In the Petition of Potomac Electric Power Company to Approve a Tariff Change for 20kW and below Residential NEM Solar Interconnection

Dear Ms. Brinda Westbrook-Sedgwick:

Enclosed for filing in the above-referenced proceeding, please find the *Office of the People's Counsel for the District of Columbia's Public Comments on Potomac Electric Power Company's Rider-NEM Proposal and Petition for Formal Investigation into Potomac Electric Power Company's Compliance with Rules Governing Interconnection of Small Generators*.

If there are any questions regarding this matter, please contact me at 202.727.3071.

Sincerely,

Elizabeth Beltran
Assistant People's Counsel

Enclosure

cc: Parties of record

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

In the Matter of the Investigation of the Implementation of Interconnection Standards in the District of Columbia)))))	Formal Case No. 1050
)	
In the Matter of Title 15 DCMR Chapter 40 – District of Columbia Small Generator Interconnection Rules))))	RM40-2023-01
)	
AND)	
)	
In the Petition of Potomac Electric Power Company to Approve a Tariff Change for 20kW and below Residential NEM Solar Interconnections))))	ET2023-02

**THE OFFICE OF THE PEOPLE’S COUNSEL’S
COMMENTS ON POTOMAC ELECTRIC POWER COMPANY’S RIDER-NEM
PROPOSAL AND PETITION FOR FORMAL INVESTIGATION INTO POTOMAC
ELECTRIC POWER COMPANY’S COMPLIANCE WITH RULES GOVERNING
INTERCONNECTION OF SMALL GENERATORS**

I. INTRODUCTION

Pursuant to the Public Service Commission of the District of Columbia’s (“PSC” or “Commission”) April 11, 2023 Notice, Sections 34-402, 34-804(d), and 34-1508(d) of the District of Columbia Code (“D.C. Code”),¹ and Rule 101.1 of the Commission’s Rules of Practice and Procedure,² the Office of the People’s Counsel (“OPC” or “Office”), the statutory representative of District of Columbia utility ratepayers,³ respectfully submits (1) Comments in response to the Potomac Electric Power Company’s (“Pepco”) April 4, 2023 Petition for approval of modifications

¹ D.C. Code §§ 34-402, 34-804(d), and 34-1508(d) (Lexis 2020).

² 15 DCMR § 101.1.

³ D.C. Code § 34-804 (Lexis 2020).

to its tariff Rider-NEM to require prospective Residential Net Energy Metering customers seeking to interconnect solar generators 20kW or smaller (“Qualifying NEM Customers”) to pay a flat System Upgrade Fee of \$280 regardless of whether the interconnecting customer would otherwise be charged a distribution system upgrade or interconnection facility cost (Pepco’s “Rider-NEM Proposal”),⁴ and (2) Petition for Formal Investigation into Pepco’s compliance with the Commission’s regulations governing the interconnection of small generators.⁵

II. COMMENTS ON PEPCO’S RIDER-NEM PETITION

A. Background

In its Petition, Pepco requests that the Commission approve modifications to its tariff Rider-NEM that would require prospective Residential Net Energy Metering customers seeking to interconnect solar generators 20kW or smaller to pay a flat fee of \$280 regardless of whether the prospective interconnecting customer would otherwise be charged a distribution system upgrade or interconnection facility cost. Pepco asserts that this \$280 fee will cover approximately 80% of the total distribution system upgrade and interconnection facilities costs for Qualifying NEM Customers. Pepco proposes to socialize the approximately 20% of remaining distribution system upgrade and interconnection facility costs among all customers through Pepco’s base rates as a regulatory liability that Pepco intends to include for recovery in its next multi-year rate case filing. Pepco explains that it developed its Rider-NEM Proposal based on a review of Qualifying NEM Customer applications over a one-year timeframe between April 1, 2021 and March 31, 2022, and Pepco further proposes to perform a similar study of distribution system upgrade and

⁴ *Formal Case No. 1050, In the Matter of the Investigation of the Implementation of Interconnection Standards in the District of Columbia (“Formal Case No. 1050”), RM40-2023-01, In the Matter of 15 DCMR Chapter 40 – District of Columbia Small Generator Interconnection Rules (“RM40-2023-01”), and ET2023-02, In the Matter of the Petition of Potomac Electric Power Company to Approve a Tariff Change for 20kW and Below Residential NEM Solar Interconnections (“ET2023-02”),* filed April 4, 2023.

⁵ The regulations governing interconnections are found in Title 15, Chapter 40 of the DCMR.

interconnection facilities costs using the same parameters provided in its instant proposal at least once every three years.

B. OPC's Comments in Response to Pepco's Petition

Pepco's Rider-NEM Proposal raises significant concerns, many of which OPC addresses in its Petition for Formal Investigation, *infra*, including OPC's concerns about the validity of the analyses that Pepco uses to estimate the costs of distribution upgrades. Specifically, Pepco's analyses: (i) fail to adequately consider the reduction to peak load and distribution upgrade requirements that occurs as the amount of solar installations increase, (ii) fail to reflect Pepco's stated commitment to employ non-wires alternatives that would replace the need for specific equipment upgrades and associated expenses, (iii) fail to include the information and related power flow study data necessary to substantiate the legitimacy of Pepco's interconnection practices, and (iv) fail to provide the value of solar to non-solar owners that would justify the socialization of 20% of interconnection costs and the veracity of the proposed costs Pepco seeks to impose upon its customers in the District. OPC's Comments, therefore, focus on two issues of primary concern regarding Pepco's Rider-NEM Proposal: (1) the need for a more robust study period to support the development of an appropriate cost-sharing mechanism for distribution system upgrades for Level 2 interconnection or "application fee;" and (2) Pepco's proposal to utilize a regulatory liability account for the approximately 20% of costs that would be socialized to all customers through base rates, which Pepco intends to include for recovery in its next multi-year rate case filing.

With respect to the first issue, Pepco's filing fails to justify the use of a study period of only one year, especially in light of Pepco's stated intention to use the same one-year study period methodology every three years in order to review and potentially revise the \$280 fee amount

included in its instant proposal. To adequately support a blanket proposal such as the \$280 application fee at issue here, it is imperative to have a sufficiently robust set of data. In the context of solar interconnection applications, each data point represents a discrete event that does not necessarily occur on a uniform annual basis. OPC submits that it is absolutely necessary to have at least five years of data to accurately reflect the average number of, and costs associated with, applications for 20kW and below Residential NEM Solar interconnections.⁶ Second, Pepco's proposal to record all amounts collected through the System Upgrade Fee as a regulatory liability to offset the balance of distribution system upgrade and interconnection facilities costs in plant in-service—which Pepco intends to include for recovery from its customers in its next multi-year rate case—is both temporally odd, and substantively problematic. In terms of timing, Pepco filed its most recent multi-year rate case on April 13, 2023. Pepco's Petition does not provide any persuasive reasoning as to the why the Commission should address its Rider-NEM Proposal independent of the multi-year rate case. Relatedly, because many more interested stakeholders participate in multi-year rate case proceedings compared to discrete tariff amendment filings, it would be substantively problematic for the Commission to address the Rider-NEM Proposal on a standalone basis because doing so may fail to provide all interested stakeholders with a full and meaningful opportunity to participate in the Commission's decision-making process. As discussed in Section III.C.4, *infra*, Pepco's proposal would further reduce much needed transparency in the interconnection assessment.

As explained in Section III.C.6., *infra*, upgrades that cost customers thousands of dollars, or in some cases tens of thousands of dollars, are prohibitive and work to undermine the District's

⁶ As explained in more detail below, other revisions may be necessary to ensure that Pepco's proposal is just and reasonable, and wholly new structures may also be appropriate. Consequently, the Commission cannot and should not approve Pepco's proposed application fee at this time.

climate and clean energy goals. Actual experience demonstrates the need for an appropriate cost-sharing mechanism to ensure that the costs of interconnecting residential solar facilities are not prohibitive and, therefore, contravening the District's clean energy policies. Pepco's proposed \$280 application fee and related regulatory asset proposal are one such mechanism. But OPC has concerns with Pepco's proposal, and other parties may file comments identifying additional concerns. Further, given the importance of this issue, the Commission should take care to develop the evidentiary record necessary to support adoption of an effective mechanism. Consequently, rather than adopt Pepco's proposal, OPC submits that the Commission should develop a mechanism that fairly allocates the costs of distribution upgrades and facilitates development of residential solar resources as part of the formal investigation OPC asks the Commission to initiate or in reviewing Pepco's Petition as part of the multi-year rate case in Formal Case No. 1076.

III. OPC'S PETITION FOR FORMAL INVESTIGATION

With the benefit of more than a year of experience operating under the regulatory regime the Commission adopted in August 2021, OPC has compiled evidence and analysis that raise substantial doubt regarding whether Pepco's processes for evaluating Level 1 Interconnection Requests comply with material portions of the Commission's regulations.⁷

Through its investigation, OPC has also identified certain regulations that should be revised, clarified, and refined based on actual experience operating under those regulations. Despite being well-intentioned at the time of adoption, OPC's investigation has led to the conclusion that these regulations are ineffective in practice. Consequently, in furtherance of the District's clean energy policies and goals, and to ensure the public's confidence in the validity and fairness of the processes Pepco uses to review interconnection applications, the Commission

⁷ This evidence on which OPC relies is attached hereto as Attachments A to F. It includes affidavits from interconnection customers, solar developers operating in the District, and OPC's engineers and consultants.

should grant this Petition and open a formal investigation so that: (1) all interested stakeholders have a meaningful opportunity to identify their experiences with and concerns regarding Pepco's compliance with the interconnection regulations, as well as proposals for addressing those concerns; (2) Pepco has an opportunity to respond to the identified concerns and proposals and have its responses vetted through public processes; and (3) the Commission can develop the evidentiary record necessary to make reasoned decisions about the reforms necessary to resolve these documented concerns and ensure the successful implementation of the District's clean energy and climate policies. In support of this Petition for a formal investigation, OPC states as follows:

A. Executive Summary

The District of Columbia is a national leader in developing laws and policies to address both the devastating impacts of climate change and pervasive issues of energy unaffordability and inequity. Specifically, the Council of the District of Columbia ("the Council") has mandated a 100% Renewable Portfolio Standard ("RPS") by 2032⁸ and the Mayor has announced the District of Columbia's official policy to become carbon neutral by 2050.⁹ The most viable form of renewable energy that can be adopted in the District is solar energy. A critical component to the success of solar adoption for residential consumers is the ability to integrate solar technology to Pepco's infrastructure. This process is known as interconnection.

⁸ D.C. Code § 34-1432 (c).

⁹ *Mayor Bowser Commits to Make Washington, DC Carbon-Neutral and Climate Resilient by 2050*, Executive Office of the Mayor (Dec. 4, 2017), <https://mayor.dc.gov/release/mayor-bowser-commits-make-washington-dc-carbon-neutral-and-climate-resilient-2050>.

The Commission adopted regulations governing generator interconnections in August 2021.¹⁰ Over the past year, the Office has received numerous interconnection complaints from consumers who have run into issues with Pepco when trying to install solar arrays on their homes and interconnect those resources to the distribution grid that Pepco operates. These issues are both technical and financial in nature, and they raise great concern regarding Pepco’s compliance with the Commission’s regulations governing Level 1 interconnections. As detailed herein, the circumstances underlying these complaints raise serious questions about the transparency and validity of the processes Pepco uses to determine whether to subject interconnection customers to the substantial costs of distribution upgrades. Similarly, these complaints demonstrate that specific aspects of Pepco’s interconnection processes and regulations governing interconnection procedures have proven to be ineffective and create unnecessary and unreasonable barriers for consumers that want to develop solar generation resources. In the aggregate, these complaints support a finding that, absent reforms, Pepco’s ability to meet future electrification goals of the District will be frustrated if not wholly undermined. Given the District’s aggressive climate goals and the current climate crisis, it is imperative that the Commission use the full breadth of its authority to investigate these issues and develop the evidentiary record necessary to support adoption of well-reasoned solutions to these unsettling issues. Specifically, OPC requests that the Commission issue a formal investigation into:

- Delays in Pepco’s review of interconnection applications and the adequacy of Pepco’s responsiveness to questions by interconnection customers and the developers the customers are working with to deploy residential solar resources;

¹⁰ 68 D.C. Reg. 008244-008287 (August 20, 2021). See also, RM40-2020-01, In the Matter of 15 DCMR Chapter 40 – District of Columbia Small Generator Interconnection Rules (“RM40-2020-01”) and Formal Case No. 1050, In the Matter of the Investigation of Implementation of Interconnection Standards in the District of Columbia (“Formal Case No. 1050”), Order No. 20991, rel. August 11, 2021 (“Order No. 20991”).

- The accuracy of the power flow-based studies and processes Pepco uses to determine if interconnection of solar generation requires Distribution System Upgrades, as well as the accuracy of cost estimates produced by those studies and processes;
- Objective standards governing power flows that will eliminate or reduce uncertainty with respect to whether Pepco is complying with District regulations;
- Pepco’s compliance with the DCMR requirements that obligate Pepco to provide a “technical explanation” when it denies a Level 1 Interconnection Request and considers the project under the Level 2 procedures, as well as Pepco’s compliance with time standards and the obligation to demonstrate that other means were not available to process the project under the Level 1 procedures;
- Improvements to Pepco’s hosting capacity maps that will improve the usefulness of those maps as screening tools for developers and provide potential interconnection customers with helpful information about the potential cost of upgrades at an earlier point in the process; and
- The appropriate treatment and allocation of costs of Distribution System Upgrades in order to facilitate maximum development and deployment of solar generation resources in furtherance of the District’s climate policies and goals.

OPC’s requests, and the bases for those requests, are discussed in more detail below and supported by the affidavits and materials attached hereto.

B. Factual and Legal Background

1. OPC Has Standing to Petition the Commission to Initiate a Formal Investigation into Pepco’s Compliance with Interconnection Regulations.

OPC is an independent agency of the District of Columbia Government that is statutorily authorized to “represent and appeal for the people of the District of Columbia at hearings of the

Commission . . . [that] involve the interests of users of the products of or services furnished by public utilities under the jurisdiction of the Commission.”¹¹ D.C. Code § 34-1508(d) specifically authorizes OPC to initiate a proceeding before the Commission to investigate whether Pepco’s interconnection practices are in violation of the DCMR¹² and if Pepco’s power flow-based analyses follow Institute of Electrical and Electronics Engineers (“IEEE”) standards and produce accurate and reliable results that can be audited and replicated.

2. The Commission has Independent Authority to Investigate Pepco’s Compliance with Interconnection Regulations and Consider Whether Existing Regulations Would Benefit from Clarifications and Refinements.

The Commission serves a vital role in addressing climate change and energy affordability. Indeed, in carrying out its regulatory functions, the Commission is statutorily mandated to consider “the conservation of natural resources, the preservation of environmental quality, including effects on global climate change and the District’s public climate commitments.”¹³ In pertinent part, D.C. Code § 34-301(1) provides the Commission with “general supervision” over DC’s electric distribution utility.

Pursuant to D.C. Code § 34-908, the Commission has the authority, upon a reasonable complaint made against any public utility, to investigate that public utility if its service or time and conditions of payment are in any respect unreasonable, insufficient, or unjustly discriminatory or if any service is inadequate or unobtainable. Indeed, the Commission has a statutory obligation to investigate and enforce all laws relating to public utilities.¹⁴ The Commission has exercised this

¹¹ D.C. Code § 34-804(d)(1).

¹² 15 DCMR §§ 4004.5(d)(1) and 4004.2(e).

¹³ D.C. Law 22-257, Section 103 amending D.C. Code § 34-808.02.

¹⁴ D.C. Code § 34-402.

authority in other matters affecting the rights of the District’s public utility consumers and ratepayers.¹⁵

3. The Requested Investigation Advances the Aggressive Policies the District has Adopted to Combat the Devastating Impacts of Climate Change.

Congruent with scientific findings and government action on the international scale,¹⁶ members of both the executive and legislative branches of the District Government have expressed grave concern about the deleterious impacts of climate change, including hotter summers, increased flooding, and more severe storms.¹⁷ Consequently, the District has taken several steps to decarbonize and transition to clean energy, including:

- Adopting a 100% RPS by 2032 with a solar carve-out that requires 10% of the standard be met by local solar generation no later than the year 2041.¹⁸

¹⁵ See *Formal Case No. 1090, In the Matter of the Investigation into the Reliability of Verizon Washington, D.C.’s Telecommunications Infrastructure*; *Formal Case No. 1126, In the Matter of OPC’s Complaints Against Washington Gas Light Company Regarding Its Unlawful Compensation of Competitive Service Providers in Violation of Its Rate Schedule No. 5*; *Formal Case No. 1164, In the Matter of an Inquiry into the Impacts of the COVID-19 Pandemic on District Utilities and Consumers*.

¹⁶ IPCC, 2019: Climate Change and Land: an IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse Gas Fluxes in Terrestrial Ecosystems; Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

¹⁷ See, e.g., Climate Ready DC, The District of Columbia’s Plan to Adapt to a Changing Climate, available at https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/CRDC-Report-FINAL-Web.pdf (last accessed on March 3, 2023) (“Cities across the country and around the globe are recognizing their responsibility to prepare for a changing climate, and the District is no exception. In recent years, we have seen how climate change is already impacting us with record breaking heat waves and snowstorms, flooding caused by rising sea levels and heavy rains, and the destructive 2012 derecho storm. These events are sobering reminders that without action, increasingly severe weather events will threaten to disrupt our power grid, harm our economy, and cost lives.”); see also Proposed Climate Commitment Act, Letter from Councilmember Cheh (“The District is already experiencing the impacts of human-caused climate change, including record-breaking extreme weather, higher tides caused by rising sea levels, heavy rains and flooding, warmer average temperatures, and a sharp increase in the number of dangerously hot days. As these impacts increase in frequency and severity, they will negatively affect the health, safety, and quality of life of all District residents. And they will not affect everyone equally; instead, they will be felt most immediately and most intensely by communities of color.”).

¹⁸ D.C. Code § 34-1432(c)(22), (31).

- Advancing policy commitments that include reducing carbon emissions by 50% by 2032 and achieving carbon neutrality by 2050.¹⁹

A regulatory regime that ensures the orderly study and interconnection of solar generation resources is critical in ensuring that the District meets these requirements. Global research has found that, indeed, the greatest potential for rooftop solar lies in North America and the potential output for solar energy generated from rooftops alone, collectively exceeds the world's 2018 energy consumption.²⁰

In addition to serving as a key element of the plan for meeting the District's goals regarding carbon neutrality, effective regulations governing Level 1 interconnections in the form of roof-top solar generation make renewable energy easily accessible to District of Columbia consumers. Rooftop solar provides much-needed energy cost relief for District residents. As such, an effective regulatory regime cuts across the core elements of the Commission's charge. As such, the Commission should use all tools at its disposal to ensure Pepco's compliance with interconnection regulations.

C. Discussion

As more DC residents interconnect their rooftop solar to the grid, the lines and equipment that carry and manage the solar energy become congested and upgrades may be needed to keep the system safe and reliable. Pepco claims this is the reason it needs to charge customers for the upgrades necessary to interconnect. However, an analysis conducted by Lawrence Berkeley

¹⁹ Press Release, DC DOEE, Mayor Bowser Commits to Make Washington, D.C. Carbon- Neutral and Climate Resilient by 2050, (Dec. 4, 2017), available at <https://mayor.dc.gov/release/mayor-bowser-commits-make-washington-dc-carbon-neutral-and-climate-resilient-2050> (last accessed on March 3, 2023).

²⁰ High Resolution Global Spatiotemporal Assessment of Rooftop Solar Photovoltaics Potential for Renewable Electricity Generation, Siddharth Joshi, et al., Nature Communications, Article No. 5738, Oct. 5, 2021, available at <https://www.nature.com/articles/s41467-021-25720-2> (last accessed on March 3, 2023) (finding the greatest potential lies in Asia, North America, and Europe).

National Laboratory showed that significant upgrades were triggered only when rooftop solar accounted for a tenth or more of electricity sales.²¹ Solar in the District currently accounts for only around 2%;²² therefore, DC should not be experiencing the need for system upgrades. Supporting this assertion, a study by the National Renewable Energy Laboratory found that unjustified equipment requirements is a problem in a number of other states.²³ In fact, distributed-generation photovoltaics (in particular, rooftop solar) can actually increase distribution system capacity.²⁴ For example, commercial/industrial consumers' peak usage occurs during the daytime when rooftop solar production is the highest. Energy generated from rooftop solar will be sent to the grid and reduce peak load of commercial/industrial customers. Reduction in peak load also reduces the need for distribution system upgrades and maintenance. Therefore, it is possible that the starting premise Pepco uses to determine whether interconnecting a small generator requires costly upgrades is flawed.

1. Preliminary Identification of Issues, Questions, and Proposed Solutions.

As discussed in more detail in the following subsections, OPC identifies the following issues, questions, and proposed solutions.

1. As detailed in Attachments A, B, and G, Pepco has subjected interconnection customers to inexplicable, substantial delays in processing interconnection applications. In addition, Pepco's Green Power Connection has been non-

²¹ Putting the Potential Rate Impacts of Distributed Solar Into Context, Galen Barbose, Berkeley Lab (2017). Summary available at <https://eta-publications.lbl.gov/sites/default/files/lbnl-1007060-es.pdf> (last accessed March 3, 2023).

²² Can DC Meet Its Ambitious Solar Energy Goals?, Amanda Michelle Gomez, Washington City Paper, Feb. 24, 2020. Available at <https://washingtoncitypaper.com/article/176271/can-dc-meet-its-ambitious-solar-energy-goals> (last accessed on March 3, 2023).

²³ Review of Interconnection Practices and Costs in the Western States, Lori Bird, *et al.*, National Renewable Energy Laboratory ("NREL"), Technical Report, Apr. 2018. Available at <https://www.nrel.gov/docs/fy18osti/71232.pdf> (last accessed on March 3, 2023).

²⁴ Methods for Analyzing the Methods and Costs of Photovoltaic Generation to the U.S. Electric Utility System, Paul Denholm, *et al.*, NREL, Technical Report, at Section 8, Sept. 2014. Available at <https://doi.org/10.2172/1159357> (last accessed on March 3, 2023).

responsive to questions by interconnection customers and their solar developers, or has provided insufficient and untimely responses. As explained in Attachment F, one interconnection customer raises material doubt about whether Pepco actually conducted a field inspection of the residence that it purports to have conducted. These actions (or inactions) frustrate interconnection customers that are seeking to develop residential solar generation and, as such, contravene the District's clean energy goals and policies. To address these issues, the Commission should adopt comprehensive, enforceable timetables for reviewing interconnection applications and providing responses.

2. When Pepco does review interconnection applications, customers have had substantial, unanswered questions about the accuracy of Pepco's review and the basis for the cost estimates it provides. In Attachment A, one solar developer provides examples of unsatisfactory communication from Pepco's Green Power Connection team. As detailed in Attachments A and B, Pepco subjects solar developers to uncertain and inconsistent timelines for many of the procedures and testing requirements that must be completed before an installation can be interconnected. As detailed in Attachment C, Pepco has identified tens of thousands of dollars of estimated upgrade costs and, when questioned about the basis for its estimate, reversed course and claimed that no upgrades would be needed. Given these experiences, the Commission should be concerned about the robustness and accuracy of the studies Pepco is using to develop cost estimates. It is also imperative that the Commission determine whether Pepco is purposefully overstating initial cost estimates to discourage customers from pursuing interconnection.
3. In addition to reviewing the accuracy of the studies Pepco is using to develop cost estimates, the Commission should provide needed clarity and certainty by adopting standards, parameters, and rules that Pepco must follow to demonstrate that its power flow-based studies achieve the District's goals. To provide certainty and remove the potential for dispute in the future, the Commission should adopt the minimum standards and parameters identified in the affidavits included as Attachments D and E.
4. In pertinent part, 15 DCMR §§ 4005.4(d)(1) and 4005.6(a) require Pepco to provide a technical explanation to explain the rationale underlying decisions to deny Level 1 projects and move those projects to Level 2, and set forth the timeline for providing that explanation. Rule 4005.4(d)(1) also requires Pepco to provide a demonstration that other means were not available to the Electric Distribution Company ("EDC") to interconnect the project as a Level 1. OPC is concerned that Pepco's analysis does not adequately consider non-wires alternatives, which can influence a finding that other means are available to process the Level 1 application. In addition, OPC is concerned about Pepco's interpretation of these rules and compliance with associated timelines, as detailed in Attachment A. Given these concerns, the Commission should investigate Pepco's compliance with these regulations to ensure that Pepco is not frustrating the District's climate and clean energy policies through its treatment of projects that move from Level 1 to Level

2. In addition to ensuring Pepco’s compliance, the Commission should provide clarity and certainty by adopting a definition of “technical explanation,” which would ensure that all interested stakeholders have a common, objective understanding of the information Pepco must provide to demonstrate its compliance with these requirements.
5. As detailed in Attachment A, actual experience of solar developers supports a finding that Pepco’s hosting capacity maps are not granular enough to serve as useful screening tools. To ensure that the hosting capacity maps serve their intended purpose of providing helpful information to interconnection customers and solar developers—and providing that information early in the process—the Commission should require Pepco to identify system sizes between 1 and 10 kW, greater than 10 kW but less than 20 kW, and greater than 20 kW but less than 250 kW. The Commission should also require Pepco to ensure that its maps provide information that make it possible to assess the potential upgrades that would be needed if generation resources were interconnected at specific addresses.
6. Actual experience under the current regulatory regime has proven that the costs Pepco assesses to consumers after their applications for Level 1 interconnection have been rejected are prohibitive and serve to thwart the District’s climate change goals. As part of its investigation into Pepco’s compliance with the interconnection regulations, the Commission should (1) require that Pepco implement significant improvements regarding the transparency and predictability of, and the technical justifications behind, its interconnection review processes and resulting upgrade cost assessments, and (2) ensure that appropriate mechanisms are in place to equitably allocate costs and eliminate barriers to achieving the District’s policies.

2. Concerns About Substantial Delays in Pepco’s Review of Interconnection Applications and Lack of Responsiveness to Questions from Interconnection Customers and Solar Developers.

Based on its investigation and the consumer complaints it has received, OPC determined that material problems begin to arise at the earliest stages of Pepco’s interconnection procedures.²⁵ Actual experience has shown that the improvements could and should be made to help provide customers with information about the potential costs of interconnection much earlier in the process. As detailed in Attachments A, B, and G, customers and solar developers have experienced inexplicable delays in getting responses through Pepco’s Connect the Grid portal. In some

²⁵ See Attachments A, B, C, F, and G.

instances, delays have persisted for more than a year. These delays have caused frustration among customers and may discourage customers from continuing with the interconnection process. Unfortunately, these criticisms are often directed at solar developers given their role as the liaison between Pepco and the customer, despite the fact that the solar developers bear no responsibility for the delays. Even where Pepco does ultimately respond, the experience of solar developers is that the responses are not adequate or helpful. As explained in Attachments A and B, many responses fail to provide new or useful information. In Attachment B, a solar developer also describes problems with “masked communications” posted to the Connect the Grid portal by Pepco’s Green Power Connection team. In Attachment F, one interconnection customer explains that Pepco informed the customer’s developer that it conducted a field test as part of its verification process. However, the customer’s home security system shows that no Pepco employees visited the residence on the day in question. These experiences should compel the Commission to examine the timeliness of Pepco’s reviews and responsiveness to customer/developer questions. It should also develop enforceable measures to avoid the delays and problems many customers have experienced to date.

In addition to concerns about the timeliness and responsiveness of Pepco’s Green Power Connection team, OPC is also concerned that, under current procedures, interconnection customers can only gain insight into whether distribution upgrades would be needed to interconnect solar generation at their houses after they submit a Net Energy Metering Application and wait for Pepco to review that application and respond. This unnecessary formality and the timing associated with this process can discourage customers from exploring interconnection. As discussed in more detail in Section IV.E below, one way to help resolve this issue is to require Pepco to provide more granular information on its hosting capacity maps. However, other reforms are still needed.

3. Concerns about the Inputs to and Implementation of the Power Flow-Based Studies Pepco's Uses to Identify Upgrades and Provide Cost Estimates.

In addition to the problems customers and solar developers have experienced when initiating the interconnection process, OPC's investigation has identified problems that arise once the review has commenced. Many of these problems relate to Pepco's lack of compliance with timelines. As explained in Attachment A, Pepco has missed the timelines in 15 DCMR §§ 4004, 4005 by wide margins. In Attachment B, a solar developer details its experience with delays in receiving programming points for telemetry equipment and with testing.

Other problems relate to the power flow-based studies that Pepco uses to identify any needed upgrades and estimate the costs of those upgrades. As explained in Attachment D, a power flow-based study is a numerical analysis of the flow of electric power in an interconnected system. A power flow-based study usually uses simplified notations such as a one-line diagram and per-unit system, and focuses on various aspects of AC power parameters, such as voltages, voltage angles, real power, and reactive power. It analyzes the power systems in normal steady-state operation, and it is critical for planning future expansion of power systems as well as in determining the best operation of an existing system. The principal information obtained from the power flow-based study is the magnitude and phase angle of the voltage at each bus (power generator - or home, in the case of rooftop solar), and the real and reactive power flowing in each line. Pepco uses a Graph-Trace Analysis-based algorithm to determine what would happen if additional solar generated power was added to a line. This is a style of computer programming where the algorithms are written in terms of types to-be-specified-later that are instantiated when needed for specific types/amount of load.

One concern is that Pepco's power flow-based studies may erroneously identify costly distribution upgrades when, in fact, no upgrades are needed. This concern is detailed in Attachment C, where Pepco provided an interconnection customer a cost estimate of \$27,000 for upgrades that were purportedly necessary to interconnect. The customer reached out to OPC for assistance in reviewing the reasonableness of the estimate. To investigate the customer's claim, OPC asked Pepco to provide the power flow-based study used to determine the cost of estimated upgrades. In response to OPC, and before providing OPC with the power flow-based study needed to corroborate the estimate, Pepco responded by indicating that it made an error. In fact, no upgrades would be needed. OPC is concerned about the process used that resulted in such a substantial error. In addition to investigating the basis of that concern and the cause for the error, the Commission should also confirm that Pepco is not providing customers with substantial cost estimates as a way of discouraging some customers from proceeding with the interconnection process. A related issue involves the cost estimate letters Pepco provides to customers. Those letters indicate that the customer must sign the cost agreement to proceed with the application. OPC is concerned that requiring customers to agree to high initial cost estimates as a condition to proceeding with the application process discourages customers from pursuing their applications.

While some customers are frustrated with high estimates of upgrade costs that they are unable to substantiate with Pepco, other customers have not been informed of the upgrades that are necessary to interconnect their projects. Attachment G details the frustrating experience of one customer who was informed by Pepco in February 2023 that the interconnection application submitted in July 2021 was conditionally approved pending completion of upgrades that were never identified.

Another concern involves the lack of objective parameters governing Pepco's power flow-based study.²⁶ On the one hand, OPC is concerned that customization of the output of the software Pepco uses to run the power flow-based studies may make it impossible for Pepco's power flow-based study to be replicated in a manner that would allow an engineer to check the power flow for errors. On the other hand, the lack of objective standards gives rise to arguments about the validity of the inputs to the power flow-based study, implementation of the study, and the study's results. Establishing objective standards would avoid unnecessary arguments about the validity of Pepco's studies by ensuring that all stakeholders share a common understanding of how the study will be developed and performed.

To develop these objective parameters, OPC recommends that the Commission consider power flow standards that IEEE has published for commercial and industrial systems. As detailed in Attachments D and E, several of those standards are transferrable to smaller generators. For example, IEEE Standard 3002.2-2018 § 7 states that buses and nodes should be displayed by name to be able to determine what route was used.²⁷ The Commission must ensure that Pepco follows those standards. The Commission should also ensure that Pepco properly accounts for: (1) transformers, which is the largest impedance component in the power flow analysis; (2) consumer load; (3) applicable wire sizes; and (4) IEEE 1547. OPC also calls the Commission's attention to practices used in other states. For example, New York requires the EDC to identify models

²⁶ Many of the details of Pepco's power flow studies are subject to confidentiality designations. As such, OPC limits this discussion to information that can be disclosed publicly. In its investigation, the Commission should employ its procedures governing the treatment of confidential information or critical energy infrastructure information in order to ensure that relevant information can be reviewed by appropriate stakeholders and protected from broader disclosure.

²⁷ IEEE Standard 3002.2-2018 § 7 states that buses and nodes should be displayed by name. Pepco, contrarily, provides a one-line diagram with no bus or node names, making it impossible to determine what the load flow route is. Pepco stated this is because they only display the info that is useful to them (it could also be because their software may not permit them to do so).

available to run the power flow-based study.²⁸ Several jurisdictions also require more transparency around the power flow-based study. For example, California allows customers to meet with the EDC to discuss the results of the study and the assigned cost responsibility if the power flow rejects a project.²⁹

With respect to Pepco's assumptions about consumer load in particular, it is imperative that the Commission determine that Pepco is accurately determining anticipated minimum load. As explained in Attachment E, erroneous assumptions to this critical input will cause errors on the system and produce unreasonable results. Commission regulations establish how the EDC can determine anticipated minimum load:

For interconnection of a Small Generator Facility within a Spot Network or Area Network, the aggregate generation capacity including the Small Generator Facility may exceed fifty percent (50%) of the network's anticipated minimum load if the EDC determines that safety and reliability are not adversely impacted. If solar energy small generator facilities are used, only the anticipated daytime minimum load shall be considered. The EDC may select any of the following methods to determine the anticipated minimum load: (1) The network's measured minimum load in the previous year, if available; (2) Five percent (5%) of the network's maximum load in the previous year; (3) The Interconnection Customer's good faith estimate, if provided; or (4) The EDC's good faith estimate, if provided in writing to the Interconnection Customer, along with the reasons why the EDC considered the other methods to estimate minimum load inadequate.³⁰

Finally, OPC is concerned about customer experiences in situations where Pepco rejects a Level 1 Interconnection Request because the proposed project created system errors. The DCMR allows the customer to request that a copy of the power flow-based study be provided to the

²⁸ New York State Standardized Interconnection Requirements and Application Process For New Distributed Generators and Energy Storage Systems 5 MW or Less Connected in Parallel with Utility Distribution Systems file, Appendix K, § d (it took months of discovery and two meetings before Pepco disclosed what method they used).

²⁹ Rule 21.

³⁰ 15 DCMR § 4004.2(e)(1)-(4).

Commission for review.³¹ However, on the grounds that the study contains confidential customer information or critical infrastructure information (“CII”), Pepco does not provide the study to the consumer, the solar developers they are working with to develop solar resources, or third parties. As such, customers and developers cannot independently analyze the study for accuracy and mistakes. The Commission should identify information that is, or is not, “customer data” as explained in Attachment E. The Commission should also require Pepco to provide the study to customers and developers under regulations that govern CII. Requiring Pepco to provide the study to customers and developers is an important accountability measure because it allows for review to determine whether the power flow-based study and its underlying methodology are accurate. The ability to undertake this review process will increase the levels of confidence that customers and developers have in the cost estimates and upgrades identified by the studies.

4. Need for Clarification, Oversight, and Enforcement of Regulations that are Intended to Provide Transparency into Pepco’s Decisions to Consider Applications Under Level 2.

Under the DCMR, if Pepco denies a Level 1 Interconnection Request, it is required to provide the consumer a “technical explanation” for the denial.³² Unfortunately, the DCMR does not define “technical explanation” or provide insight into the information Pepco must provide to demonstrate compliance with this obligation. As Attachment A demonstrates, the lack of clear guidance on the showing Pepco must make to demonstrate compliance with this regulation has left consumers frustrated and unable to understand the basis for Pepco’s decision to reject their Level 1 Interconnection Request.

³¹ 15 DCMR § 4004.2(g).

³² 15 DCMR § 4005.4(d)(1).

In addition, if Pepco rejects a Level 1 request for interconnection and processes it under Level 2, the DCMR requires Pepco to “demonstrate” that other means were not available to process the project as a Level 1.³³ In purported compliance with that requirement, Pepco’s practice is to provide consumers and/or the solar installer with online notices that Pepco is processing the Level 1 projects under Level 2. But these online notices fail to clearly explain the basis for that decision, much less comply with the requirement to demonstrate that Pepco evaluated whether other means were available to process the project as a Level 1 project and made a reasoned decision that such means were not available. Through the requested investigation, the Commission should evaluate the scope and magnitude of Pepco’s failure to comply with this requirement and develop enforcement measures to avoid these problems in the future.

A separate but related issue involves non-wires alternatives, which can influence a finding that other means are available to process the interconnection application under Level 1. Pepco asserted in its July 2021 Climate Solution Plan that the utility was “[a]lready initiating an innovative distribution system planning (DSP) effort that facilitates non-wires alternatives for meeting customer demand.”³⁴ Non-wires alternatives are defined as “an electricity grid investment or project that uses non-traditional transmission and distribution (T&D) solutions, such as distributed generation (DG), energy storage, energy efficiency (EE), demand response (DR), and grid software and controls, to defer or replace the need for specific equipment upgrades, such as

³³ *Id.*

³⁴ Formal Case 1167, Climate Solution Plan: Pepco’s Blueprint to Support the District of Columbia’s Climate and Clean Energy Goals, July 20, 2021.

T&D lines or transformers, by reducing load at a substation or circuit level” (emphasis added).³⁵ Non-wires alternatives can reduce line losses, boost efficiency, and shift loads.³⁶

One month after Pepco filed its Climate Solution Plan, the utility filed its Electrification Study which did not entertain non-wires alternatives.³⁷ The Office is concerned that, after nearly a year and a half, Pepco has not demonstrated any meaningful steps to support the utility’s assertion that it will utilize non-wires alternatives. The Office believes this is an area in great need of oversight from the Commission. Non-wires alternatives will, no doubt, play a significant role in the electrification of the District. Pepco must utilize non-wires alternatives if they are to meet the District’s electrification goals. The Commission should include this issue in its investigation of Pepco’s compliance with interconnection regulations.

5. In Practice, Pepco’s Hosting Capacity Maps have Proven to be Ineffective Tools that Developers Can Rely Upon to Screen Projects.

Public-facing maps provide useful information that developers rely on as a screening tool. As explained in Attachment A, they help prevent surprise bills for upgrades by providing information about the potential upgrades needed for grid-tied solar at specific locations. In turn, this information is helpful to customers because it provides contextual information about potential options at an early stage in the process. For jurisdictions that utilize the cost-causer pays approach, mapping is key to transparency and efficiency. In response to the Commission’s January 2022

³⁵ Non-Wires Alternatives Study – How EE, DR and Managed Charging Can Cost-Effectively Offset EV Load Growth, Navigant, 2017. *See also*, Amendment to Non-Wires Alternatives Study – How EE, DR and Managed Charging Can Cost-Effectively Offset EV Load Growth, Navigant, 2020. Available at <https://open.alberta.ca/dataset/a1945dc6-b7c2-408e-b7d8-5ae91a522070/resource/1fc78335-e043-464a-931e-b728025d0088/download/aep-eea-non-wires-alternatives-study-version-2-0.pdf> (last accessed March 3, 2023).

³⁶ Non-Wire Alternatives: Case Studies From Leading US Projects, Brenda Chew, et al., Nov. 2018. Available at https://e4thefuture.org/wp-content/uploads/2018/11/2018-Non-Wires-Alternatives-Report_FINAL.pdf (last accessed March 3, 2023).

³⁷ *Formal Case 1167, An Assessment of Electrification Impacts on the Pepco DC System*, Aug. 27, 2021.

Notice of Proposed Rulemaking (“NOPR”)³⁸, many commenters voiced support for public-facing mapping for these very reasons.

Pepco does have such mapping, and the Commission’s regulations require that the maps be updated. Unfortunately, however, neither the numerous would-be solar consumers who have contacted the Office, nor their solar developers, have found Pepco’s maps to be useful, reliable, or efficient. As detailed in Attachment A, solar installers working with the numerous consumers who have filed complaints about Pepco’s hosting capacity maps have found that the maps are not granular enough for PV installers to use them as screening tools. The principal problem is that the smallest grouping of system sizes in Pepco’s hosting capacity map for radial feeders is 1-250 kW. Level 1 interconnections are 20 kW or less.³⁹ As a result, the hosting capacity map is impractical. In addition to the concerns noted above about Pepco’s power flow-based studies, it is likely that these problems with Pepco’s hosting capacity contribute to the experiences customers have had with high initial cost estimates such as the estimate discussed in Attachment C.

To address these issues and ensure that the hosting maps serve their intended purpose, OPC recommends that the Commission require Pepco to identify system sizes on its radial feeder map to show sizes between 1 and 10 kW, greater than 10 kW but less than 20 kW, and greater than 20 kW but less than 250 kW.

6. Actual Experience Demonstrates that the Costs of Distribution Upgrades are Prohibitive and in Conflict with the District’s Climate Goals.

A study conducted earlier this year by the Chesapeake Storage and Solar Association showed that approximately 15% of Level 1 solar interconnection applicants in the District are

³⁸ *RM40-2022-01-E, In the Matter of DCMR Chapter 40 – District of Columbia’s Small Generator Interconnection Rules*, Notice of Proposed Rule Making, January 28, 2022.

³⁹ 15 DCMR § 4004.2(a); *see also* Attachment A.

being charged fees.⁴⁰ OPC is concerned that these fees may be unwarranted and excessive. As the Commission is keenly aware, residential solar consumers are not willing or simply cannot afford to pay for substantial and often overly burdensome costs associated with interconnecting solar assets.

Corroborating its concerns, the complaints OPC has received over the past year raise substantial questions about the validity of the cost estimates produced by Pepco's interconnection practices. As discussed in more detail in the Affidavit attached hereto as Attachment A, these complaints share several commonalities, including: (1) the basis for Pepco's identification of Distribution System Upgrade fees ranging from \$5,000 to \$27,000; (2) Pepco's failure or decision not to provide requisite technical explanations for upgrade fees; (3) Pepco's failure or decision not to provide consumers and solar developers with itemized lists of necessary upgrades; and (4) the lack of any demonstration that the upgrades could be completed using other means available under IEEE standards. The DCMR states in § 4005.4(d)(1):

If the EDC requires the construction of the Distribution System Upgrades during the Interconnection Request process, the EDC shall provide a technical explanation that reviews the need for the identified facilities and/or upgrades. The EDC shall demonstrate that required functionalities are not satisfied by employing IEEE STD 1547 certified and UL 1741 SA listed equipment.

The Commission is familiar with these types of complaints. In response to similar complaints, the Commission's January 2022 NOPR proposed a cost sharing mechanism to address concerns about the prohibitive levels of upgrade costs. The proposed mechanism capped distribution system cost upgrades at \$1,000,000 per year. It also provided a 50-50 split between the customer and the EDC up until the cost exceeds \$10,000, after which the customer pays the

⁴⁰ *Formal Case No. 1050 and RM40-2020-01, In the Matter of the Investigation and Implementation of Interconnection Standards in the District of Columbia and Chapter 40 Small Generator Interconnection Rules, Report: Residential Solar Interconnection Study, Chesapeake Storage and Solar Association, filed on Feb. 17, 2022.*

remaining amount. OPC and nine other commenters filed comments in response to the proposal, explaining how assigning substantial costs to consumers that wish to interconnect could thwart interconnections and undermine District clean energy and climate policies. Most commentors were not in support of a cost sharing mechanism and would prefer cost be recaptured in the rate base.⁴¹ At that time, the Commission declined to adopt such a mechanism.

The wisdom of the Commission's decision to decline adopting that cost sharing mechanism is evident based on the experience over the last year. As OPC argued in its comments to the January 2022 NOPR, the proposed cost sharing methodology would not have resolved concerns regarding Pepco's compliance with the Commission's interconnection rules, the lack of support behind Pepco's excessive upgrade cost assessments and the validity of Pepco's power flow-based studies. To the contrary, OPC cautioned that the proposed cost sharing methodology could in fact exacerbate these concerns by making Pepco's upgrade cost assessments seem presumptively legitimate. For this reason, the Commission should grant OPC's Request for Formal Investigation to ensure that Pepco is following interconnection laws and ensuring that the Company is properly identifying and calculating the fees for Distribution System Upgrades. And as explained in Section II, *supra*, the Commission should develop an appropriate cost-sharing mechanism as part of Pepco's multi-year rate case.

D. Request for Relief

OPC submits that its Petition for Formal Investigation and the attached materials demonstrate that Pepco is failing to comply with material portions of the Commission's interconnection regulations. If the violations persist, OPC avers that Pepco's noncompliance will

⁴¹ Only Solar Shield (a small PV development and financing firm) expressed partial support of the Commission's NOPR.

thwart the District’s clean energy and climate goals because fewer residents will acquire solar arrays. In addition, OPC submits that actual experience over the past year has identified aspects of the Commission’s regulations that, while well intended, are not operating as expected. If left in place, these ineffective regulations will exacerbate the problems caused by Pepco’s non-compliance and work to defeat the District’s aggressive climate policies. To avoid these extreme and unnecessary results, OPC requests that the Commission grant the following relief.

1. The Commission should initiate a formal investigation into Pepco’s compliance with regulations governing Level 1 interconnections, including an examination of improvements and clarifications that should be made to existing regulations.
2. The Commission’s investigation should determine whether Pepco reviews interconnection applications and provides meaningful responses to customer/developer questions in a sufficient and timely manner. If not, the Commission should adopt comprehensive, enforceable timetables for reviewing interconnection applications and providing responses.⁴²
3. The Commission’s investigation should review the inputs to Pepco’s power flow-based studies to determine the accuracy and legitimacy of the cost estimates provided to interconnection customers. The Commission should also identify objective rules, parameters, and standards to be used by Pepco in future interconnection studies to make it easier to determine whether Pepco is complying with the District’s regulations. In addition, the Commission should provide clarity on information that is “customer data” versus information that is not.
4. The Commission, through its engineers, should conduct an audit of all Level 1 Interconnection Requests that were advanced to Level 2 consideration including an assessment of the accuracy, timeliness, and legitimacy of Pepco’s power flow-based studies. Where the Commission finds Pepco improperly charged consumers, the Commission should direct Pepco to reimburse those fees.
5. In circumstances where Pepco denies a Level 1 application and processes the application under Level 2, the Commission should provide guidance and clarifications regarding the demonstration Pepco must make to establish its compliance with the requirement to provide consumers with technical explanations and should define “technical explanation” as it appears in 15 DCMR § 4005.4(d)(1).

⁴² See Attachment A at 2.

6. The Commission should direct Pepco to comply with 15 DCMR § 4005.4(d)(1) and demonstrate to the consumers and the Commission that the allegedly required upgrades cannot be satisfied using other IEEE certified equipment. The Commission should also require Pepco to demonstrate how its analysis accounted for non-wires alternatives.
7. Given the important role that public-facing capacity hosting maps can play in facilitating the orderly and efficient development of solar resources, the Commission should require Pepco to implement reforms that produce hosting maps that are sufficiently granular, usable, and sufficient to allow consumers to make informed choices about installing solar generation.
8. The Commission should find that assessing the costs of distribution upgrades to interconnection customers is prohibitive and undermines the District’s climate policies. In addition to making the improvements identified above requiring Pepco to address the issues underlying OPC’s Petition for Formal Investigation, the Commission should develop an appropriate cost-sharing mechanism as part of Pepco’s multi-year rate case.⁴³

E. List of Supporting Documents

OPC attaches to this Petition for Formal Investigation the following affidavits, which provide requisite context and analysis in support of the arguments, assertions, inferences, and recommendations set forth above.

No.	Attachment	Attachment Description
1	Attachment A	Affidavit of James Sheets on behalf of Solar Solution DC LLC
2	Attachment B	Affidavit of Mark Ballentine on behalf of Universal Renewables
3	Attachment C	Affidavit of Interconnection Customer Jennifer Vail
4	Attachment D	Affidavit of Jason Cumberbatch on behalf of OPC
5	Attachment E	Affidavit of Kevin Mara on behalf of OPC
6	Attachment F	Affidavit of Interconnection Customer Colin Puhala
7	Attachment G	Affidavit of Interconnection Customer Valerie Montana

⁴³ For example, Cluster Studies, Group Studies, or Group Cost Allocation. See An Overview of Distribution Energy Resource (DER) Interconnection: Current Practices and Emerging Solutions, Kelsey Horowitz, et al., National Renewable Energy Laboratory, Technical Report, April 2019. Available at <https://www.nrel.gov/docs/fy19osti/72102.pdf> (last accessed April 25, 2023).

IV. CONCLUSION

WHEREFORE OPC respectfully requests the Commission (1) consider the above Comments in acting on Pepco's Rider-NEM Proposal; (2) commence a Formal Investigation into Pepco's compliance with the Commission's regulations governing the interconnection of small generators, implement reforms that may be necessary to improve upon existing regulations; and (3) grant any other remedy that the Commission deems appropriate in the furtherance of the District's clean energy goals and policies.

Respectfully Submitted,

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Date: May 1, 2023

**OFFICE OF THE PEOPLE'S COUNSEL
FOR THE DISTRICT OF COLUMBIA**
1133 Fifteenth Street, NW, Suite 500
Washington, DC 20005

Attachment A

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

In the Matter of:

**The Office of the People’s Counsel’s
Petition into Investigation of
Potomac Electric Power Company’s
Level 1 Interconnection Practices**

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Formal Case No. _____

**AFFIDAVIT OF JAMES SHEATS
ON BEHALF OF SOLAR SOLUTION DC, LLC.**

I, James Sheats, do hereby state and affirm, under the penalty of perjury, that I am over eighteen (18) years old, that I am competent to be a witness, and that the matters and facts stated below are true and correct, and are provided based on my personal knowledge:

I. INTRODUCTION AND QUALIFICATIONS

1. My name is James Sheats and I am a senior project manager at Solar Solution, DC located at 4700 14th Street NW, Washington, DC 20011.
2. I submit this affidavit on behalf of the Office of People’s Counsel of the District of Columbia (“OPC”). This affidavit and attachments were prepared by me or under my direct supervision and control.
3. Solar Solution DC LLC (“SSDC”) is a local solar PV installer based in Washington, DC. We install both residential and commercial solar PV systems in the region, with the majority being residential. We currently manage more than 4,500 systems in the District, submit hundreds of NEM interconnection applications annually to Potomac Electric Power Company’s (“Pepco”) Green Power Connection (“GPC”) team, and expect our application submission volume to increase in the coming years. Our company’s operations are nearly wholly reliant on communications with, and deliverables required by, Pepco/GPC. As such, SSDC is uniquely positioned to provide a snapshot of the issues DC solar installers and DC residents have recently faced throughout the interconnection process, particularly with projects involving distribution grid upgrades.
4. I am submitting this affidavit to address my company’s experience with Pepco’s renewable energy generator interconnection review process in the District of Columbia. Our

frustrations primarily stem from unsatisfactory communication with Pepco's GPC team, the lack of a comprehensive and legally enforceable interconnection review timetable, and major issues associated with applications deemed by Pepco to require distribution grid upgrades in order to complete solar photovoltaic ("PV") and energy storage system interconnections. These issues often build upon each other and extend interconnection delays. Together, they prove to be considerable impediments to meeting DC's Renewable Portfolio Standard goals.

5. My direct involvement in the interconnection process is to help our staff that submit interconnection applications address any issues GPC reviewers may bring up. I do not handle most day-to-day submissions but do handle issues or delays that arise with our projects and therefore see firsthand the cascading impacts they cause. Unfortunately, Pepco is either not complying with the Public Service Commission ("PSC" or "Commission") interconnection rules or the rules are proving to be ineffective in practice. SSDC and other stakeholders have little to no recourse when it comes to the lack of communication received from GPC through the official channel, Connect the Grid ("CTG"). Incredibly long project delays have significantly affected our company and our mutual clients (District residents). Consequently, this affidavit was generated using the direct interactions various members of SSDC have had with GPC, including my own.

II. TOPICS OF CONCERN

A. Communication in Pepco's CTG Portal

6. The main group within Pepco that SSDC must exclusively direct our interconnection questions to is their GPC team. The online portal through which SSDC submits all Pepco interconnection requests is the Connect the Grid, or CTG, portal. This portal allows us to see what stage of the review process any of our applications is at and allows us to directly communicate with the relevant GPC reviewer(s). *Exhibit A-1* uses an example project to show our view as the installer of the "Status Changes" page within CTG. *Exhibit A-2* shows the same project's "Messages" page through which all project communications occur.
7. The most common obstacle SSDC faces with regards to interconnection requests is getting timely responses from the GPC team in the CTG portal. It is hard to overstate how infrequent and how deficient responses from GPC often are. *Exhibit A-3* shows the entire contents of a specific project's "Messages" in CTG between GPC and SSDC from 8/17/21 to 2/8/23. Over this incredibly long year and a half period, SSDC constantly asked GPC for updates only to be met with silence for weeks or months. When GPC did reply, the messages provided no new or useful information. This pattern of waiting weeks to reply to messages within CTG is observed across almost all of SSDC's active projects. When a question or request is posed, there is no expectation of a timely response or even a response at all. District residents trying to install solar PV that get caught up in these communication black holes understandably equate a lack of progress with their application to a lack of effort put in by SSDC. The one-way conversations we have within the CTG portal are all we have to show our clients in response. Deficient communication from GPC not only

harms the reputation of our company but acts as a fundamental hurdle to creating a more serviceable interconnection review process. It does not matter whether Pepco and/or the GPC team is lacking staff, behind schedule, ill-equipped, over-compartmentalized, or simply disorganized. By consistently offering no hint of an explanation for delays or mistakes, Pepco/GPC has shown itself to be completely insincere.

B. PSC Timetables for Level 1 and Level 2 Small Generator Facility Interconnection Reviews are Unclear and Ignored by Pepco

8. As noted throughout 15 DCMR § 4004-4005¹, Pepco has certain amounts of time to perform a few, specific interconnection review steps. Despite only covering limited parts of the interconnection review process, these timelines are missed time and time again by wide margins. Additionally, GPC seems to have created new project status labels for internal use that do not correspond to PSC terminology. Apart from the more traditional and well-known labels such as “In Technical Review” and “Approval to Install”, these new labels include “Field Verification”, “Conditional Approval”, and “Approval to Install Upgrades Required”. The existence and inconsistent use of these labels greatly obscure the expected timetables for almost all projects that fall into those categories. In fact, the only two relevant terms listed on the Definitions page from 15 DCMR § 4004-4005 are “Approval to Install” and “Authorization to Operate”. Solar customers and installers need clear legislative language designating all official steps throughout the interconnection review process and mandated periods of time in which such steps have to be completed assigned. This is particularly needed when distribution grid upgrades are said to be needed.
9. For example, the project shown in *Exhibit A-4* was placed in “Field Verification” for over two and a half months. SSDC wrote 20 messages to GPC in CTG between November 21, 2022 and January 23, 2023 and received zero responses during that time. *Exhibit A-5* shows another project left in “Field Verification” from October 17, 2022 until the time of this Affidavit (February 16, 2023). For that project, SSDC wrote 11 times between October 24, 2022 and December 29, 2022 and on January 5, 2023 GPC replied stating “Good Morning, My apologies but our Engineering department is still working on the cost estimate letter”. This same message was sent to us again on January 30, 2023. SSDC has since written five messages with no response as of this writing. Lastly, *Exhibit A-6* shows another project placed in “Field Verification” for over 4 months. In that case, SSDC wrote 12 messages between November 17, 2022 and January 23, 2023 with a response on February 6, 2023

¹ 15-40 District of Columbia Small Generator Interconnection Rules, available at:

<https://dcpsc.org/Orders-and-Regulations/Orders-Rules-and-Regulations/District-of-Columbia-Municipal-Regulations-Title-1.aspx>

consisting of “We apologize for the delay. But we have reached out to get an update on the field verification. As soon as it is available, we will provide you with an update.” We have not heard back as of the time of this writing.

10. It is not acceptable for these delays to be made by a public utility, it is not acceptable for GPC to provide so little information about the status of a project, and it is not acceptable that an affidavit submitted to the DC PSC is what appears to be required from solar customers and installers to push for proper enforcement of existing PSC rules. Pepco leadership in DC seemingly does not want to address this issue in earnest with relevant stakeholders thus additional action is needed from an agency with utility oversight responsibilities.

C. Distribution Grid Upgrades: Major Obstacle to Review

11. One of the difficulties we have increasingly faced over the past two years occurs when projects are deemed by Pepco to require distribution grid upgrades. Sometimes these upgrades are for the project address being applied for where other times they are for neighbors. Sometimes the costs of these grid upgrades are assessed to the customer, other times they are not. When Pepco estimates that a grid upgrade is needed, PSC rules direct them to modify the review process from a Level 1 application review to a Level 2 review. When asked about the impacts on the review timeline associated with this type of change, GPC references 15 DCMR § 4005.4 (d) and 4005.6 (a). These sections of the regulations give the EDC 15 business days to either evaluate the project using Level 2 screening and to notify the customer if the project meets all the Level 2 applicable impact screens or (respectively), if the project requires only the addition of Interconnection Facilities to the Electric Distribution System, to provide a non-binding, good faith cost estimate and construction schedule. The utility’s interpretation of these rules effectively implies that GPC has 15 business days to provide a good faith cost estimate after an Approval to Install is issued. Not only do we regularly see GPC run well past that timeframe, we do not agree with their interpretation. Not only is this counterintuitive to the definition of “Approval to Install”, it negatively impacts the project’s construction schedule. Take, for example, the project shown in *Exhibit A-7*. SSDC was provided an Approval to Install (“ATI”) on September 8, 2022 yet when we tried to submit Part II of the interconnection application, we were told that grid upgrades were needed. Even though the system was completely installed, SSDC and the customer had no available recourse but to wait for Pepco to put the grid upgrades on their construction schedule. At no point in the CTG message thread did GPC indicate when the grid upgrades would be completed.
12. Overall, moving a Level 1 application into a Level 2 review in combination with lackluster communication from GPC ultimately results in some of the longest delays to interconnection requests our company has ever seen and these delays drive our customers away. Reading the aforementioned PSC rules in the way GPC has construed them would inevitably compel solar installers to wait three full weeks after receiving an Approval to Install to prevent the risk of installing a solar system that is unable to be energized because Pepco could possibly determine that a lengthy construction queue or a charge ranging in the thousands to tens of thousands of dollars is needed before a Part II can be submitted

and an ATO obtained. *Exhibit A-7* indicates preventing this is not necessarily possible thus there must be a route for installers and customers seeking redress for application review and processing timeline infractions.

D. Pepco's Host Capacity Maps are Insufficient

13. We have been told numerous times that requesting a Pre-Application Report does not substitute a full application technical review and therefore cannot provide insight into whether grid upgrades might be needed at a particular address. Therefore, to our knowledge, the only tools available to determine if a certain address will need a distribution grid upgrade before submitting a full interconnection application are Pepco's two Hosting Capacity Maps². Unfortunately, the majority of SSDC's projects are residential in nature and under 25 kW AC, thus the hosting maps are worthless unless Pepco is required to provide a more granular key showing what limitations exist regarding grid-tied solar for specific addresses. This would also help ease the frustration of finding out grid upgrades are needed after contracts have been signed and applications submitted.

III. DISCUSSIONS WITH PEPSCO/GPC

14. SSDC has discussed these issues directly with Pepco/GPC. In stakeholder sessions held by GPC, only very high-level information is provided and specific questions, especially those involving grid upgrades, are usually not answered. Outside of CTG, we emailed GPC leadership directly about our issues numerous times between late 2022 and early 2023 and held one scheduled video call in January, 2023. Despite asking repeatedly for a supervising member of Pepco's Engineering team familiar with distribution grid upgrades to be on the call, no clear explanations for delays or useful status updates were obtained for most projects discussed.
15. This affidavit was prepared by me or under my direct supervision and control.
16. If sworn as a witness, I can testify competently to the facts and assertions stated in this affidavit.

BY: James Sheats
James Sheats

Executed on this 27th day of February, 2023.

² Pepco's hosting capacity map available at:

<https://www.pepco.com/SmartEnergy/MyGreenPowerConnection/Pages/HostingCapacityMap.aspx>

District of Columbia: SS
Subscribed and Sworn to before me
this 27th day of February, 2023

Tamika R Dodson
Tamika R Dodson, Notary Public, D.C.
My commission expires September 14, 2023



Exhibit A-1.

Exhibit A-1: "Status Changes" view of application within CTG.

The screenshot displays the 'Status Changes' view of an application within the CTG system. The interface includes a navigation bar at the top with options like 'Applications', 'Payments', 'Messages', 'Application Fields', 'Files', 'Utility Fields', 'Forms', and 'Scheduled Notifications'. The main content is divided into three sections:

- Application Summary:** Provides key details about the application, including the current status, project name, location, account number, type, energy source, project ID, capacity, and install type.
- Application Milestones:** A horizontal timeline showing the progression of the application through various stages: Part 1 Submitted, In Technical Review, Part 1 Review Completed, Part Two, and In Service.
- Status Changes:** A table listing all status changes, including the effective change date, time, status, and creation date.

Application Summary Details:

- Current Status:** Approval To Install Upgrades Required
- PROJECT:** 1623 Arnes P1 NE
- LOCATION:** 1623 Arnes Place Northeast, Washington, District of Columbia 20002
- ACCOUNT NUMBER:** 5321410000
- TYPE:** Solar PV
- ENERGY SOURCE:** Solar PV
- PROJECT ID:** PDP00-0092276
- CAPACITY (KW):** 4.94
- INSTALL TYPE:** New Installation

Application Milestones:

- Part 1 Submitted (4 years ago)
- In Technical Review (4 years ago)
- Part 1 Review Completed (6 months ago)
- Part Two
- In Service

Status Changes Table:

EFFECTIVE CHANGE DATE	EFFECTIVE CHANGE TIME	STATUS	CREATED DATE	CREATED TIME
Friday, August 26, 2020	7:54:03 AM	Approval To Install Upgrades Required	Friday, August 26, 2020	7:54:03 AM
Friday, September 3, 2021	8:57:20 AM	Conditionally Agreed	Friday, September 3, 2021	8:57:20 AM
Monday, August 23, 2021	1:02:25 PM	Field Verification	Monday, August 23, 2021	1:02:25 PM
Wednesday, August 18, 2021	2:15:15 PM	In Technical Review	Wednesday, August 18, 2021	2:15:15 PM
Tuesday, August 17, 2021	12:38:40 PM	Submitted	Tuesday, August 17, 2021	12:38:40 PM
Tuesday, August 17, 2021	12:28:24 PM	Draft	Tuesday, August 17, 2021	12:28:24 PM

At the bottom of the page, there are logos for 'ATLANTA CITY ENERGY' and 'ConsentHub'.

Exhibit A-2.

Exhibit A-2: "Messages" view of application within CTG.

Applications | Payments | Messages | Application Fields | Files | Utility Fields | Forms | Scheduling Notifications
Welcome, Salim

Application Summary

Current Status: Approval To Install Upgrades Required

PROJECT
1425 Ames Pl NE

LOCATION
1425 Ames Place Northeast, Washington, District of Columbia 20002

ACCOUNT NUMBER
5501490520

TYPE
Load 1

ENERGY SOURCE
Solar PV

PROJECT ID
PEFCO-0009078

CAPACITY (KW)
4.64

INSTALL TYPE
Initial Installation

Messages

GPC GPC Account for New Applications - 8/10/21 12:24 PM

Thank you. Your interconnection request has successfully been submitted.

We are currently reviewing the application for complete and accurate information. If it is complete, we will notify you that we are moving forward with next steps. If it is incomplete, we will notify you of what needs to be remedied.

Our timeframe for screening interconnection applications at this stage of the process is mandated in State regulations. The Acknowledgement of Receipt is (OR) business days.

In Technical Review Internal user - 8/10/21 2:15 PM

Neel Iwata

We have received Part I of your interconnection request, and have determined that it is complete. It is now being screened by our technical review group. You will soon receive an invoice for your application fee if applicable. To avoid delays in the application process, it is important to pay your application fee as soon as possible. We will send you notices and instructions via e-mail when we have completed our review of your interconnection request.

Our timeframe for screening interconnection applications at this stage of the process is mandated in State regulations. The Application Screening Notification is 5 business days.

Next Steps: We will email you a notice once we have completed our screening. If additional information or documentation is required, we will send you information on what is needed. If your request passes the screening, we will send you approval to install. Once approved, you may then proceed to build and install your system. After your system has been installed, complete your interconnection request by submitting the following:
Part II of the Interconnection Application (Certificate of Completion (COC)), and local electrical inspection certificate

Friendly reminder: In accordance with State regulations, you are not permitted to turn on your generator system until you have received our written Authorization to Operate.

Field Verification

Joshua Day Contractor - 8/12/21 1:02 PM

To continue to process your application we must inspect the existing utility equipment at the property. This verification will help us determine any needed next steps for your system to be safely installed. We will continue to process your application once we complete our verification. We will inform you of any access issues.

Solar Solution 8/12/21 4:07 PM

Hi, the project status says "Technical Review Complete". Does this mean that the field verification is complete as well?

Conditionally Approved

Jeptha Fowler Jr. Business Program Manager - 8/12/21 6:17 AM

We have completed the technical screen of your interconnection request. The request cannot be approved as submitted. We can provide a conditional approval based on the following items we have identified.

FOR TRANSFORMER UPGRADE: ** We have completed the technical screen of your interconnection request. In order for your interconnection request to be

Type a new message...

ALABAMA CITY SERVICE <small>Contact Us Service Out Center Information</small>	MEMPHIS <small>Contact Us Service Out Center Information</small>	MOBILE <small>Contact Us Service Out Center Information</small>
--	---	--

Connecticut Contact Us | Service Out Center | Information | **Connecticut** Contact Us | Service Out Center | Information | **Connecticut** Contact Us | Service Out Center | Information

Exhibit A-3.

Exhibit A-3: Example of insufficient communication from GPC (PEPCO-0109462).


Messages

Approval to Install Upgrades Requested
Tyrese Smith Interconnection Specialist - 10/26/22 2:43 PM
We have completed the technical review of your interconnection request. Congratulations. The initial part of your interconnection application request for 4213 12th Street Northwest, Washington, Washington D.C. 20017 /Maria Magdalena Navarro Perez Thomas Peltzer is approved and you are now authorized to install your renewable generator system.

FOR DC: ** This conditional approval expires per the terms of Chapter 46, DISTRICT OF COLUMBIA SMALL GENERATOR INTERCONNECTION RULES of Title 15 DCMR. For Level 1 requests (systems less than or equal to 20 kW AC), unless extended by mutual written agreement, you must deliver a completed Level 1 PART 1 (Small Generator Facility Interconnection Certificate of Completion Form, including a signed inspection certificate) within six (6) months from the date of this Approval to Install notification or six (6) months from the completion of any upgrades, whichever is later. For Level 2 requests, unless extended by mutual written agreement, you must deliver a completed Level 2 PART 1 (Small Generator Facility Interconnection Certificate of Completion Form, including a signed inspection certificate) within twenty-four (24) months from the date of this Approval to Install notification or six (6) months from the completion of any upgrades, whichever is later. Additionally, you must communicate with us no less frequently than every six (6) months regarding the status of your Small Generator Facility.**

Next Steps: PART 2 CANNOT BE SUBMITTED UNTIL UPGRADES ARE INVOICED AND COMPLETED

FOR NEW CONSTRUCTION: ** If you have applied for Net Metering, the net-capable meter exchange and authorization to operate will be contingent on the total contracted load being present, demand existing on the meter, and the electric account being in the owner's name. In other words, construction has to be completed, and the owner has to be living there or utilizing the space. Once we receive the above complete documentation and confirm these contingencies, we will proceed with the net-capable meter exchange. Friendly reminder: in accordance with State regulations, you are not permitted to turn on your generator system until you have received our written Authorization to Operate.

Solar Solution - 10/27/22 9:53 AM
Hi GPC, just uploaded the signed cost estimate
 See Follow-up request website.pdf

Solar Solution - 10/27/22 8:17 AM
Hi,
when can we get the cost letter? Thank you!

Solar Solution - 11/02/22 8:38 AM
Hi GPC, please advise the general timeline it takes to go from cost estimate to cost letter. Thank you.

Solar Solution - 11/08/22 3:58 PM
Hi GPC, please provide a cost letter as soon as possible.

Solar Solution - 10/20/22 3:53 PM
GPC, we have not received a cost letter or an invoice for the grid upgrades. Please advise, it's been almost 2 months without a single response. This project was included in a list of delayed projects emailed to Jagueta and Kendra on 10/21/22, 10/22/22, and 10/24/22. We have not received a response from either.

Solar Solution - 10/27/22 9:48 AM
GPC, please advise.

Solar Solution - 10/26/22 10:28 AM
GPC, this client has decided to cancel their contract and pull their NEM application due to unforeseen grid upgrades and delays due to a lack of communication here. Please withdraw.

Exhibit A-4.

Exhibit A-4: Example of project held in “Field Verification” status for 2.5 months (PEPCO-0109273).

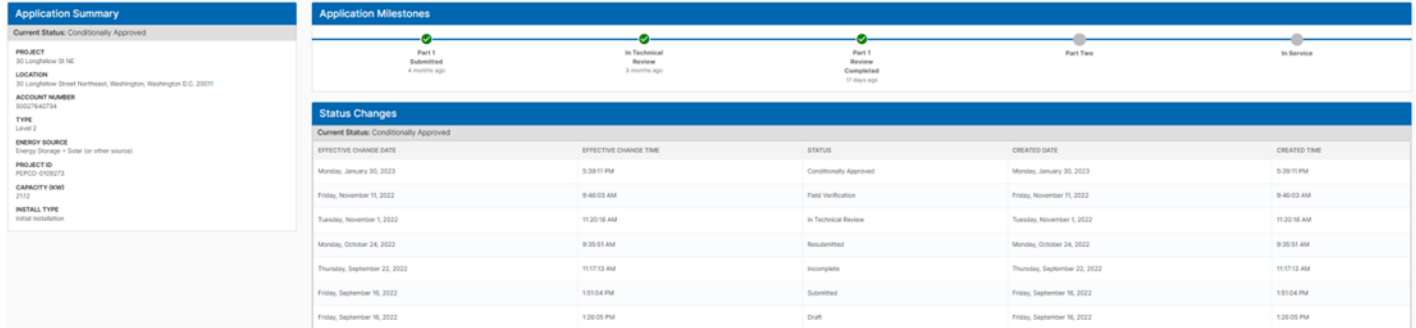


Exhibit A-5.

Exhibit A-5: Example of project held in “Field Verification” status for 4.5+ months (PEPCO-0109533).

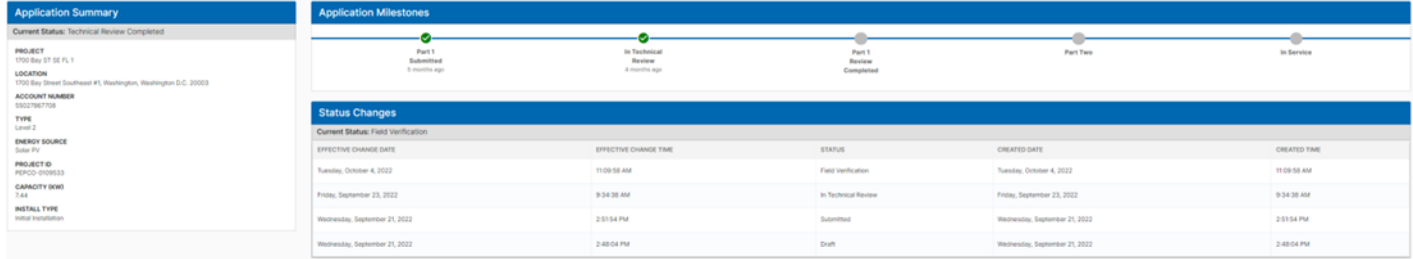


Exhibit A-6.

Exhibit A-6: Example of project held in “Field Verification” status for 4+ months (PEPCO-0110464).

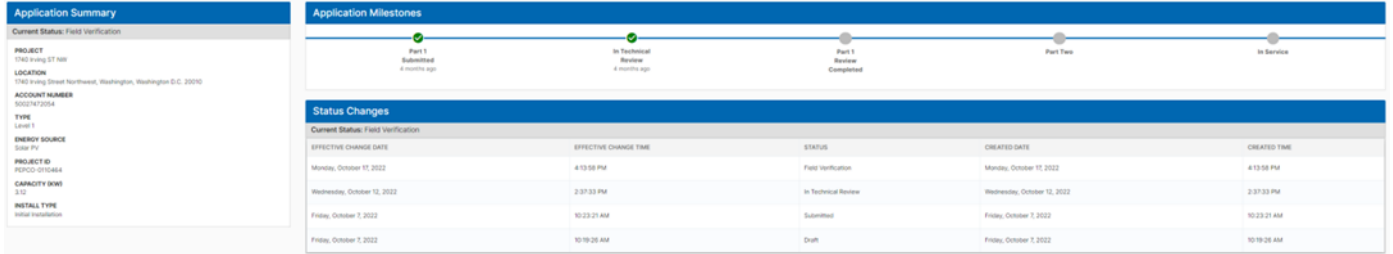


Exhibit A-7.

Exhibit A-7: Example of project where grid upgrades were only mentioned after system install and after submitting Part II of interconnection application (PEPCO-0108076).

Application Summary		Application Milestones				
<p>Project 4108 274 27 100</p> <p>Location 4108 274 Street Northwest, Washington, Washington D.C. 20011</p> <p>Account Number 0100000000</p> <p>Type Solar PV</p> <p>Service Source Solar PV</p> <p>Project ID PEPCO-0108076</p> <p>Capacity (kW) 7.0 kW</p> <p>Install Type Rooftop Installation</p>		<p>Part I Submitted 2 months ago</p> <p>Part II Submitted 2 months ago</p> <p>Part I Review Completed 3 months ago</p> <p>Part II Review 2 days ago</p> <p>Part II Review 2 days ago</p>				
Status Changes						
Current Status: In Service	Effective Change Date	Effective Change Time	Status	Created Date	Created Time	
In Service	Friday, February 10, 2023	11:43:00 AM	In Service	Friday, February 10, 2023	11:43:00 AM	
Minor Install Completion	Friday, February 10, 2023	11:42:40 AM	Minor Install Completion	Friday, February 10, 2023	11:42:40 AM	
Minor Reassignment	Friday, February 10, 2023	11:42:27 AM	Minor Reassignment	Friday, February 10, 2023	11:42:27 AM	
Part I Submitted	Tuesday, February 7, 2023	11:20:04 AM	Part I Submitted	Tuesday, February 7, 2023	11:20:04 AM	
Part II Completion	Friday, January 27, 2023	2:16:40 PM	Part II Completion	Friday, January 27, 2023	2:16:40 PM	
Part II Submitted	Wednesday, January 25, 2023	12:22:14 PM	Part II Submitted	Wednesday, January 25, 2023	12:22:14 PM	
Part II Completion	Friday, January 19, 2023	3:47:17 PM	Part II Completion	Friday, January 19, 2023	3:47:17 PM	
Part II Submitted	Friday, January 19, 2023	3:30:00 PM	Part II Submitted	Friday, January 19, 2023	3:30:00 PM	
Approval To Install	Thursday, September 6, 2022	5:13:11 PM	Approval To Install	Thursday, September 6, 2022	5:13:11 PM	
In Technical Review	Tuesday, August 30, 2022	11:07:19 AM	In Technical Review	Tuesday, August 30, 2022	11:07:19 AM	
Submitted	Monday, August 29, 2022	10:48:01 AM	Submitted	Monday, August 29, 2022	10:48:01 AM	
Draft	Monday, August 29, 2022	10:44:23 AM	Draft	Monday, August 29, 2022	10:44:23 AM	

Attachment B.

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

In the Matter of

**the Complaint and Investigation into
Potomac Electric Power Company's
Interconnection Practices for Net
Metered Renewable Energy Facilities**

§
§
§
§
§
§

Formal Case No. _____

AFFIDAVIT OF MARK BALLANTINE

I. INTRODUCTION & QUALIFICATIONS

1. My name is Mark Ballantine, I am the President & CEO of Universal Renewables (UR).
2. I am submitting this affidavit to share UR's experience with the Potomac Power and Electric Company (PEPCO) approval process for interconnection of Net Metered (NEM) renewable energy systems requiring operating upgrades and telemetry.
3. UR is District of Columbia Certified Business Enterprise, manufacturing, distributing, and installing a proprietary line of elevated rooftop solar power solutions utilized in urban markets throughout the U.S.
4. Based in the District, UR has become the leading manufacturer and installer of elevated rooftop solar canopies and has a diverse and rapidly growing customer base, including equipment installers, investors, and building owners. We have installed our elevated systems on over 40 rooftops in the DC market ranging in size from 50kW to 700kW with an average system size of 150kW. Our solutions are hosted by and serve clients in the low-income, multi-unit residential, and commercial markets.

5. UR's projects include a growing number where Pepco conditions interconnection approval on the design, installation, operation, and maintenance of reverse power relay schemes to prevent adverse system impacts on the grid. For these projects, UR is also responsible for the installation and cost [\$40,000] of Pepco provided telemetry equipment to monitor the reverse power relay operations. These interconnection requirements are commonly referred to by the industry as "Operating Upgrades". The basic function of Operating Upgrades is to guarantee no energy produced by the associated solar power system is exported to Pepco's electric grid.
6. This Affidavit reflects the experience of numerous interconnection customers and stakeholders, including those associated with interconnection applications for 20 M Street SE (Pepco-0089395), 1050 Connecticut Avenue NW (Pepco-0089393), 3801 Connecticut Avenue NW (Pepco-0094780), and 5415 Connecticut Avenue NW (Pepco-0094777). Each referenced interconnection was determined by Pepco to require Operating Upgrades. Aside from UR, the stakeholders in this representative group of projects include, building owners, funding partners, marketing groups, third party consultants, general contractors, and numerous sub-contractors. For each of these interconnection applications there are typically no fewer than a dozen working relationships "stakeholders" directly impacted by Pepco's interconnection process.
7. My direct experience with the referenced interconnection customers began with the filing of each referenced interconnection application and will end with Pepco Authorizing each system to Operate. The communications log and associated timelines for each referenced interconnection application are attached as Exhibit A.
8. This Affidavit compiles the experience of the whole UR team regarding, delays in violation of CHAPTER 40: DISTRICT OF COLUMBIA SMALL GENERATOR INTERCONNECTION RULES Section 4005.4 (f) which requires Pepco to either waive

or conduct the Witness Test within ten (10) business days of receiving a completed Part II accompanied by a copy of the DCRA electrical inspection certificate.

*Note: Universal wrote and circulated an email dated November 4th, 2022, [attached as Exhibit B] to Pepco expressing stakeholder frustration, the email identified each of the projects listed above, and included dates and length of delays. These delays are easily tracked by looking at the communications history logged in the Pepco “Connect the Grid” or “CTG” web portal. However, shortly after circulating the email, the communications log in Universal’s CTG portal for each of the referenced projects was masked and made unavailable to Universal while the communications logs for Universal’s other projects remain visible. **Pepco should restore all CTG portal communications logs as they contain important reference points, they illustrate the urgent need for both process reform and enforcement of District of Columbia Small Generator Interconnection Rules Chapter 40 Section 4005.4 (f) referenced above.***

9. The issues that UR and its project stakeholders are experiencing with Pepco’s interconnection process is significantly tamping down future stakeholder interest participating in projects that require Operating Upgrades.
10. This affidavit and the accompanying exhibits were prepared by me or under my direct supervision and control.

II. DISCUSSION

A. Disregard of District of Columbia Small Generator Interconnection Rules Chapter 40 Section 4005.4 (f)

13. Witness Testing for each of the referenced projects was not schedule or waived as required by District code. See respective highlighted Interconnection Application Part II delivery dates of shown in Exhibit A. Enforcement of Chapter 40 Section 4005.4 (f) is critical and will resolve issues around the extensive delays in Authorization to Operate, in some cases by up to 9 months [see page 4 Exhibit A where Part II was submitted on March 28, 2022, and the customer has not received Approval to Operate as of January, 27th 2023]

B. Extensive delays in delivery of telemetry equipment, relay design and witness test approvals

14. Six month delays in Pepco’s delivery of telemetry equipment is not uncommon and is a significant barrier to reaching Authorization to Operate, please reference timeline in

Exhibit B and proposed solution in Section E below.

15. Pepco's issuance of programming points for telemetry equipment is an operation that takes engineers several months to deliver, please refer to Exhibits A and B for reference.
16. Pepco requires the customer to write the Witness Test procedures with no guidance, then provides completely different test procedures at the time of testing with no explanation and without advance warning.
17. Pepco does not allow the customer to see or have a copy of the Witness Test plan in advance or at the time of testing.

C. Masking of communications logs in Pepco's the Connect the Grid "CTG" portal.

18. Pepco's masking of the communications log in CTG has significantly reduced visibility into the exchanges and communications around the interconnection approval process.

D. Requirement for Net Meter installation for interconnections requiring Operating Upgrades

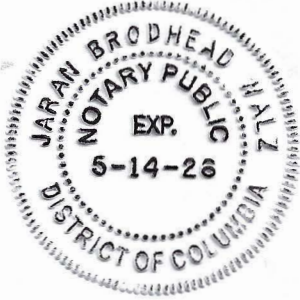
19. Operating Upgrades are designed, engineered, programmed, and tested at great expense to guarantee no power is back fed to Pepco's grid making the need for a Net Meter moot and causing unnecessary delays in Authorization to Operate.

E. Uncoupling of installation and testing of telemetry equipment and reverse power relay installation and testing.

20. Telemetry equipment is passive and exercises no control over the operation of reverse power relay systems. As such, these systems can be installed and tested independently, in fact Telemetry can be installed after a system has reached Authorization to Operate with no impact on the effectiveness of the installed and tested reverse power relay system protection measures.
21. Contractors like UR should be provided telemetry unit specifications and allowed to carry units meeting those specifications in inventory to eliminate unnecessary delays due to Pepco supply chain issues.
22. This concludes my affidavit.

By: 
Mark Ballantine
Chief Executive Officer
Universal Renewables

Executed: March 23, 2023.



District of Columbia
Signed and sworn to (or affirmed) before me on
Mar. 23, 23 by Mark Ballantine
Date Name(s) of Individual(s) making statement
Jaran B. Walsh
Signature of Notarial Officer
Notary Public District of Columbia
Title of Office
My commission expires: May 14, 2026

Exhibit A.

Exhibit A

20 M Street SE (Pepco-0089395)

Application Summary

Current Status: Part II Incomplete

PROJECT
20M

LOCATION
20 M ST SE # HSE, Washington, District of Columbia 20003

ACCOUNT NUMBER
55024206728

TYPE
Level 2

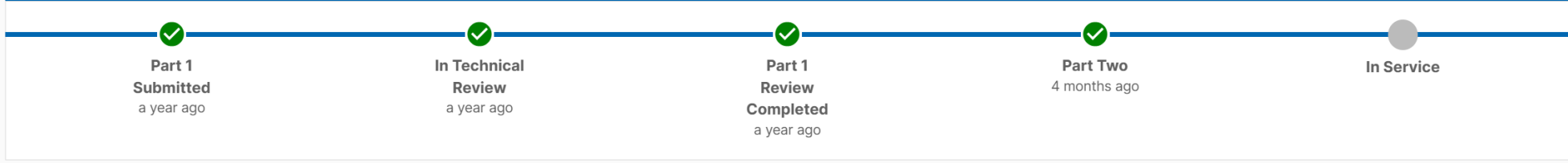
ENERGY SOURCE
Solar PV

PROJECT ID
PEPCO-0089395

CAPACITY (KW)
133.2

INSTALL TYPE
Initial Installation

Application Milestones



Status Changes

Current Status: Part II Incomplete

EFFECTIVE CHANGE DATE	EFFECTIVE CHANGE TIME	STATUS	CREATED DATE	CREATED TIME
Wednesday, October 5, 2022	10:25:02 PM	Part II Incomplete	Wednesday, October 5, 2022	10:25:02 PM
Monday, September 26, 2022	9:26:12 AM	Part II Submitted	Monday, September 26, 2022	9:26:12 AM
Wednesday, December 8, 2021	2:27:19 PM	Approval To Install	Wednesday, December 8, 2021	2:27:19 PM
Friday, September 17, 2021	7:03:01 AM	Conditionally Approved	Friday, September 17, 2021	7:03:01 AM
Tuesday, August 17, 2021	5:13:13 PM	In Technical Review	Tuesday, August 17, 2021	5:13:13 PM
Monday, August 16, 2021	12:10:39 PM	Resubmitted	Monday, August 16, 2021	12:10:39 PM
Thursday, August 5, 2021	1:44:51 PM	Incomplete	Thursday, August 5, 2021	1:44:51 PM
Thursday, August 5, 2021	8:00:00 AM	Resubmitted (Adjusted Change Date) ?	Wednesday, August 4, 2021	7:37:21 PM
Wednesday, August 4, 2021	3:58:10 PM	Incomplete	Wednesday, August 4, 2021	3:58:10 PM

20 M Street SE (Pepco-0089395)

Application Summary

Current Status: Part II Incomplete

PROJECT
20M

LOCATION
20 M ST SE # HSE, Washington, District of Columbia 20003

ACCOUNT NUMBER
55024206728

TYPE
Level 2

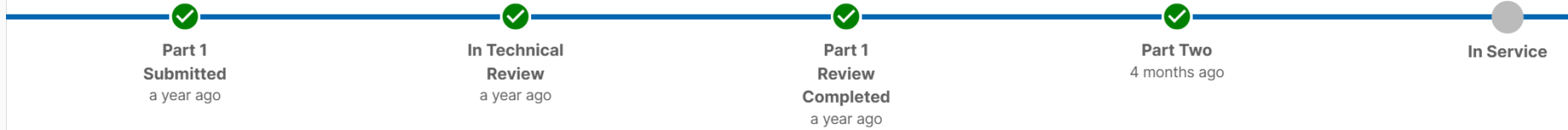
ENERGY SOURCE
Solar PV

PROJECT ID
PEPCO-0089395

CAPACITY (KW)
133.2

INSTALL TYPE
Initial Installation

Application Milestones



Status Changes

Current Status: Part II Incomplete

EFFECTIVE CHANGE DATE	EFFECTIVE CHANGE TIME	STATUS	CREATED DATE	CREATED TIME
Wednesday, December 8, 2021	2:27:19 PM	Approval To Install	Wednesday, December 8, 2021	2:27:19 PM
Friday, September 17, 2021	7:03:01 AM	Conditionally Approved	Friday, September 17, 2021	7:03:01 AM
Tuesday, August 17, 2021	5:13:13 PM	In Technical Review	Tuesday, August 17, 2021	5:13:13 PM
Monday, August 16, 2021	12:10:39 PM	Resubmitted	Monday, August 16, 2021	12:10:39 PM
Thursday, August 5, 2021	1:44:51 PM	Incomplete	Thursday, August 5, 2021	1:44:51 PM
Thursday, August 5, 2021	8:00:00 AM	Resubmitted <i>(Adjusted Change Date)</i> ?	Wednesday, August 4, 2021	7:37:21 PM
Wednesday, August 4, 2021	3:58:10 PM	Incomplete	Wednesday, August 4, 2021	3:58:10 PM
Friday, July 30, 2021	2:32:15 PM	Submitted	Friday, July 30, 2021	2:32:15 PM
Friday, July 30, 2021	1:31:30 PM	Draft	Friday, July 30, 2021	1:31:30 PM

20 M Street SE (Pepco-0089395)

Application Summary

Current Status: Part II Incomplete

PROJECT

20M

LOCATION

20 M ST SE # HSE, Washington, District of Columbia 20003

ACCOUNT NUMBER

55024206728

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0089395

CAPACITY (KW)

133.2

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
20 M Street - Witness Test Plan (1.5.23).pdf	Other	Witness Test Plan	Lloyd Pondeca	1/5/23	
20 M Street - Witness Test Plan (12.23.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/23/22	
E-601.00 SINGLE LINE DIAGRAM AS BUILT 12.23.2022.pdf	One-Line Diagram		Lloyd Pondeca	12/23/22	
20 M Street SE Electric Service.jpg	Other	Picture of electric service label	Mark Ballantine	12/22/22	
20M ST-E-101.00-SLD-PII-12.16.22 (1).pdf	One-Line Diagram		Lloyd Pondeca	12/16/22	
20M ST-E-101.00-SLD-PII-12.16.22.pdf	One-Line Diagram		Lloyd Pondeca	12/16/22	
20 M Street - Witness Test Plan (12.16.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/16/22	
Witness Test Plan-20M Street-PII-11.22.22.pdf	As Built Documents	Test Plan	Lloyd Pondeca	11/23/22	
20M ST-E-101.00-SLD-PII-11.22.22.pdf	As Built Documents	SLD	Lloyd Pondeca	11/23/22	
Witness Test Plan - 20M Street.pdf	Other	Test Plan	Lloyd Pondeca	10/18/22	
20 M Street Settings Summary.pdf	Other	settings	Harry Cabell	10/7/22	
20 M St. SE (1).pdf	Electrical Inspection		Mark Ballantine	9/26/22	
Part II Pepco DC Level 234 January 2019 Interconnection Application and Agreement.pdf	Customer Signature - Part II		Mark Ballantine	9/26/22	

20 M Street SE (Pepco-0089395)

Application Summary

Current Status: Part II Incomplete

PROJECT

20M

LOCATION

20 M ST SE # HSE, Washington, District of Columbia 20003

ACCOUNT NUMBER

55024206728

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0089395

CAPACITY (KW)

133.2

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
Part II Pepco DC Level 234 January 2019 Interconnection Application and Agreement.pdf	Customer Signature - Part II		Mark Ballantine	9/26/22	
20 M St RTU point map - KH - 2022_0617.xlsx	System Protection Spec	Points Map	Harry Cabell	7/15/22	
20 M St. SE.pdf	Electrical Inspection	Part II uploaded separately	Mark Ballantine	3/28/22	
Part_II_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement.pdf	Customer Signature - Part II	Inspection Certificate uploaded separately	Mark Ballantine	3/28/22	
E-101.00 Single Line Diagram RPR 1.24.2022 20M.pdf	One-Line Diagram	Revised per Karl Hill instructions	Mark Ballantine	1/24/22	
RE_SP&C engineering review of SLDs.pdf	Other	Email with instructions	Mark Ballantine	11/15/21	
E-101.00 Single Line Diagram RPR 11.14.2021 20M.pdf	One-Line Diagram	Revised SLD with corrections to the RPR scheme	Mark Ballantine	11/14/21	
E-101.00 Single Line Diagram RPR 11.11.2021.pdf	One-Line Diagram	Revised according to instructions	Mark Ballantine	11/11/21	
E-601.00 SINGLE LINE DIAGRAM RPR.pdf	One-Line Diagram	Revised SLD showing telemetry and relay upgrades	Mark Ballantine	10/12/21	
OperatingRequirements20MSTSE-_PEPCO-0089395.pdf	Other	Signed Requirements Document	Mark Ballantine	9/22/21	
OperatingRequirements20MSTSE- PEPCO-0089395.pdf	Other	Requirements Document	Jequita Fowler	9/17/21	
1050_Connecticut_Avenue_-_Pepco_Operation_Letter_9-1-21.pdf	Other	Signed Operating Letter	Mark Ballantine	9/1/21	
20M_Net_Energy_Meter_Agreement M (1).pdf	DC Net Energy Metering Contract		Mark Ballantine	8/16/21	

20 M Street SE (Pepco-0089395)

Application Summary

Current Status: Part II Incomplete

PROJECT

20M

LOCATION

20 M ST SE # HSE, Washington, District of Columbia 20003

ACCOUNT NUMBER

55024206728

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0089395

CAPACITY (KW)

133.2

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
E-101.00 Single Line Diagram RPR 11.11.2021.pdf	One-Line Diagram	Revised according to instructions	Mark Ballantine	11/11/21	
E-601.00 SINGLE LINE DIAGRAM RPR.pdf	One-Line Diagram	Revised SLD showing telemetry and relay upgrades	Mark Ballantine	10/12/21	
OperatingRequirements20MSTSE-_PEPCO-0089395.pdf	Other	Signed Requirements Document	Mark Ballantine	9/22/21	
OperatingRequirements20MSTSE- PEPCO-0089395.pdf	Other	Requirements Document	Jequita Fowler	9/17/21	
1050_Connecticut_Avenue_-_Pepco_Operation_Letter_9-1-21.pdf	Other	Signed Operating Letter	Mark Ballantine	9/1/21	
20M_Net_Energy_Meter_Agreement M (1).pdf	DC Net Energy Metering Contract		Mark Ballantine	8/16/21	
20M_Net_Energy_Meter_Agreement M.pdf	DC Net Energy Metering Contract	Revised to reflect generator manufacture and model number.	Mark Ballantine	8/5/21	
20_M_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_with_Attachments - M.pdf	Customer Signature - Part I	Amended to reflect address correction and addition of counterparty name in Interconnection Agreement template	Mark Ballantine	8/4/21	
20_M_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_with_Attachments.pdf	Customer Signature - Part I		Mark Ballantine	7/30/21	
ATTACHMENTS.pdf	Construction Schedule, Equipment, & Settings		Mark Ballantine	7/30/21	
SITE PLAN.pdf	Site Plan		Mark Ballantine	7/30/21	
20M Single Line.pdf	One-Line Diagram		Mark Ballantine	7/30/21	
SolarEdge Commercial 3-Phase Inverter SE66.6KUS and SE100KUS - Datasheet.pdf	Generator nameplate and Manufacturer Specs		Mark Ballantine	7/30/21	

1050 Connecticut Avenue NW (Pepco-0089393)

Application Summary

Current Status: In Service

PROJECT
WASHINGTON SQUARE

LOCATION
1050 Connecticut Avenue Northwest, Washington,
District of Columbia 20036

ACCOUNT NUMBER
55012985150

TYPE
Level 2

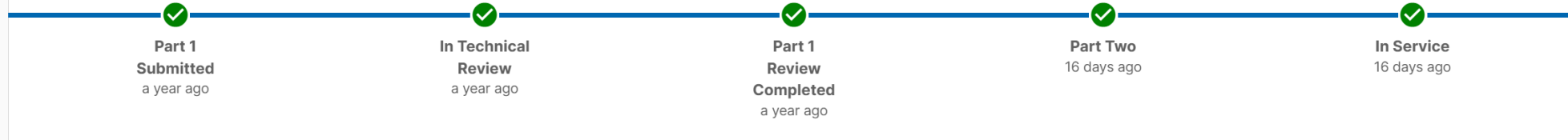
ENERGY SOURCE
Solar PV

PROJECT ID
PEPCO-0089383

CAPACITY (KW)
466.6

INSTALL TYPE
Initial Installation

Application Milestones



Status Changes

Current Status: In Service

EFFECTIVE CHANGE DATE	EFFECTIVE CHANGE TIME	STATUS	CREATED DATE	CREATED TIME
Wednesday, January 11, 2023	10:37:57 AM	In Service	Wednesday, January 11, 2023	10:37:57 AM
Wednesday, January 11, 2023	10:36:56 AM	Meter Install Completed	Wednesday, January 11, 2023	10:36:56 AM
Wednesday, January 11, 2023	10:36:28 AM	Meter Reprogrammed	Wednesday, January 11, 2023	10:36:28 AM
Wednesday, October 5, 2022	10:24:45 PM	Part II Incomplete	Wednesday, October 5, 2022	10:24:45 PM
Monday, September 26, 2022	9:30:26 AM	Part II Submitted	Monday, September 26, 2022	9:30:26 AM
Friday, December 3, 2021	9:47:35 AM	Approval To Install	Friday, December 3, 2021	9:47:35 AM
Friday, August 27, 2021	6:59:02 AM	Conditionally Approved	Friday, August 27, 2021	6:59:02 AM
Tuesday, August 3, 2021	7:25:22 AM	In Technical Review	Tuesday, August 3, 2021	7:25:22 AM
Friday, July 30, 2021	1:28:35 PM	Submitted	Friday, July 30, 2021	1:28:35 PM

1050 Connecticut Avenue NW (Pepco-0089393)

Application Summary

Current Status: In Service

PROJECT
WASHINGTON SQUARE

LOCATION
1050 Connecticut Avenue Northwest, Washington, District of Columbia 20036

ACCOUNT NUMBER
55012985150

TYPE
Level 2

ENERGY SOURCE
Solar PV

PROJECT ID
PEPCO-0089383

CAPACITY (KW)
466.6

INSTALL TYPE
Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
1050 CONNECTICUT AVE PART 2.pdf	Permission to Operate		Tyreasa Smith	1/11/23	
Part_II_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_12.29.2022.pdf	Customer Signature - Part II	Revised	Mark Ballantine	12/29/22	
1050 CONN-SLD-E-601.00-PII 11.22.2022.pdf	One-Line Diagram		Lloyd Pondeca	11/23/22	
Witness Test Plan-1050 CONN-PII-11.22.22.pdf	Other	Witness Test Plan	Lloyd Pondeca	11/23/22	
Witness Test Plan-20M Street-PII-11.22.22.pdf	Other	Witness Test Plan	Lloyd Pondeca	11/23/22	
Witness Test Plan- 1050 Connecticut Ave.pdf	Other	Test Plan	Lloyd Pondeca	10/18/22	
1050 Conn. Ave Settings Summary.pdf	Other	test settings	Harry Cabell	10/7/22	
DCRA Inspection Certificate.pdf	Electrical Inspection		Mark Ballantine	9/26/22	
Part_II_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement (2).pdf	Customer Signature - Part II		Mark Ballantine	9/26/22	
1050 Connecticut Ave Rd RTU point map - KH - 2022_0717.xlsx	Other	Points List	Harry Cabell	8/16/22	
Washington_Square_Pepco_Net_Metering_and_Interconnection_Agreement_Part_II.pdf	Customer Signature - Part II		Mark Ballantine	6/17/22	
DCRA Inspection Page 2.pdf	Electrical Inspection	Page 2	Mark Ballantine	6/17/22	
DCRA Inspection Page 1.pdf	Electrical Inspection	Page 1	Mark Ballantine	6/17/22	

1050 Connecticut Avenue NW (Pepco-0089393)

Application Summary

Current Status: In Service

PROJECT

WASHINGTON SQUARE

LOCATION

1050 Connecticut Avenue Northwest, Washington, District of Columbia 20036

ACCOUNT NUMBER

55012985150

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0089383

CAPACITY (KW)

466.6

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
DCRA Inspection Page 1.pdf	Electrical Inspection	Page 1	Mark Ballantine	6/17/22	
Part_II_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement (1).pdf	Customer Signature - Part II	Inspection Certificate uploaded separately	Mark Ballantine	6/17/22	
Part_II_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement.pdf	Customer Signature - Part II	Inspection Certificate uploaded separately	Mark Ballantine	3/28/22	
E-601.00 SINGLE LINE DIAGRAM RPR 1.24.2022.pdf	One-Line Diagram	One Line Drawing revised per Karl Hill instructions	Mark Ballantine	1/24/22	
E-601.00 SINGLE LINE DIAGRAM RPR 11.14.2021 2.0.pdf	One-Line Diagram	Revised SLD	Mark Ballantine	11/14/21	
E-601.00 SINGLE LINE DIAGRAM RPR 11.14.2021.pdf	One-Line Diagram	Revised per comments	Mark Ballantine	11/14/21	
E-601.00 SINGLE LINE DIAGRAM RPR.pdf	One-Line Diagram	SLD with Telemetry and reverse power relay	Mark Ballantine	10/12/21	
1050_Connecticut_Avenue_-_Pepco_Operation_Letter_9-1-21.pdf	Other	Operation Letter	Mark Ballantine	9/1/21	
1050 Connecticut Avenue - Operation Letter.pdf	Other	Operation Letter	Uniqua Welborn	8/24/21	
Washington_Square_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_with_Attachments (1).pdf	Customer Signature - Part I		Mark Ballantine	7/30/21	
Washington_Square_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_with_Attachments.pdf	IX APPLICATION		Mark Ballantine	7/30/21	
Washington_Square_Net_Energy_Meter_Agreement.pdf	DC Net Energy Metering Contract		Mark Ballantine	7/30/21	
Component Settings.pdf	Construction Schedule, Equipment, & Settings		Mark Ballantine	7/30/21	

1050 Connecticut Avenue NW (Pepco-0089393)

Application Summary

Current Status: In Service

PROJECT

WASHINGTON SQUARE

LOCATION

1050 Connecticut Avenue Northwest, Washington, District of Columbia 20036

ACCOUNT NUMBER

55012985150

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0089383

CAPACITY (KW)

466.6

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
E-601.00 SINGLE LINE DIAGRAM RPR 11.14.2021 2.0.pdf	One-Line Diagram	Revised SLD	Mark Ballantine	11/14/21	
E-601.00 SINGLE LINE DIAGRAM RPR 11.14.2021.pdf	One-Line Diagram	Revised per comments	Mark Ballantine	11/14/21	
E-601.00 SINGLE LINE DIAGRAM RPR.pdf	One-Line Diagram	SLD with Telemetry and reverse power relay	Mark Ballantine	10/12/21	
1050_Connecticut_Avenue_-_Pepco_Operation_Letter_9-1-21.pdf	Other	Operation Letter	Mark Ballantine	9/1/21	
1050 Connecticut Avenue - Operation Letter.pdf	Other	Operation Letter	Uniqua Welborn	8/24/21	
Washington_Square_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_with_Attachments (1).pdf	Agreement with Attachments - Customer Signature - Part I		Mark Ballantine	7/30/21	
Washington_Square_Pepco_DC_Level_234_January_2019_Interconnection_Application_and_Agreement_with_Attachments.pdf	IX APPLICATION		Mark Ballantine	7/30/21	
Washington_Square_Net_Energy_Meter_Agreement.pdf	DC Net Energy Metering Contract		Mark Ballantine	7/30/21	
Component Settings.pdf	Construction Schedule, Equipment, & Settings		Mark Ballantine	7/30/21	
1050 Connecticut Avenue NW - Gantt Chart 1.0 7.22.2021.pdf	Construction Schedule, Equipment, & Settings		Mark Ballantine	7/30/21	
SITE PLAN.pdf	Site Plan		Mark Ballantine	7/30/21	
Washington Square Single Line.pdf	One-Line Diagram		Mark Ballantine	7/30/21	
SolarEdge Commercial 3-Phase Inverter SE66.6KUS and SE100KUS - Datasheet.pdf	Generator nameplate and Manufacturer Specs		Mark Ballantine	7/30/21	

3801 Connecticut Avenue NW (Pepco-0094780)

Application Summary

Current Status: Part II Incomplete

PROJECT
WILTSHIRE NORTH APARTMENTS

LOCATION
3801 CONNECTICUT AVENUE NW, WASHINGTON,
Washington D.C. 20008

ACCOUNT NUMBER
55022827616

TYPE
Level 2

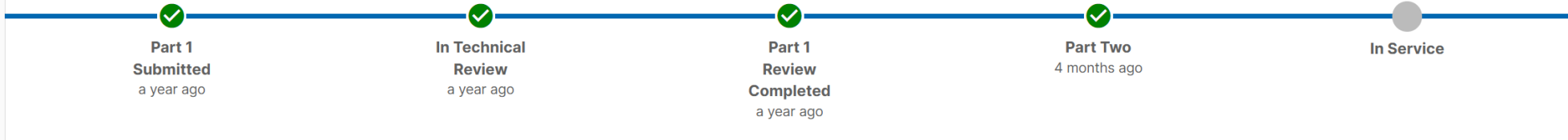
ENERGY SOURCE
Solar PV

PROJECT ID
PEPCO-0094780

CAPACITY (KW)
266.6

INSTALL TYPE
Initial Installation

Application Milestones



Status Changes

Current Status: Part II Incomplete

EFFECTIVE CHANGE DATE	EFFECTIVE CHANGE TIME	STATUS	CREATED DATE	CREATED TIME
Wednesday, October 5, 2022	10:26:58 PM	Part II Incomplete	Wednesday, October 5, 2022	10:26:58 PM
Monday, September 26, 2022	9:05:03 AM	Part II Submitted	Monday, September 26, 2022	9:05:04 AM
Tuesday, December 14, 2021	2:43:16 PM	Approval To Install	Tuesday, December 14, 2021	2:43:16 PM
Monday, November 22, 2021	6:45:16 AM	Conditionally Approved	Monday, November 22, 2021	6:45:16 AM
Monday, November 22, 2021	6:44:38 AM	In Technical Review	Monday, November 22, 2021	6:44:38 AM
Wednesday, November 17, 2021	8:00:00 AM	Submitted <i>(Adjusted Change Date)</i> ?	Tuesday, November 16, 2021	8:59:16 PM
Tuesday, November 16, 2021	8:30:38 PM	Draft	Tuesday, November 16, 2021	8:30:38 PM

3801 Connecticut Avenue NW (Pepco-0094780)

Application Summary

Current Status: Part II Incomplete

PROJECT

WILTSHIRE NORTH APARTMENTS

LOCATION

3801 CONNECTICUT AVENUE NW, WASHINGTON, Washington D.C. 20008

ACCOUNT NUMBER

55022827616

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0094780

CAPACITY (KW)

266.6

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
3801 CONNECTICUT AVE NW WITNESS TEST PLAN (12.20.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/20/22	
3801 CONNECTICUT AVE NW WITNESS TEST PLAN (12.16.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/16/22	
3801 CONNECTICUT AVE NW WITNESS TEST PLAN (12.9.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/10/22	
3801 Connecticut Ave SLD 12.7.22.pdf	One-Line Diagram		Lloyd Pondeca	12/7/22	
3801 CONNECTICUT AVE NW WITNESS TEST PLAN (12.7.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/7/22	
3801 CONNECTICUT AVE NW WITNESS TEST PLAN Rev. 1.pdf	Other	Witness Test Plan	Lloyd Pondeca	11/29/22	
3801 Connecticut - KH - 2021-1220.xlsx	Other	points list	Harry Cabell	11/13/22	
3801 Connecticut Ave SLD 10.17.22.pdf	One-Line Diagram	Revised per instructions	Mark Ballantine	10/18/22	
Inspection Certificate.pdf	Electrical Inspection		Mark Ballantine	9/26/22	
Part II 3801 Connecticut Avenue NW Signed (1).pdf	Customer Signature - Part II		Mark Ballantine	9/26/22	
E-001.00 Single Line Diagram RPR 09.12.2022.pdf	One-Line Diagram	With Relay Corrections	Mark Ballantine	9/14/22	
Part II 3801 Connecticut Avenue NW Signed.pdf	Customer Signature - Part II	With Electric Inspection Attached	Mark Ballantine	8/10/22	
E-001.00 Single Line Diagram RPR 01.24.2022.pdf	One-Line Diagram	SLD revisions per comments from Karl Hill - Thanks!!	Mark Ballantine	1/25/22	

3801 Connecticut Avenue NW (Pepco-0094780)

Application Summary

Current Status: Part II Incomplete

PROJECT
WILTSHIRE NORTH APARTMENTS

LOCATION
3801 CONNECTICUT AVENUE NW, WASHINGTON,
Washington D.C. 20008

ACCOUNT NUMBER
55022827616

TYPE
Level 2

ENERGY SOURCE
Solar PV

PROJECT ID
PEPCO-0094780

CAPACITY (KW)
266.6

INSTALL TYPE
Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
Inspection Certificate.pdf	Electrical Inspection		Mark Ballantine	9/26/22	
Part II 3801 Connecticut Avenue NW Signed (1).pdf	Customer Signature - Part II		Mark Ballantine	9/26/22	
E-001.00 Single Line Diagram RPR 09.12.2022.pdf	One-Line Diagram	With Relay Corrections	Mark Ballantine	9/14/22	
Part II 3801 Connecticut Avenue NW Signed.pdf	Customer Signature - Part II	With Electric Inspection Attached	Mark Ballantine	8/10/22	
E-001.00 Single Line Diagram RPR 01.24.2022.pdf	One-Line Diagram	SLD revisions per comments from Karl Hill - Thanks!!	Mark Ballantine	1/25/22	
3801 Conn Ave NW-Letter To Customer (9-22-2021).pdf	Other	Operating Letter	Mark Ballantine	11/22/21	
3801 Conn Ave NW-Letter To Customer (9-22-2021) (1).pdf	Other	Requirements Document	Jequita Fowler	11/22/21	
PEPCO ACCOUNT 5502 2827 616 - Pepco DC Level 234 January 2019 Interconnection Application and Agreement 11.16.2021.pdf	Customer Signature - Part I	This application reflects equipment changes	Mark Ballantine	11/16/21	
NET ENERGY METER AGREEMENT - ACCOUNT NUMBER 5502 2827 616 11.16.2021.pdf	DC Net Energy Metering Contract		Mark Ballantine	11/16/21	
Supporting Material.pdf	Construction Schedule, Equipment, & Settings		Mark Ballantine	11/16/21	
Site PLan For 3801 Connecticut.pdf	Site Plan		Mark Ballantine	11/16/21	
E-001.00 Single Line Diagram RPR 11.16.2021.pdf	One-Line Diagram		Mark Ballantine	11/16/21	
5ecb376f5b517.pdf	Generator nameplate and Manufacturer Specs		Mark Ballantine	11/16/21	

5415 Connecticut Avenue NW (Pepco-0094777)

Application Summary

Current Status: In Service

PROJECT

The Kenmore

LOCATION

5415 Connecticut Avenue Northwest, Washington, District of Columbia 20015

ACCOUNT NUMBER

55022827392

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0094777

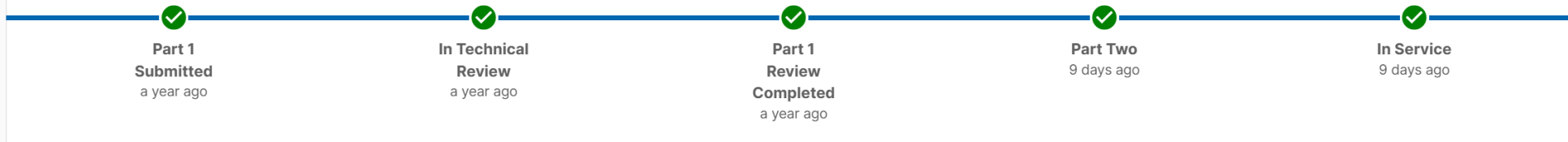
CAPACITY (KW)

166.6

INSTALL TYPE

Initial Installation

Application Milestones



Status Changes

Current Status: In Service

EFFECTIVE CHANGE DATE	EFFECTIVE CHANGE TIME	STATUS	CREATED DATE	CREATED TIME
Wednesday, January 18, 2023	2:17:05 PM	In Service	Wednesday, January 18, 2023	2:17:05 PM
Wednesday, January 18, 2023	2:15:33 PM	Meter Install Completed	Wednesday, January 18, 2023	2:15:33 PM
Thursday, January 12, 2023	1:12:05 PM	Issue Meter Exchange	Thursday, January 12, 2023	1:12:05 PM
Wednesday, October 5, 2022	10:25:26 PM	Part II Incomplete	Wednesday, October 5, 2022	10:25:26 PM
Monday, September 26, 2022	9:08:14 AM	Part II Submitted	Monday, September 26, 2022	9:08:14 AM
Tuesday, December 14, 2021	2:41:39 PM	Approval To Install	Tuesday, December 14, 2021	2:41:39 PM
Thursday, November 18, 2021	11:27:18 AM	Conditionally Approved	Thursday, November 18, 2021	11:27:18 AM
Thursday, November 18, 2021	11:13:49 AM	In Technical Review	Thursday, November 18, 2021	11:13:49 AM
Tuesday, November 16, 2021	4:57:00 PM	Submitted	Tuesday, November 16, 2021	4:57:00 PM

5415 Connecticut Avenue NW (Pepco-0094777)

Application Summary

Current Status: In Service

PROJECT

The Kenmore

LOCATION

5415 Connecticut Avenue Northwest, Washington, District of Columbia 20015

ACCOUNT NUMBER

55022827392

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0094777

CAPACITY (KW)

166.6

INSTALL TYPE

Initial Installation

Files



FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
5415 CONNECTICUT AVE PART 2.pdf	Permission to Operate		Tyreasa Smith	1/18/23	
5415 CONNECTICUT AVE NW - WITNESS TEST PLAN (12.23.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/23/22	
5415 CONNECTICUT AVE NW - WITNESS TEST PLAN (12.22.22).pdf	Other	Witness Test Plan	Mark Ballantine	12/22/22	
5415 CONNECTICUT AVE NW - WITNESS TEST PLAN (12.16.22)(2).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/16/22	
5415 CONNECTICUT AVE NW - WITNESS TEST PLAN (12.16.22).pdf	Other	Witness Test Plan	Lloyd Pondeca	12/16/22	
5415 CONNECTICUT AVE SLD - PI - 12.16.22.pdf	One-Line Diagram		Lloyd Pondeca	12/16/22	
5415 CONNECTICUT AVE NW - WITNESS TEST PLAN (Rev. 3).pdf	Other	Witness Test Plan	Lloyd Pondeca	11/29/22	
5415 CONNECTICUT AVE NW - WITNESS TEST PLAN (Rev. 2).pdf	Other	Witness Test Plan	Mark Ballantine	11/16/22	
5415 CONNECTICUT AVE SLD - PI - 11.15.22.pdf	One-Line Diagram	Revised 11.15.2022	Mark Ballantine	11/16/22	
5415 Connecticut - KH - 2022-1108.xlsx	Other	Points List	Harry Cabell	11/8/22	
5415 CONNECTICUT AVE NW WITNESS TEST INFORMATION.pdf	Other	Test Plan	Lloyd Pondeca	10/24/22	
5415 CONNECTICUT AVE SLD 10.17.22.pdf	One-Line Diagram	With Corrections	Mark Ballantine	10/18/22	
5415 Connecticut Ave Inspection.pdf	Electrical Inspection		Mark Ballantine	9/26/22	

5415 Connecticut Avenue NW (Pepco-0094777)

Application Summary

Current Status: In Service

PROJECT

The Kenmore

LOCATION

5415 Connecticut Avenue Northwest, Washington, District of Columbia 20015

ACCOUNT NUMBER

55022827392

TYPE

Level 2

ENERGY SOURCE

Solar PV

PROJECT ID

PEPCO-0094777

CAPACITY (KW)

166.6

INSTALL TYPE

Initial Installation

Files

FILE	TYPE	NOTE	UPLOADED BY	UPLOAD DATE	ACTIONS
5415 Connecticut - KH - 2022-1108.xlsx	Other	Points List	Harry Cabell	11/8/22	
5415 CONNECTICUT AVE NW WITNESS TEST INFORMATION.pdf	Other	Test Plan	Lloyd Pondeca	10/24/22	
5415 CONNECTICUT AVE SLD 10.17.22.pdf	One-Line Diagram	With Corrections	Mark Ballantine	10/18/22	
5415 Connecticut Ave Inspection.pdf	Electrical Inspection		Mark Ballantine	9/26/22	
Part II Kenmore_Signed with Electric Inspection.pdf	Customer Signature - Part II		Mark Ballantine	9/26/22	
E-001.00 SINGLE LINE DIAGRAM RPR 01.25.2022.pdf	One-Line Diagram	SLD revisions per Karl Hill	Mark Ballantine	1/25/22	
5415 Connecticut Avenue Northwest - Operation Letter (1) (3).pdf	Other	Requirements Document	Jequita Fowler	11/18/21	
PEPCO ACCOUNT 5502 2827 392 - Pepco DC Level 234 January 2019 Interconnection Application and Agreement 11.16.21.pdf	Customer Signature - Part I	We are applying because of an equipment change	Mark Ballantine	11/16/21	
Site Plan.pdf	Site Plan		Mark Ballantine	11/16/21	
E-001.00 SINGLE LINE DIAGRAM RPR 11.16.2021.pdf	One-Line Diagram		Mark Ballantine	11/16/21	
NET ENERGY METER AGREEMENT - ACCOUNT NUMBER 5502 2827 392 11.16.2021.pdf	DC Net Energy Metering Contract		Mark Ballantine	11/16/21	
Supporting Material.pdf	Construction Schedule, Equipment, & Settings		Mark Ballantine	11/16/21	
5ecb376f5b517.pdf	Generator nameplate and Manufacturer Specs		Mark Ballantine	11/16/21	

Exhibit B.

Exhibit B


RE: Pepco interconnection team request feedback




mark.ballantine@universalrenewables.com

To: Pepco interconnection/market research; GPC NEM Web Emails

Cc: [REDACTED]

 This message was sent with High importance.

 Reply  Rep

The link below is broken – please resend.

Please refer to the timelines for the following projects:

Pepco – 0089395 [20M]

Pepco - 0089393 [1050CT]

Pepco – 0094780 [3801CT]

Pepco – 0094777 [5415CT]

As you must be aware, Pepco has a lot of frustrated interconnection customers.

Pepco's process for receiving, engineering, and testing telemetry equipment and the associated relay systems is broken.

Pepco's extensive open-ended delays are costing your rate paying clients millions of dollars in lost revenues and forcing local small businesses to be held hostage to Pepco's broken system.

The delays caused by Pepco run counter to important public private partnerships established by Congress, and the District Government for the good of the Public. [ultimately these public private partnerships are 100% funded by your rate base]

Major issues include time required to:

1. review applications
2. 2-month delays to issue cost letters [where system upgrades are required and/or for CREF projects]
3. 2-month delays to issue invoices related to Telemetry equipment
4. 6-month delays in delivering telemetry equipment which is marked up over 1000% [Pepco price to rate base \$40,000... material cost +/- \$2500]
5. 6-month delays to review single line drawings [30 minutes required]
6. 3-month delays to issue the points list used to program relay systems [15 minutes required]
7. 2-month delays scheduling remote testing of Telemetry [30 minutes required]
8. 2-month delays reviewing the customer provided witness testing plan [30 minutes required]
9. Still waiting – over a month so far Pepco writing the witness testing plan memo [15 minutes required]
10. scheduling witness testing of relay equipment
11. issuing permission to operate

Likely some steps are missing but the general idea is crystal clear and many of us understand Pepco is aware of the problem and will not take action to fix it until the PSC steps in.

We are working with the Office of General Counsel, DOEE and many stakeholders in the market to engage the PSC - the lack of attention to resolving long standing and known interconnection problems for distributed energy resources is intolerable.

Sincerely,

Mark Ballantine

UNIVERSAL RENEWABLES, LLC

Cel +1.202.725.5542

Fax +1.202.337.1928

Email mark.ballantine@universalrenewables.com

Attachment C.

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

In the Matter of:

**The Office of the People's Counsel's
Petition into Investigation of
Potomac Electric Power Company's
Level 1 Interconnection Practices**

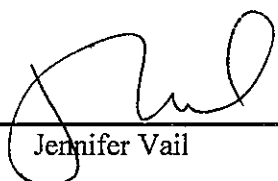
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AFFIDAVIT OF JENNIFER VAIL

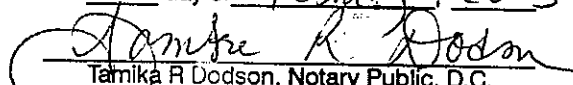
I, Jennifer Vail, do hereby state and affirm, under the penalty of perjury, that I am over eighteen (18) years old, that I am competent to be a witness, and that the matters and facts stated below are true and correct, and are provided based on my personal knowledge:

1. My name is Jennifer Vail and I reside at [REDACTED].
2. I submit this affidavit on behalf of the Office of People's Counsel of the District of Columbia ("OPC"). This affidavit and attachments were prepared by me or under my direct supervision and control.
3. In May 2022, I entered into a contract to interconnect a 6.24 kW project of Level 1 solar for my home at the above address.
4. Two months later, in July 2022, Potomac Electric Power Company ("Pepco") concluded that my project would be processed as a level 2 and would require just over \$27,000 in upgrades. Pepco stated only that it needed to make three upgrades. See *Attachment 1*.
5. In August 2022, I attended a Public Service Commission ("Commission")-led mediation with Pepco in which Pepco representatives stated nothing could be done to change the requested fee.
6. Just after the mediation, I filed a Complaint with the Commission. [REDACTED]
[REDACTED]
7. In September 2022, I reached out to OPC and was notified that the office would provide me with legal counsel.

8. In October 2022, Pepco stated it had conducted a power flow study that was used to determine that upgrades were needed for my interconnection project. See *Attachment 2*.
9. My Counsel informed me that in October 2022, a Non-Disclosure Agreement was executed to obtain the power flow study from Pepco.
10. Just after the agreement was executed, Pepco notified me through my Counsel that there was no longer a need for distribution upgrades for my project. As a result, I filed a Motion to Dismiss through my counsel.
11. I am concerned that Pepco made an erroneous calculation as to the upgrades for my interconnection project and only corrected the error when they realized they would have to produce the power flow study to substantiate their cost estimates.
12. I am equally concerned that without the involvement of OPC, it would not have been discovered that over \$27,000 worth of upgrades were not actually needed for my interconnection project. If my experience is not an isolated case, I am concerned that Pepco could be impeding the development of solar resources by providing unreasonably high estimates of the cost of upgrades.
13. This affidavit was prepared by me or under my direct supervision and control.
14. If sworn as a witness, I can testify competently to the facts and assertions stated in this affidavit.

BY: 
Jennifer Vail

Executed on this 23 day of February, 2023.

District of Columbia: SS
Subscribed and Sworn to before me
this 23rd day of February, 2023

Tamika R Dodson, Notary Public, D.C.
My commission expires September 14, 2023



Attachment 1.



07/06/2022

Solar Solution
1728 Kenyon St NW
Washington DC 20010

Attn: Jennifer Vail

RE: 6.24 kW AC Solar Photovoltaic ("PV") Interconnection with Jennifer Vail at 1728 Kenyon St NW

Dear Customer

The above system has been identified as a NEM project. Pepco approves the interconnection of the Project with the Company's electric distribution system with the following delineated requirements and system upgrades to insure safe and reliable operation.

Initial system upgrade costs are estimated to be **\$27,767**. This cost estimate is subject to change after field inspection and final design.

The cost estimate for system upgrades includes:

SOW: Upgrade 3 spans of main from 788399-406243 to 788399-491208 from 250 CU to 500 CU

In order to proceed with the application, please indicate your intention to move forward by signing, dating and returning the attachment to the address below within 30 days. After sending a signed agreement, Pepco will perform a final field inspection and design, after which a final invoice will be provided to the customer. Please provide a response or a written request for an extension within 30 days; otherwise the application will be withdrawn.

Pepco
Green Power Connection
Attn:
701 9th St. NW
Washington DC 20068

Best Regards,

DeJonna Victor

Attachment 2.

Confidential Attachment 2 Omitted

Attachment D.

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

In the Matter of	§	
	§	
the Complaint and Investigation into Potomac Electric Power Company’s Interconnection Practices for Net Metered Renewable Energy Facilities	§	Formal Case No. _____
	§	
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AFFIDAVIT OF JASON CUMBERBATCH

1. My name is Jason S. Cumberbatch. I am over the age of twenty-one years and otherwise competent to make this Affidavit.

2. I am the General Engineer at the Office of the People’s Counsel for the District of Columbia, 655 15th Street, NW, Suite 200, Washington, DC 20005. I received a degree of Bachelor of Science in Mechanical Engineering from Howard University in 2006.

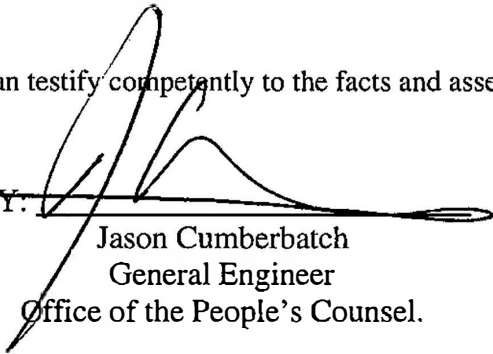
3. I have worked for OPC for the past 8.5 years. During that time, I have provided engineering expertise and advice to the People’s Counsel on technical matters related to Utility Distribution Systems, AMI Technology; NEM Interconnection; Industry Codes, Standards & Best Practices and Energy Efficiency and Affordability Initiatives as they relate to the Potomac Electric Power Company (“Pepco”), Washington Gas Light Company (“WGL” or “Company”), and Verizon Washington, DC Inc (“Verizon”). My responsibilities include reviewing applications and reports submitted by local utilities; preparing high-level executive summaries, engineering analyses and advisory memos & recommendations on non-major outages, gas leaks quantification, service reliability metrics, and operations & maintenance updates filed by all District of Columbia utilities. Additional I prepare technical comments, draft data discovery requests and testimony on formal cases and proceedings litigated before the DC Public Service Commission.

4. I have been an engineer for approximately fifteen years, ten plus of which has been spent working with natural gas and electric distribution systems, AMI technology & NEM Interconnection, energy systems testing and integration, and engineering analysis and technical support. I have expert knowledge in the implementation and deployment of smart meter infrastructure, specifically net energy metering interconnection, undergrounding of electrical distribution network systems, and technologies and innovations related to energy efficiency and sustainability.

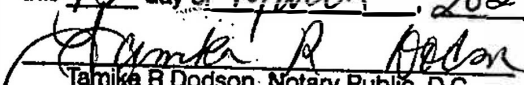
5. I am providing this affidavit on behalf of the Office of the People's Counsel.
6. My affidavit addresses in part Pepco's Interconnection process, specifically the standards and procedures of Level 1 interconnections; and the validity of Pepco's engineering review process, specifically the understanding of the Power Flow study used in the evaluation of small generator facilities of capacity of 20kW or less.
7. DCMR 4002 & 4004 applies to the Applicable Standards and procedures for Level 1 Interconnection Reviews to connect inverter-based Small Generator Facilities.
8. Per DCMR 4002.1 (a – c) Small Generator Facilities must comply with the following standards:
 - (a) Institute of Electrical and Electronics Engineers ("IEEE") 1547 Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces;
 - (b) IEEE 1547.1 - Standard Conformance Test Procedures for Equipment Interconnecting Distributed Energy Resources with Electric Power Systems and Associated Interfaces;
 - (c) IEEE 1547.2 - Application Guide for IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power Systems
9. Per DCMR 4004. 2 (b) for Level 1 adverse system impact screens:
 - i. The aggregated generation on the Line Section, including the proposed Small Generator Facility and all other generator facilities capable of coincidental export of energy on the Line Section, shall not exceed the anticipated minimum load on the Line Section, as determined by the results of a power flow-based study to evaluate the impact of the propose Small Generator Facility.
 - ii. If the power flow study results are unavailable, the aforementioned aggregate generating capacity shall not exceed fifteen percent (15%) of the Line Section's annual peak load as most recently measured at the substation or calculated for the Line Section.
 - iii. If it is determined that the line section exceeds (15%) of its annual peak load, then the power flow study should be used to evaluate the impact of the proposed Small Generator Facility.
 - iv. The Small Generator Facility should not be failed based solely on the application of the fifteen percent (15%) peak load limitation if valid power flow-based study results can be used to evaluate the impact of the proposed Small Generator Facility.

- 10. The Power Flow Study is a numerical analysis of the flow of electric power in an interconnected system. It usually uses simplified notations such as a one-line diagram and per-unit system, and focuses on various aspects of AC power parameters, such as voltages, voltage angles, real power and reactive power. It analyzes the power systems in normal steady-state operation, and is critical for planning future expansion of power systems as well as in determining the best operation of an existing system.
- 11. Pepco’s power flow model is based the graph-trace method, where the primary known factors are the network design, load and generation data which essentially traces the power flow; the results are then used to determine the real power contribution of the generator to lines and loads.
- 12. The output of the power flow model includes the voltages at the different buses, the line flow in the network and system losses. These outputs are calculated by solving nodal power balance equations, which are non-linear.
- 13. If the data needed to conduct the power flow analysis is not readily available, the distributed energy resource (DER) is provided as an alternative to determine if the proposed project will, or will not, cause system errors once a solar system is added to the shared line.
- 14. In light of the consumer complaints lodged with OPC, the Commission should determine whether Pepco complies with the applicable regulations and IEEE 1547 in conducting power flow studies. The Commission should also require Pepco to make data available to OPC so that OPC’s technical team can reproduce, interpret and validate Pepco results from its Power flow studies.
- 15. This affidavit was prepared by me or under my direct supervision and control.
- 16. If sworn as a witness, I can testify competently to the facts and assertions stated in this affidavit.



BY: 
 Jason Cumberbatch
 General Engineer
 Office of the People’s Counsel.

Executed on this 15th day of March 2023.

District of Columbia: SS
 Subscribed and Sworn to before me
 this 15th day of March, 2023

 Tamika R Dodson, Notary Public, D.C.
 My commission expires September 14, 2023

Attachment E.

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

In the Matter of

**The Office of the People's
Counsel's Petition for Investigation
into Potomac Electric Power
Company's Level 1 Interconnection
Practices**

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Consumer Complaint No.

AFFIDAVIT OF KEVIN J. MARA

I, Kevin Mara, do hereby state and affirm, under the penalty of perjury, that I am over eighteen (18) years old, that I am competent to be a witness, and that the matters and facts stated below are true and correct, and are provided based on my personal knowledge:

1. My name is Kevin J. Mara, and I am the Executive Vice President at GDS Associates, Inc. I have been with the firm for 22 years and have an additional 18 years of experience with other employers in the electric utility industry.
2. I live at [REDACTED]. My telephone number is: ([REDACTED]) [REDACTED]
3. I submit this affidavit on behalf of the Office of People's Counsel of the District of Columbia ("OPC"). This affidavit and exhibits were prepared by me or under my direct supervision and control
4. I have provided consulting services to the Office of the Peoples Counsel for issues dealing with electrical system planning, reliability, and operational issues related to Pepco. These services include comments on the Pepco's Annual Consolidated Report for the years 2011-2022. I have testified in all of Pepco's rate cases since 2011. I have worked with Pepco on the Mayor's Commission which led to the DC PLUG initiative. I have assisted in the investigation of various system reliability issues over the years. I also provided a detailed report and plan regarding the Capital Grid Project.
5. DCMR 4004 applies to Level 1 Interconnection Reviews which is applicable to small generator facilities that have a nameplate capacity of twenty kW or less.

6. Per DCMR 4004.2(g), if the Interconnection Request requires construction of Interconnection Facilities or Distribution System Upgrades Requirements, the Level 2 procedures apply starting at 4005.4(d)(1).
7. Per DCMR 4005.2(b) Pepco is required to determine if the aggregated generation capacity with the proposed new Small Generator Facility will exceed the anticipated minimum load on the Line Section.
8. I understand that interconnection customers and solar developers have submitted complaints to OPC regarding Pepco's compliance with the interconnection regulations. I provide the following recommendations to address the issues raised in those complaints, ensure Pepco's compliance with regulatory standards, and improve Pepco's implementation of the interconnection procedures.
9. The Commission should require Pepco to provide data to verify Pepco's compliance with 4005.2(b).
10. Per DCMR 4005.2(m) requires Pepco to make available a copy of its power flow-based study for applicant to the Commission. The underlying purpose of making a copy of the power flow-based study available to each applicant is for transparency in the study. This allows applicants to modify their application as needed to minimize impact to Pepco system or concur with the results and proceed.
11. To increase transparency, the Commission should require that Pepco include in its power flow studies a table of values with commentary, criteria, or transparency-related descriptors that describe the issue being analyzed.
12. To avoid disputes and ensure that the scope of Pepco's power flow studies is clear, the Commission should require Pepco to include the electrical characteristics of the distribution transformer serving the interconnected customer which should include current and voltage.
13. Critical to low voltage power flow analysis is the assumed set voltage. Per IEEE 1547 Section 5.1, a new distribution generator shall not cause the utility voltage to be outside of the ANSI C84.1.
14. The Commission should direct Pepco's power flow analysis to select a fixed voltage assumed to occur at the time of minimum load. This should be based on voltage regulation at the source substation and calculate voltage level at the source side to the distribution transformer which serves the interconnected transformer. This voltage level will be the set voltage is used to determine compliance with ANSI C84.1 voltage levels on the secondary side of the transformer.

15. The transformer is the largest impedance component in the power flow analysis and to ignore this impedance will result in conclusive results. The Commission should confirm that Pepco's power flow studies appropriately account for distribution transformers.
16. A key to the power flow analysis is the assumed consumer load. The Commission should confirm that Pepco can provide assumed load values without running afoul of prohibitions against disclosing sensitive customer data. The Commission should also direct Pepco to provide load data to allow OPC and other stakeholders to verify the reasonableness of this input the power flow study.
17. Another key input to the load flow study is wire size. The Commission should confirm that this information is not customer data that is subject to protections against disclosure. Such a finding is appropriate because these facilities are owned and operated by Pepco and occur on the utility side of the meter. The Commission should also direct Pepco to provide load data to allow OPC and other stakeholders to verify the reasonableness of this input the power flow study.
18. Per industry standards, the interconnection studies follow the requirement of IEEE 1547-*IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces*. This standard sets voltage limits and capacity limits for interconnection requirements. The Commission should confirm that Pepco complies with IEEE 1547.
19. This affidavit was prepared by me or under my direct supervision and control.
20. If sworn as a witness, I can testify competently to the facts and assertions stated in this affidavit.

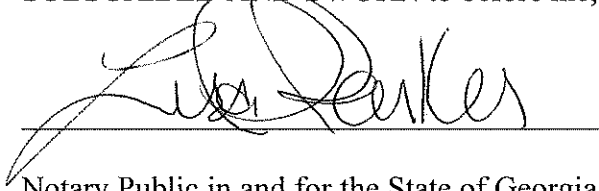
BY: _____


Kevin J. Mara
Executive Vice President
GDS Associates, Inc.

Executed on this 17th day of March, 2023.

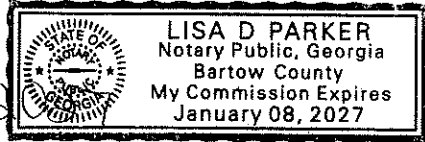
STATE OF GEORGIA)
) SS.
COUNTY OF COBB)

SUBSCRIBED AND SWORN to before me, a notary public, on this 17th day of March, 2023.



Notary Public in and for the State of Georgia

My Commission Expires: January 8, 2027



Attachment F.

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

In the Matter of:

**The Office of the People’s Counsel’s
Petition into Investigation of
Potomac Electric Power Company’s
Level 1 Interconnection Practices**

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AFFIDAVIT OF COLIN PUHALA

I, Colin J. Puhala, do hereby state and affirm, under the penalty of perjury, that I am over eighteen (18) years old, that we are competent to be witnesses, and that the matters and facts stated below are true and correct, and are provided based on our personal knowledge:

1. My name is Colin J. Puhala and I reside at [REDACTED].
2. I submit this affidavit on behalf of the Office of People’s Counsel of the District of Columbia (“OPC”). This affidavit and attachments were prepared by me or under my direct supervision and control.
3. On [August 19th, 2022], I entered into a contract to interconnect a 26.64 kW project of Level 2 solar for my home at the above address.
4. Between the months of August 2022 and December 2022, my contractor Solar Solutions, solicited multiple updates from Pepco’s Green Power Connection (GPC) team via the GPC client web portal to verify whether Pepco had conducted a field inspection of our house as part of its field verification process. No reply was forthcoming by the GPC during this time period.
5. On [December 2nd, 2022], I contacted Ms. Pamela Nelson of the OPC to conduct a formal inquiry on the status of our outstanding approval by Pepco.
6. On [December 28th, 2022], Ms. Nelson received a detailed response to OPC’s inquiry into our Project. Pepco’s response to the inquiry included a number of spurious claims, to include a claim that the company completed a field inspection on December 9th, 2022. See *Attachment 1*. In response to this claim, we cross-checked our ADT security system

which includes a motion sensitive porch camera that provides a clear view of the approach to the side of our house where our electrical meters are located. There is no evidence that any employee from Pepco parked on Longfellow Street NE within view of our house, nor of any individuals conducting an on-site inspection on December 9th, 2022 or any other date before or after.

7. On [January 23rd, 2023], Mr. James Sheats of Solar Solution provided Ms. Nelson with a summary of all communications between Pepco's GPC team and Solar Solution regarding our project proposal. This chat history refutes Pepco's claims that the application was originally submitted incorrectly. Additionally, this chat history provides proof that no action had been taken by Pepco as of November 11th, 2022. Of note, there is no evidence that GPC dispatched an engineer to conduct field verification on December 9th, 2022, despite Pepco's claims to the contrary. See *Attachment 2*.
8. On [January 26th, 2023], Pepco's GPC team provided an Interconnection Application Status Update via the GPC customer portal, indicating that tech review was completed on December 9th and it was determined that "...there is a need for distribution upgrades to correct potential issues arising from overvoltage conditions. We have requested a cost estimate letter be prepared to submit to you...In the mean time[sic], if a down size option is available would that be considered?" See *Attachment 3*.
9. On [January 30th, 2023], Pepco's GPC provided two updates to its customer portal indicating that our Project ID Pepco-0109273 was in the "Technical Review Completed" status. Pepco Conditionally Approved the project, pending a \$9,000+ upgrade be financed by the homeowners in order to upgrade the transformer serving the properties located at [REDACTED]. A counteroffer was made to downsize the project size to 11kW or below. See *Attachments 4 & 5*.
10. On [February 20th], I filed an Informal Complaint with the Public Service Commission ("Commission"), per guidance from OPC.
11. I am concerned that Pepco made intentionally erroneous calculations as to the upgrades for my interconnection project, suggesting a downsize in order to preserve its flow of income from our property's high monthly electrical consumption (~\$300, on average). I am also concerned that Pepco intentionally delayed communications regarding the status of our proposed project in order to continue the collection of high energy bills during the winter months. The originally proposed project, submitted in August of 2022, would offset our consumption by 88%, reducing our average monthly electrical bill to \$36 and saving us an estimated \$1,000 during the period from November of 2022 to January 2023.
12. I am equally concerned that without the involvement of OPC, it would not have been discovered that \$9,000 worth of upgrades were not actually needed for our interconnection project. If my experience is not an isolated case, I am concerned that Pepco could be impeding the development of solar resources by providing unreasonably high estimates of the cost of upgrades.

13. This affidavit was prepared by me or under my direct supervision and control.
14. If sworn as witnesses, I can testify competently to the facts and assertions stated in this affidavit.

Colin James Puhala

BY: Colin James Puhala

Executed on this 27th day of February, 2023.

District of Columbia: SS

Subscribed and Sworn to before me

this 27th day of February, 2023

Tamika R Dodson

Tamika R Dodson, Notary Public, D.C.

My commission expires September 14, 2023



Attachment 1.

Sent: Wednesday, December 28, 2022 11:13 AM

To: Pamela Nelson <pnelson@opc-dc.gov>

Subject: RE: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Good morning Ms. Nelson,

The following is in response to the inquiry submitted by the DC Office of the People's Counsel (OPC) on behalf of Colin Puhala and Barbara Givens regarding a field inspection due the proposed size of their solar system. Outlined below are the following responses:

1. **Why is the size of the 26.64Kw proposed solar system (Level 1 interconnection) considered a large solar installation system? Do state and explain what factors Pepco is using to qualify the proposed 26.64Kw system as a large solar installation system.**

The maximum system size we can accept for a Level 1 project is 20kW, the system the customer is requesting is 26.64kW which is considered a Level 2 project. Please see regulation 4004 Level 1 review:

4004.4C: When a proposed Small Generator Facility is to be interconnected on a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed Small Generator Facility, may not exceed twenty (20) kW.

1. **Why is Pepco requiring a "field inspection?" Is this a common procedure for proposed 26.64Kw solar systems installations? What is the "field inspection" and its purpose?**

Pepco conducts field verification for all jobs requiring distribution upgrades to verify that distribution infrastructure in the system corresponds to the actual infrastructure in the field.

1. **Give the exact date and time that Pepco will conduct the "field inspection."**

On November 11, 2022, Distribution Engineering received the application. On December 9, 2022, field verification was completed.

1. **Give specific reasons why the "field inspection" is taking over 4 months plus to be done.**

On September 22, 2022, the Green Power Connection (GPC) Interconnection Application was reviewed and processed as incomplete in Connect the Grid (CTG) due to the Energy Storage System (ESS) model information on the ESS form does not

match the information in CTG. A new interconnection application submission is required with application corrections.

On November 1, 2022, GPC Interconnection Application reviewed and submitted to technical review for engineering screening in CTG.

On November 11, 2022, Distribution Engineering received the application. The field verification aspect of this work was subsequently completed in a month's timing.

Attachment 2.

GPC GPC

Account for New Applications -
9/16/22 1:51 PM

Thank you. Your interconnection request has successfully been submitted.

We are currently reviewing the application for complete and accurate information. If it is complete, we will notify you that we are moving forward with next steps. If it is incomplete, we will notify you of what needs to be remedied.

Our timeframe for screening interconnection applications at this stage of the process is mandated in State regulations. The Acknowledgement of Receipt is {{X}} business days.

Incomplete**Poindexter Oswald**

Internal User -
9/22/22 11:17 AM

We have received Part I of your interconnection application. We require additional information or clarification to proceed.

Please provide the requested information below and resubmit your application:

Discrepancy System Values -the ESS model information on the ESS form does not match the information in CTG. Please make the necessary corrections

When you have satisfied the requirement(s), your application will be considered complete and ready to process. You will receive notification throughout the remainder of the process as additional steps are completed.

PLEASE NOTE: Incomplete applications as indicated above will be discarded. Please resubmit the entire application packet along with the additional materials or information.

Solar Solution

-

9/22/22 1:37 PM

Hi Oswald, please advise what you would like corrected. There is the Enphase Encharge 10 battery that is made up of 12 * IQ 8X-BAT microinverters. When you ask for the number of batteries we enter 1, when you ask for the number of micros within the battery, we enter 12. We have to use both throughout the application because we only have a spec sheet for the entire Encharge 10 battery as a whole, no spec sheets for the IQ 8X-BAT micros.

Solar Solution

-

10/11/22 3:50 PM

Hello, please advise.

Poindexter Oswald

Internal User -
10/12/22 2:29 PM

Hello,

Sorry for the delay. Please submit as the following: Enphase IQ8 (72) 240 micro inverters = 17.28 kw; If the Battery is added to DC it should not be included with AC. But if you are including with the inverter it should be added to Inverter =21.12 kw. Enphase -10-1P (1) 3.84 = 3.84 Total AC rating 21.12 kw. Please fill out the applicable sections of the ESS form and submit. I hope this helps. Let me know if you have any further questions.

Solar Solution

-

10/24/22 9:34 AM

Hi Oswald, please give our office a call at 202-249-1112 and ask for James. Please see the attached images of the Application Fields showing that everything should be correct, there must be some misunderstanding. This is an AC-coupled system. We have 72 panels + micros (26.64 kW DC, 17.28 kW AC) being added to a single battery (0 kW DC, 3.84 kW AC) for a total of 26.64 kW DC, 21.12 kW AC. Is the confusion stemming from the fact that each Encharge 10 battery (3.84 kW AC), consists of 12 * IQ 8X-BAT micros (320W each)?

attach_fileBarbara Givens array 1.jpg

attach_fileBarbara Givens inverter 1.jpg

attach_fileBarbara Givens inverter 2 (battery).jpg

Poindexter Oswald

Internal User -
10/24/22 9:35 AM

Thank you. Your interconnection request has successfully been resubmitted.

We are currently reviewing the application for complete and accurate information. If it is complete, we will notify you that we are moving forward with next steps. If it is incomplete, we will notify you of what needs to be remedied.

Our timeframe for screening interconnection applications at this stage of the process is mandated in State regulations. The Acknowledgement of Receipt is {{X}} business days.

In Technical Review**Poindexter Oswald**

Internal User -
11/1/22 11:20 AM

We have received Part I of your interconnection request, and have determined that it is complete. It is now being screened by our technical review groups. You will soon receive an invoice for your application fee if applicable. To avoid delays in the application process, it is important to pay your application fee as soon as possible. We will send you notices and instructions via e-mail when we have completed our review of your interconnection request.

Our timeframe for screening interconnection applications at this stage of the process is mandated in State regulations. The Application Screening Notification is 15 business days.

Next Steps: We will email you a notice once we have completed our screening. If additional information or documentation is required, we will send you information on what is needed. If your

request passes the screening, we will send you approval to install. Once approved, you may then proceed to build and install your system.

After your system has been installed, complete your interconnection request by submitting the following.

Part II of the Interconnection Application (Certificate of Completion ('COC')), and local electrical inspection certificate

Friendly reminder: In accordance with State regulations, you are not permitted to turn on your generator system until you have received our written Authorization to Operate.

Field Verification

Justin Boykin

Capacity Planning -
11/11/22 9:46 AM

To continue to process your application we must inspect the existing utility equipment at the property. This verification will help us determine any needed next steps for your system to be safely installed. We will continue to process your application once we complete our verification. We will inform you of any access issues.

Solar Solution

-

11/21/22 12:41 PM

Hi GPC, please provide an update for this project. Thank you!

Solar Solution

-

11/28/22 11:12 AM

Hi GPC, is there an update here?

Solar Solution

-

12/2/22 11:47 AM

Hi GPC, is there an update on this project? Thank you!

Solar Solution

-

12/5/22 8:56 AM

Hello GPC, please provide an update for this project, Thank you!

Solar Solution

-

12/6/22 4:11 PM

Hi GPC, any updates for this project? Thank you!

Solar Solution

-

12/8/22 8:58 AM

Hello GPC, please provide an update, Thank you!

Solar Solution

-

12/9/22 2:32 PM

Hi GPC, is there an update for this project? Client is eager to be installed this year. Thank you!

Solar Solution

-

12/12/22 9:47 AM

Hi GPC, please provide an update for this project, Thank you!!

Solar Solution

-

12/12/22 9:47 AM

Hi GPC, please provide an update for this project, Thank you!!

Solar Solution

-

12/15/22 2:26 PM

Hi GPC, any update on this project? Client is eager to be installed this year for tax credit purposes. Can we get any insight on this at all so we can manage expectations? Permits are in hand - awaiting response from Pepco. - Kathleen

Solar Solution

-

12/16/22 10:42 AM

Hi GPC - Any update? - Kathleen

Solar Solution

-

12/19/22 11:15 AM

Hi GPC, Please provide an update. Thank you

Solar Solution

-

12/21/22 9:25 AM

Hi GPC, please provide an update for this project. This is very urgent.

Solar Solution

-

12/22/22 12:35 PM

Hi GPC, I would like to install this project by the end of the year. Please give us an update so I can get this on the installation schedule. - Kathleen

Solar Solution

-

12/23/22 9:42 AM

Hi GPC, I am trying to install this system before the end of the year. Can we please, please get an update? - Kathleen

Solar Solution

-

12/29/22 11:10 AM

Hi GPC, please provide an update for this project!!

Solar Solution

-

1/4/23 3:58 PM

GPC, we have not heard anything about this project in months. Can you please respond to us. We need answers. - Kathleen

Solar Solution

-

1/9/23 9:27 AM

Hi GPC, any updates for this project?

Solar Solution

-

1/12/23 11:19 AM

Hello GPC, please provide an update for this project!!!!

Solar Solution

-

1/23/23 9:00 AM

Hi GPC, Please provide an update, it's been months and we haven't gotten a response from you.

Attachment 3.

From: [REDACTED]
To: [Colin J Puhala](#)
Subject: [EXT] Fwd: Interconnection Application Status Update
Date: Tuesday, February 21, 2023 7:40:19 PM

Attach to main email

Sent from my iPhone

Begin forwarded message:

From: no-reply@connectthegrid.com
Date: January 26, 2023 at 4:04:00 PM EST
To: [REDACTED]
Subject: Interconnection Application Status Update

There has been activity on your Energy Storage + Solar (or other source) project at '30 Longfellow Street Northeast, Washington, Washington D.C. 20011' with Project ID [REDACTED]. Your project is in the Technical Review Completed status. Here is the message that was sent to your contractor:

Hello, The tech review was completed. However, there is a need for distribution upgrades to correct potential issues arising from over voltage conditions. We have requested a cost estimate letter be prepared to submit to you. It will provide the estimated cost for the upgrades and the downsize options. While we hope to have it as soon as possible, at this time I don't have an expected date. However, this will be monitored closely. In the mean time, if a down size option is available would that be considered? .

Attachment 4.

From: [REDACTED]
To: [Colin J Puhala](mailto:Colin.J.Puhala)
Subject: Fwd: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, 30 Longfellow Street, NE, WDC (A/c #: 50027640734)
Date: Monday, April 10, 2023 10:11:40 PM

Attachment 4

Sent from my iPhone

Begin forwarded message:

From: Colin Puhala <CPUHALA@gmail.com>
Date: February 21, 2023 at 7:53:57 PM EST
To: Colin Puhala <cpuhala@mitre.org>
Subject: Fwd: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, 30 Longfellow Street, NE, WDC (A/c #: 50027640734)

Use this as attachment 1.

Sent from my iPhone

Begin forwarded message:

From: Pamela Nelson <pnelson@opc-dc.gov>
Date: February 6, 2023 at 12:51:57 PM EST
To: Colin Puhala <CPUHALA@gmail.com>
Cc: Bjpgivens@gmail.com, Thaddeus Johnson <tjohnson@opc-dc.gov>, Knia Tanner <KTanner@opc-dc.gov>, Yohannes Mariam <ymariam@opc-dc.gov>, Jason Cumberbatch <jcumberbatch@opc-dc.gov>, Elizabeth Beltran <EBeltran@opc-dc.gov>
Subject: RE: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Excellent. I am forwarding a Sample Affidavit for your attention, completion and return to OPC as soon as possible. Should you need assistance completing the Affidavit, one of OPC legal team will be able to assist you. Also, the PSC's website for filing your Informal Hearing is www.dcpsec.org (also mentioned below in my prior e-mail 2/1/23). Do remember that OPC can only provide free legal representation at the Formal Hearing and not at the Informal hearing. Again, I am forwarding a sample Affidavit for your attention, completion and return to OPC for inclusion in OPC's NEM Petition Filing with the PSC. FYI. OPC wants to file this NEM Petition as soon as possible.

Pamela Nelson

From: Colin Puhala <cpuhala@gmail.com>
Sent: Monday, February 6, 2023 12:42 PM
To: Pamela Nelson <pnelson@opc-dc.gov>
Cc: Bjgivens@gmail.com; Thaddeus Johnson <tjohnson@opc-dc.gov>;
Knia Tanner <KTanner@opc-dc.gov>; Yohannes Mariam <ymariam@opc-
dc.gov>; Jason Cumberbatch <jcumberbatch@opc-dc.gov>; Elizabeth
Beltran <EBeltran@opc-dc.gov>
Subject: Re: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara
Givens, [REDACTED]

Pamela,

I would like to provide an affidavit and would also like to file an informal complaint. While I'm fine with the size of our job being reduced, I'm NOT fine with the timeline and manner in which we were informed by Pepco, MONTHS after we took out a loan for a job that was originally twice as expensive. Beyond inconveniencing all parties, Pepco has cost myself, Solar Solutions, and our lender THOUSANDS of dollars in wasted time and misallocated resources. Pepco/Exelon can and should be held accountable for this.

Considering how quickly Pepco would be seeking remediation for their insanely high bills they already levy against my property on a monthly basis (\$300-\$500), I think all affected parties on this end are entitled to some resolution and compensation for this debacle by Pepco/Exelon.

Please let me know what you need from me.

Best,

Colin

Sent from my iPhone

On Feb 6, 2023, at 12:22 PM, Pamela Nelson <pnelson@opc-dc.gov> wrote:

Good afternoon. Just checking-in to see if you have decided to file for a PSC Informal to Formal Hearing should the Informal Hearing be unsatisfactory with OPC's legal

representation only for the Formal Hearing. I am happy to share that OPC will be filing a Petition about the on-going Pepco solar interconnection woes shortly. I would like to know if you are interested in providing an Affidavit to OPC's Petition about your Pepco solar interconnection issues. Do let me know so I can send you a Sample Affidavit for your guidance and completion. Should you need OPC's legal assistance with the Affidavit, one of the attorneys working with the Petition can assist you. Do let me know at your earliest. Thanks.

Pamela Nelson

From: Pamela Nelson

Sent: Wednesday, February 1, 2023 4:38 PM

To: Colin Puhala <cpuhala@gmail.com>;
bjgivens@gmail.com

Cc: Thaddeus Johnson <tjohnson@opc-dc.gov>; Knia Tanner <KTanner@opc-dc.gov>; Yohannes Mariam <ymariam@opc-dc.gov>; Jason Cumberbatch <jcumberbatch@opc-dc.gov>; Elizabeth Beltran <EBeltran@opc-dc.gov>

Subject: FW: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED])

Importance: High

Good afternoon. Below in this e-mail is Pepco's follow-up response to the accuracy of the field verification date completion, solar installers issues and a cost estimate for the solar interconnection upgrades for your attention. The Pepco's Green Power Connection attached letter states a \$9,000+ proposed solar interconnection upgrades fee charged to you. What are your next steps? You do have the right to file for an Informal Hearing with the District of Columbia Public Service Commission (DC PSC) on the high solar interconnection upgrade fees Pepco is charging you. Should the PSC Informal Hearing yield an unsatisfactory results, you can file for a Formal Hearing with the PSC and request OPC's legal representation at the Formal Hearing only and not for the Informal Hearing. The PSC's website to file an on-line Informal hearing request is: www.dcpsc.org Also, do be aware that OPC is actively weighing all of the pros and cons for legal action with the DC PSC on this troubling issue. I will keep you abreast as soon as OPC

files an official legal filing with the DCPSC on this vexing solar high fees interconnection upgrade issue. Do remember should your PSC Informal Hearing results in an unsatisfactory outcome, and you move to the PSC Formal Hearing process, let me know if you would like to have OPC's free legal counsel representation at the Formal Hearing only. I am so sorry that your are having all of these unnecessary frustrations with Pepco while trying to do the right thing, going solar for overall positive environmental contributions and energy credits benefits.

Pamela

From: Special Investigations
<specialinvestigations@pepco.com>
Sent: Tuesday, January 24, 2023 2:28 PM
To: Pamela Nelson <pnelson@opc-dc.gov>
Cc: Ellis, Kenneth:(PEPCO) <kellis@pepco.com>; Special Investigations <specialinvestigations@pepco.com>
Subject: FW: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Hello,

The following supplemental inquiry has been assigned to Kenny Ellis, due date 1/31/23.

Thank you,

Anasa Mulagha
Escalated Investigations Representative
amulagha@pepco.com

T 202 428 1275

<image001.png>

pepco.com

From: Yohannes Mariam <ymariam@opc-dc.gov>
Sent: Tuesday, January 24, 2023 1:06 PM
To: Pamela Nelson <pnelson@opc-dc.gov>; Special Investigations <specialinvestigations@pepco.com>
Cc: Thaddeus Johnson <tjohnson@opc-dc.gov>; Knia Tanner <KTanner@opc-dc.gov>; Elizabeth Beltran <EBeltran@opc-dc.gov>; Jason Cumberbatch <jcumberbatch@opc-dc.gov>
Subject: RE: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Thanks Pamela.

Yohannes K.G. Mariam, Ph.D.
Senior Economist
Climate Change Professional (CC-P)
Tel: [202-261-1415](tel:202-261-1415) or [202-727-3071, ext. 278](tel:202-727-3071)
ymariam@opc-dc.gov
<http://www.opc-dc.gov/>

From: Pamela Nelson <pnelson@opc-dc.gov>
Sent: Tuesday, January 24, 2023 12:35 PM
To: specialinvestigations@Pepco.com
Cc: Thaddeus Johnson <tjohnson@opc-dc.gov>; Yohannes Mariam <ymariam@opc-dc.gov>; Knia Tanner <KTanner@opc-dc.gov>; Elizabeth Beltran <EBeltran@opc-dc.gov>; Jason Cumberbatch <jcumberbatch@opc-dc.gov>
Subject: FW: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Importance: High

Good afternoon. I am sending a follow-up complaint in response to Pepco 12/9/2022 completed field inspection date for Barbara Givens and Colin Puhala proposed solar installation system at their 30 Longfellow, NE, WDC home. Customers Givens and Puhala and the solar installer, Solar Solutions all refute Pepco's assertion that the field inspection was completed on 12/9/2022 as not ever being done. Do see remarks from both consumers Givens and Puhala

and Solar solution below in this email. Also, read the e-mail thread from the bottom-up to see Pepco's 12/28/2022 response to OPC complaint about this matter.

Here is a copy of Pepco's response:

Pepco's response (12/28/22): On November 11, 2022, Distribution Engineering received the application. On December 9, 2022, field verification was completed.

OPC follow-up questions are:

1. **Question: According to Consumer Barbara Givens and Colin Puhala and Solar Solutions (solar installer) Pepco above listed field inspection December 9, 2022 did not occur. Why is Pepco telling OPC that a field inspection for the proposed solar installation system at consumers Givens and Puhala home at 30 Longfellow Street, NE, WDC was completed when it was not done. Pepco, do see the consumers and solar installers responses below in this e-mail refuting Pepco's assertion that the field inspection was completed on 12/9/2022. Do provide OPC with a detailed explanation why Pepco stated a 12/9/2022 field inspection date in its response (12/28/22) to OPC about this complaint when it was never done. Do provide the applicable service records proving the filed inspection was completed on 12/9/2022 for 30 Longfellow Street, NE, WDC, the Givens and Puhala residence for the proposed solar installation system.**
2. **If the 12/9/2022 Pepco stated field inspection date is an error, do give detailed explanation how and why the error occurred and what specific steps and, or actions Pepco will take to correct this urgent matter to avoid any such error repeats going forward.**
3. **Solar Solution, the solar installer is continuing to experience on-going lack of communication with**

Pepco's Green Team for timely responses, particularly about the 12/9/2022 completed Pepco field inspection about the above referenced property. P.S. Below in this e-mail thread is a copy of the most recent e-mail explanation from Solar Solutions refuting the 12/9/2022 field inspection for your information. Do give detailed explanation about what factors are causing this communication breakdown with the solar installer for both e-mail and the contractor's portal.

- 4. If problems with the solar contractor's portal, state what they are and date certain when Pepco expects to correct this pressing issue.**

I await your response to the above listed questions at your earliest.

**Pamela Nelson
(202) 727-3071**

From: Colin Puhala <cpuhala@gmail.com>

Sent: Monday, January 23, 2023 9:24 PM

Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Pamela,

I just double-checked our ADT camera feed and motion sensor activity for the entire day of December 9th. There is no activity that was logged while my wife and I were away at work, therefore Pepco's claims of conducting a field inspection on this date are false.

Best,

Colin Puhala

Sent from my iPhone

Sent: Monday, January 23, 2023 2:23 PM

To: Pamela Nelson <pnelson@opc-dc.gov>

Subject: RE: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]

Hi Pamela,

Below is a screenshot from GPC's portal indicating official application status changes for this project. As for the chat history, I have attached a PDF of everything communicated up through this morning (1/23). We spent the time between 9/16/22 to 11/1/22 explaining why the application we submitted should have been correct all along. On 11/11/22, this project is pushed to "Field Verification" where it has sat ever since. As you can see, the worst part about this is that we have received no messages from GPC since the 11/11/22 notification that the project was moved to field verification. We have no record of anything happening on 12/9/22. Anything GPC states happened without corresponding proof in the portal would indicate that neither the installer or client were informed. As a reminder, we will be speaking with GPC later this week about these issues in general. Please let me know if I can provide additional help.

<image002.png>

Best,
James Sheats
Solar Solution

From: Pamela Nelson <pnelson@opc-dc.gov>

Sent: Monday, January 23, 2023 12:40 PM

Subject: RE: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]

Importance: High

Good afternoon. I sent you a forward email from Pepco follow-up e-mail (12/30/2022) response where Pepco gave a timeline of completion dates, including the filed inspection, supposedly done on 12/9/2022 requesting your confirmation. Question? Are you now confirming that the filed inspection (12/9/2022 – Pepco stated completion date)

and the other Pepco mentioned timelines were never done by Pepco? Do respond at your earliest so I can do the appropriate follow-up with Pepco.

Pamela

Sent: Friday, January 13, 2023 3:51 PM

Subject: RE: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Ms. Nelson,

Any guidance here will be very much welcomed. We have been ready to install for some time now. Once we get the word, we can install immediately. We need Pepco to send us correspondence. Thanks for any help you can provide.

Thanks,

<image003.png>

Sent: Friday, January 13, 2023 2:46 PM

Subject: Re: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens [REDACTED]
[REDACTED]

Ms. Nelson--it sounds like the hold up is on Pepco's end; do you have any insight on the best way forward from here? We're nearly five months into this contract with nothing to show for it!

Thanks very much,

Barbara Givens

On Wed, Jan 4, 2023 at 12:19 PM Gabe Stonebraker
<gstonebraker@solarsolutiondc.com> wrote:

Hello Team,

Had my colleague who works with Pepco at Solar Solution look into the email that GPC responded with to your inquiry, Ms. Nelson. Please See below his response. In short, there is no effective way we can do our jobs when they simply do not respond to us. This is not just

happening with Colin and Barbara, but other customers of ours as well where Pepco just decides it's easiest to not respond to our inquiries. Simply said, Pepco is keeping us from performing our duties and has cost us clients.

Thanks,

<image003.png>

Subject: RE: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]

Hey Gabe,

We did submit a Level 2 application (20 kW AC or larger, see snipped picture of Application Summary). GPC has not said anything in the portal since 11/11/22 and has certainly not informed us that the field verification has been completed. Attached is a PDF containing the entire portal chat history until our latest communication on 12/29/22.

Also, their answers to #3 and #4 are very misleading. The second picture below is the portal chat showing the time we initially submitted the application (9/16/22), the time we resubmitted it (10/24/22), and the time they placed it in technical review (11/1/22). The GPC reviewer incorrectly marked the application as incomplete because they were not familiar with how the battery size was being added to the solar system size. We clarified that we thought it was submitted correctly initially and resubmitted the application without changes on 10/24/22. That delay of over a month was because of GPC not understanding the application. GPC is cherry picking information in order to mask the true timeline and their lack of communication. We have also sent them numerous emails with a list of priority projects, including this one, that they have almost outright ignored for months now.

<image004.png>

<image005.png>

Sent: Wednesday, January 4, 2023 10:50 AM

Subject: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

Please see below.

Thanks,

<image003.png>

Sent: Friday, December 30, 2022 11:56 AM

Subject: Fwd: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, [REDACTED]
[REDACTED]

[REDACTED] field inspection was completed on 9 Dec, although this reads to me like we need to scale our system back to the 20kW limit. Thoughts?

Barb

Begin forwarded message:

From: Pamela Nelson <pnelson@opc-dc.gov>

Date: December 30, 2022 at 11:52:14 AM EST

Cc: Yohannes Mariam <ymariam@opc-dc.gov>, Thaddeus Johnson <tjohnson@opc-dc.gov>, Elizabeth Beltran <EBeltran@opc-dc.gov>, Jason Cumberbatch <jcumberbatch@opc-dc.gov>

Subject: FW: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens,
[REDACTED]

Good morning. Hope you are having an awesome and safe holiday. Below in this e-mail is Pepco's response to the lengthy delay in scheduling the filed inspection for your proposed 26.64 solar system at your home (30 Longfellow Street, NE, WDC). According to Pepco response below in this e-mail the field inspection in question was completed on December 9, 2022 clearing the way for your work forward with the other necessary permitting processes for your proposed solar

installation system. Please confirm that this action (filed inspection completed 12/9/2022) by Pepco was done at your earliest opportunity for the next step. I await your response.

Pamela Nelson

Sent: Wednesday, December 28, 2022 11:13 AM

To: Pamela Nelson <pnelson@opc-dc.gov>

Subject: RE: [EXTERNAL]Pepco Solar Inspection -Colin Puhala & Barbara Givens, 30 Longfellow Street, NE, WDC (A/c #: 50027640734)

Good morning Ms. Nelson,

The following is in response to the inquiry submitted by the DC Office of the People's Counsel (OPC) on behalf of Colin Puhala and Barbara Givens regarding a field inspection due the proposed size of their solar system. Outlined below are the following responses:

1. **Why is the size of the 26.64Kw proposed solar system (Level 1 interconnection) considered a large solar installation system? Do state and explain what factors Pepco is using to qualify the proposed 26.64Kw system as a large solar installation system.**

The maximum system size we can accept for a Level 1 project is 20kW, the system the customer is requesting is 26.64kW which is considered a Level 2 project. Please see regulation 4004 Level 1 review:

4004.4C: When a proposed Small Generator Facility is to be interconnected on a single-phase shared Secondary Line, the aggregate generation capacity on the shared Secondary Line, including the proposed Small Generator Facility, may not exceed twenty (20) kW.

- 1. Why is Pepco requiring a “field inspection?” Is this a common procedure for proposed 26.64Kw solar systems installations? What is the “field inspection” and its purpose?**

Pepco conducts field verification for all jobs requiring distribution upgrades to verify that distribution infrastructure in the system corresponds to the actual infrastructure in the field.

- 1. Give the exact date and time that Pepco will conduct the “field inspection.”**

On November 11, 2022, Distribution Engineering received the application. On December 9, 2022, field verification was completed.

- 1. Give specific reasons why the “field inspection” is taking over 4 months plus to be done.**

On September 22, 2022, the Green Power Connection (GPC) Interconnection Application was reviewed and processed as incomplete in Connect the Grid (CTG) due to the Energy Storage System (ESS) model information on the ESS form does not match the information in CTG. A new

interconnection application submission is required with application corrections.

On November 1, 2022, GPC Interconnection Application reviewed and submitted to technical review for engineering screening in CTG.

On November 11, 2022, Distribution Engineering received the application. The field verification aspect of this work was subsequently completed in a month's timing.

pepco.com

<image001.png>

From:

Sent: Friday, December 2, 2022 5:40 PM

To: Pamela Nelson <pnelson@opc-dc.gov>

Subject: FW: [EXTERNAL]Pepco Solar Inspection - 30 Longfellow Street, NE, WDC (A/c #: 50027640734)

Importance: High

Hello,

The following inquiry has been assigned to Ken Ellis, due date 1/2/2023.

Regards,

<image001.png>

pepco.com

From: Pamela Nelson <pnelson@opc-dc.gov>

Sent: Friday, December 2, 2022 3:39 PM
Cc: Yohannes Mariam <ymariam@opc-dc.gov>; Jason Cumberbatch <jcumberbatch@opc-dc.gov>; Thaddeus Johnson <tjohnson@opc-dc.gov>
Subject: [EXTERNAL]Pepco Solar Inspection - 30 Longfellow Street, NE, WDC (A/c #: 50027640734)
Importance: High

EXTERNAL MAIL. Do not click links or open attachments from unknown senders or unexpected Email.

Good afternoon. I am in receipt of a 26.64Kw proposed solar system installation with solar battery storage for customer Barbara Givens and Colin Puhala of 30 Longfellow Street, NE, WDC, Pepco Account: 50027640734. Consumers Givens and Puhala said Pepco said it must do a "field inspection" because of the large size of the proposed solar system (26.64Kw) with battery storage before any permitting application is granted. However, It has been over 4 months without any response from Pepco about the date and time for the "field inspection" in spite of numerous calls from consumers and the Solar Installer. Do see below in this e-mail more details from consumers Givens and Puhala for your action.

Sent: Thursday, December 1, 2022 9:50 PM
To: Pamela Nelson <pnelson@opc-dc.gov>

Subject: Re: Test
Pamela,

Thank you so much for returning my phone call. Per your instructions, the Pepco account for our property at 30 Longfellow Street NE is 50027640734. We have an outstanding job with Solar Solution DC that is awaiting field inspection from a Pepco technician before final approval can be made and work can begin. My wife Barbara (cc'd) and I have been waiting almost three months at this point for Pepco to approve the job. Please let me know what else you need from me to get the ball rolling on this. We have not received any direct correspondence from Pepco; everything has been through Solar Solution.

Best,

Colin J. Puhala

Specifically:

1. Why is the size of the 26.64Kw proposed solar system (Level 1 interconnection) considered a large solar installation system? Do state and explain what factors Pepco is using to qualify the proposed 26.64Kw system as a large solar installation system.
2. Why is Pepco requiring a "field inspection?" Is this a common procedure for proposed 26.64Kw solar systems installations? What is the "field inspection" and its purpose?
3. Give the exact date and time that Pepco will conduct the "field inspection."
4. Give specific reasons why the "field inspection" is taking over 4 months plus to be done.

I look forward to your response at your earliest.

Pamela Nelson

OPC DC

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Attachment 5.

From: cpuhala@gmail.com
To: Colin J Puhala
Subject: [EXT] Fwd: Interconnection Application Status Update
Date: Tuesday, February 21, 2023 8:49:10 PM

Use as attachment 5

Sent from my iPhone

Begin forwarded message:

From: no-reply@connectthegrid.com
Date: January 30, 2023 at 5:39:15 PM EST
To: cpuhala@gmail.com
Subject: Interconnection Application Status Update

There has been activity on your Energy Storage + Solar (or other source) project at [REDACTED], Washington D.C. 20011' with [REDACTED]. Your project is in the Conditionally Approved status. Here is the message that was sent to your contractor:

We have completed the technical screen of your interconnection request. The request cannot be approved as submitted. We can provide a conditional approval based on the following items we have identified:

FOR DISTRIBUTION UPGRADE: ** We have completed the technical screen of your interconnection request. In order for your interconnection request to be approved, the transformer and/or secondary that serves this facility must be upgraded, therefore your proposed generator facility does not currently pass our screen.

We will provide the cost estimate if applicable, along with next steps. PART 2 CANNOT BE SUBMITTED UNTIL UPGRADES ARE COMPLETED. .

Attachment G.

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

In the Matter of:	§
	§
The Office of the People’s Counsel’s	§
Petition into Investigation of	§
Potomac Electric Power Company’s	§
Level 1 Interconnection Practices	§
	§

AFFIDAVIT OF VALARIE MONTANA

I, Valerie Montana, do hereby state and affirm, under the penalty of perjury, that I am over eighteen (18) years old, that I am competent to be a witness, and that the matters and facts stated below are true and correct, and are provided based on my personal knowledge:

1. My name is Valerie Montana and I reside at [REDACTED]
2. I submit this affidavit on behalf of the Office of People’s Counsel of the District of Columbia (“OPC”). This affidavit and attachments were prepared by me or under my direct supervision and control.
3. On July 28, 2021, I entered into a contract to interconnect a 7.12 kW project of Level 1 solar for my home at the above address.
4. On the morning of January 25, 2023, I received an email from Potomac Electric Power Company (“Pepco”) indicating that my project received an approval to install. See *Attachment 1*.
5. Later the same day, I received an email from Pepco stating the project was approved contingent on upgrades.

6. On February 8, 2023, I received correspondence from Pepco indicating that construction was expected to be completed by February 28, 2023.
7. I am concerned that Pepco has never identified what grid upgrades need to be done for my application and continue to push back the time that they will complete the upgrades. Between August 3, 2021 and January 25, 2023, my project was in the *conditionally approved, upgrades required status*.
8. I am equally concerned that without the involvement of OPC, Pepco would continue to delay action on my application. If my experience is not an isolated case, I am concerned that Pepco could be impeding the development of solar resources by keeping customers such as myself in the dark about what grid upgrades are needed, how much they cost and when the upgrades will be completed.
9. This affidavit was prepared by me or under my direct supervision and control.
10. If sworn as a witness, I can testify competently to the facts and assertions stated in this affidavit.

BY: Valerie Montana
Valerie Montana

Executed on this 20th day of February, 2023.

District of Columbia: SS
Subscribed and Sworn to before me
this 20th day of February, 2023
Tanika R. Dodson
Tanika R Dodson, Notary Public, D.C.
My commission expires September 14, 2023



Attachment 1.

Tamika Dodson

To: Elizabeth Beltran
Subject: RE: [REDACTED] is approaching deadline. Action is required by 2/24/2023

----- Forwarded message -----

From: <no-reply@connectthegrid.com>

Date: Wed, Jan 25, 2023 at 12:27 AM

Subject: Your Project PEPCO-[REDACTED] is approaching deadline. Action is required by 2/24/2023

To: [REDACTED]

Dear Interconnection Contractor,

Your Approval to Install on your interconnection request will expire in 30 business days. Please return part II including the Certificate of Completion and electrical inspection by this date. If we do not receive part II by this date or you do not request an extension in writing (if applicable) before this time expires, we will withdraw the interconnection application from our project queue.

CERTIFICATE OF SERVICE

Formal Case No. 1050, In the Matter of Investigation of the Implementation of Interconnection Standards in the District of Columbia

RM40-2023-01, In the Matter of the Title 15 DCMR Chapter 40 – District of Columbia Small Generator Interconnection Rules

ET2023-02, In the Petition of Potomac Electric Power Company to Approve a Tariff Change for 20kW and below Residential NEM Solar Interconnection

I certify that on May 1, 2023, a copy of the *Office of the People's Counsel for the District of Columbia's Public Comments on Potomac Electric Power Company's Rider-NEM Proposal and Petition for Formal Investigation into Potomac Electric Power Company's Compliance with Rules Governing Interconnection of Small Generators* was served on the following parties of record by hand delivery, first class mail, postage prepaid or electronic mail:

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/s/ Elizabeth Beltran
Elizabeth Beltran
Assistant People's Counsel