

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Petition of PPL Electric Utilities Corporation :
for Approval of Tariff Modifications and :
Waivers of Regulations Necessary to : Docket No. P-2019-3010128
Implement its Distributed Energy Resources :
Management Plan :

**REBUTTAL TESTIMONY OF
BETHANY L. JOHNSON**

NON-PROPRIETARY VERSION

PPL Electric Statement No. 7-R

March 4, 2020

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Bethany L. Johnson, and my business address is 2 North Ninth Street,
3 Allentown, PA 18101.

4

5 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A. I am employed by PPL EU Services Corporation, an affiliate of PPL Electric Utilities
7 Corporation (“PPL Electric” or the “Company”) as Manager – Regulatory Operations.

8

9 **Q. WHAT ARE YOUR DUTIES AS MANAGER – REGULATORY OPERATIONS?**

10 A. I am responsible for PPL Electric’s energy and utility policy, company strategy,
11 development of load and revenue forecasting and analysis, procurement of wholesale
12 generation supply, distribution rate design and administration, general tariff
13 administration, and cost of service implementation, as well as transmission FERC
14 Formula Rates, development of rate case strategies and processes, and regulatory
15 compliance with the regulatory requirements of the Pennsylvania Public Utility
16 Commission (“Commission”), the Federal Energy Regulatory Commission (“FERC”)
17 and other regulatory agencies, as necessary. As part of this function, I am responsible for
18 the preparation, review, technical oversight and guidance of the development, content and
19 structure of cost allocation and revenue requirement studies. In addition, I am
20 responsible for all aspects of PPL Electric’s rates and riders and scheduling and
21 settlement activities with PJM Interconnection LLC. I also prepare and present expert
22 testimony regarding these and other cost-of-service and ratemaking-related issues.

23

1 **Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?**

2 A. I graduated from King’s College in 1999 with a Bachelor of Science Degree in Finance,
3 and from Moravian College in 2003 with a Master of Business Administration.

4
5 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.**

6 A. In 2000, I was employed by PPL Global Operations, Inc. (“PPL Global Operations”),
7 where I supported the accounting and financial reporting activities of the company’s
8 domestic activities. In 2001, as a result of realignment, I joined PPL Generation, LLC.
9 In this position, my responsibilities included cost control, budgeting, reporting, and
10 management of the forecasting process for large construction projects, as well as the
11 administration of construction and financing contracts. In 2004, I rejoined PPL Global
12 Operations as a Senior Business Analyst with responsibility for maintaining, analyzing,
13 consolidating, and presenting the business plans and operational performance results of
14 the Company’s international affiliates. In 2007, I joined PPL Energy Services Group,
15 LLC as a Business Analyst providing financial modeling and analytical support for the
16 evaluations of acquisition, development, and divestiture opportunities. In 2009, I joined
17 PPL Electric as a Project Controls Specialist providing advanced cost analysis for
18 distribution and transmission projects. Later in 2009, I assumed the position of Financial
19 Business Planning Specialist in the Regulatory Compliance Department. In August 2012,
20 I was named Manager – Regulatory Compliance for PPL Electric, and in October 2015, I
21 was named to my current position as Manager – Regulatory Operations.

22

1 **Q. HAVE YOU PREVIOUSLY TESTIFIED AS A WITNESS BEFORE THE**
2 **PENNSYLVANIA PUBLIC UTILITY COMMISSION (“COMMISSION”)?**

3 A. Yes, I have testified before this Commission in the Company’s 2015 base rate case at
4 Docket No. R-2015-2469275 and the Company’s 2012 base rate case at Docket No. R-
5 2012-2290597. In addition, I have testified in: several Section 1307(e) reconciliation
6 hearings; *Office of Small Business Advocate v. PPL Electric Utilities Corporation*,
7 Docket No. C-2013-2367475, regarding PPL Electric’s Generation Service Charge Rider;
8 *Petition of PPL Electric Utilities Corporation for Approval of a Distribution System*
9 *Improvement Charge*, Docket No. P-2012-2325034; *Petition of PPL Electric Utilities*
10 *Corporation pursuant to Act 11 of 2012, the Final Implementation Order of Act 11 and*
11 *66 Pa. C.S. § 1352, for approval of its Long-Term Infrastructure Improvement Plan*,
12 Docket No. P-2012-2325034; *PPL Electric Utilities Corporation Proposed Transmission*
13 *Service Charge For the twelve months ending November 30, 2010*, Docket No. M-2010-
14 2213754; *PPL Electric Utilities Corporation Transmission Service Charge Effective June*
15 *1, 2011*, Docket No. M-2011-2239805; *Petition of PPL Electric Utilities Corporation for*
16 *Approval of a Default Service Program and Procurement Plan for the Period June 1,*
17 *2015 through May 31, 2017*, Docket No. P-2014-2417907; *Petition of PPL Electric*
18 *Utilities Corporation for Approval of its Smart Meter Technology Procurement and*
19 *Installation Plan*, Docket No. M-2014-2430781; *Hulber v. PPL Electric Utilities*
20 *Corporation*, Docket No. C-2014-2418167; and *Kozeracki v. PPL Electric Utilities*
21 *Corporation*, Docket No. F-2016-2569470; the Company’s Phase III Energy Efficiency
22 and Conservation (“EE&C”) Plan proceeding at Docket No. M-2015-2515642; *PP&L*
23 *Industrial Customer Alliance v. PPL Electric Utilities Corporation*, Docket Nos. C-2013-

1 2398442 and C-2013-2398440, regarding the Company's Phase I and Phase II Act 129
2 Compliance Riders.

3
4 **Q. WOULD YOU PLEASE DESCRIBE THE SUBJECT MATTER OF YOUR**
5 **REBUTTAL TESTIMONY?**

6 A. My rebuttal testimony will respond to certain allegations made in NRDC Statement No. 1,
7 the Direct Testimony of Harry Warren submitted on behalf of the Natural Resources
8 Defense Council ("NRDC"), OCA Statement No. 1, the Direct Testimony of Ron Nelson
9 submitted on behalf of the Office of Consumer Advocate ("OCA"), and in SEF Statement
10 No. 2, the Direct Testimony of Ron Celentano submitted on behalf of the Sustainable
11 Energy Fund ("SEF"). Specifically, I will address the Company's plan to recover the
12 capital costs and expenses associated with its purchase, installation, maintenance, and
13 operation of the ConnectDER DER Management devices under PPL Electric's updated
14 Distributed Energy Resource ("DER") Management proposal. Further, I will respond to
15 the other parties' arguments about the compensation that should be paid to DER
16 customers for providing grid support services under the Company's DER Management
17 proposal.

18
19 **Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?**

20 A. Yes, I am sponsoring the following exhibit:

- 21 • PPL Electric Exhibit BLJ-1R – Estimated Average Residential Bill Impact due to
22 Company Ownership of ConnectDER DER Management Devices.

1 **I. RATEMAKING TREATMENT OF THE CAPITAL COSTS AND EXPENSES**
2 **ASSOCIATED WITH THE DER MANAGEMENT DEVICES**

3 **Q. IN HIS REBUTTAL TESTIMONY (PPL ELECTRIC STATEMENT NO. 1-R), MR.**
4 **SALET EXPLAINS THAT PPL ELECTRIC HAS UPDATED ITS PROPOSAL**
5 **SUCH THAT THE COMPANY WILL PURCHASE, INSTALL, OWN, AND**
6 **MAINTAIN THE CONNECTDER DER MANAGEMENT DEVICES AT NO**
7 **DIRECT COST TO DER CUSTOMERS. IS THE COMPANY SEEKING**
8 **APPROVAL FOR IMMEDIATE RECOVERY OF THE CAPITAL COSTS AND**
9 **EXPENSES ASSOCIATED WITH THOSE DER MANAGEMENT DEVICES?**

10 A. No. PPL Electric is not seeking approval in this proceeding for immediate recovery of
11 the capital costs and expenses associated with the ConnectDER DER Management
12 devices. Although the Company is requesting the Commission to find that the
13 installation of those devices is reasonable and prudent, PPL Electric is not seeking
14 specific cost recovery in this proceeding. The costs of those devices will be capitalized
15 and included in PPL Electric's plant in service, and the Company will seek recovery of
16 these costs in a future proceeding, most likely the Company's next base rate case. The
17 same is true with respect to expenses associated with the devices. In that future
18 proceeding, other parties (including those in this proceeding) will be free to investigate
19 the amount of the Company's capital cost and expense claims associated with the
20 ConnectDER DER Management devices.

21 However, for illustration purposes, I have prepared an estimate of the Company's
22 capital cost and expense claims for those devices in a hypothetical 2021 base rate case,
23 along with the projected average bill impact for PPL Electric's customers due to these
24 costs and expenses. The estimated revenue requirement impact is approximately

1 \$924,040, resulting in an estimated average residential bill increase of \$0.77 per year. A
2 copy of that analysis is attached hereto as PPL Electric Exhibit BLJ-1R.

3
4 **Q. MR. SALET ALSO EXPLAINS IN HIS REBUTTAL TESTIMONY THAT THE**
5 **CONNECTDER DER MANAGEMENT DEVICE IS A PREFERRED “IN FRONT**
6 **OF THE METER” SOLUTION, WHEREAS THE “KEYSTONE SOLUTION”**
7 **WAS A LESS FAVORABLE “BEHIND THE METER” SOLUTION. DID THIS**
8 **KEY DISTINCTION BETWEEN THE TWO DEVICES HAVE AN IMPACT ON**
9 **THE COMPANY’S DECISION TO RECOVER THESE CAPITAL COSTS AND**
10 **EXPENSES FROM THE COMPANY’S RATEPAYERS?**

11 A. Yes. The point of delivery is generally the dividing line between Company-owned and
12 customer-owned facilities on PPL Electric’s distribution system. As a result, the
13 Company owns the meter, and the customer owns the meter base. Mr. Salet states in his
14 rebuttal testimony how the “Keystone Solution” required a weather-proof cabinet
15 containing the communication device to be installed behind the meter, *i.e.*, beyond the
16 point of delivery. In contrast, the ConnectDER DER Management device’s meter collar
17 is installed between the Company-owned meter and the customer-owned meter base.
18 Therefore, PPL Electric can install, own, and maintain the ConnectDER DER
19 Management device, while generally preserving the point of delivery as the dividing line
20 of Company-owned and customer-owned facilities.

21 Thus, the Company believes that it would be reasonable and prudent to recover
22 the DER Management devices’ costs and expenses from ratepayers in a future proceeding
23 due to: (1) the substantial benefits of the Company’s proposal to all customers that are

1 outlined in Mr. Salet's rebuttal testimony (PPL Electric Statement No. 1-R), including
2 also the reduction in installation costs for most new DER customers; and (2) the fact that
3 these Company-owned facilities would be generally located in front of the point of
4 delivery.

5
6 **II. A COMPENSATION MECHANISM FOR GRID SUPPORT SERVICES DOES**
7 **NOT NEED TO BE ESTABLISHED**

8 **Q. OTHER PARTIES HAVE RAISED QUESTIONS ABOUT THE**
9 **COMPENSATION THAT SHOULD BE PAID TO DER CUSTOMERS FOR**
10 **PROVIDING GRID SUPPORT SERVICES UNDER THE COMPANY'S DER**
11 **MANAGEMENT PROPOSAL. (NRDC ST. NO. 1, PP. 9-10, 32; OCA ST. NO. 1,**
12 **PP. 39-40; SEF ST. NO. 2, PP. 11-13, 15.) WHAT IS THE COMPANY'S**
13 **RESPONSE?**

14 A. PPL Electric does not believe that such a compensation mechanism needs to be
15 established for several reasons. As a preliminary matter, in Mr. Salet's rebuttal testimony
16 (PPL Electric Statement No. 1-R), he emphasizes that the Company's DER Management
17 Plan would simply establish reasonable terms and conditions for new DERs to
18 interconnect with PPL Electric's distribution system. Although the Company wants to
19 encourage and facilitate the interconnection of DERs, Mr. Salet states that PPL Electric
20 must do so in a reasonable way that does not negatively affect the safety, reliability, and
21 power quality of its distribution system. As a result, Mr. Salet explains that DERs should
22 not be permitted to operate in a way that causes the Company to violate voltage and other
23 requirements or that prevents PPL Electric from promptly responding to emergencies and
24 unintentional islanding situations. In that respect, no additional compensation needs to be

1 paid to DER customers for merely allowing their DERs to be managed so that they do not
2 jeopardize safe and reliable service to other customers.

3 In addition, as Mr. Salet states, PPL Electric strives to provide reasonably
4 continuous service, but perfect service is not and cannot be guaranteed. In fact,
5 customers' usage and generation can be curtailed or shut off for several reasons, such as
6 momentary outages, extended outages, voltage issues, or system repairs. When these
7 service interruptions occur on the Company's system today, customers and DER
8 customers do not receive compensation for lost revenue. These well-established
9 principles are set forth in Rule 4(F) of the Company's Commission-approved tariff,¹
10 which provides the following:

11 F. CONTINUITY

12 (1) The Company uses reasonable diligence to preserve
13 continuity of service, but in the event of interruption or curtailment
14 of service, Company shall not be subject to any liability, penalty or
15 payment for or on account of any such interruption or curtailment
16 nor shall the application of the rate schedule to the regular billing
17 period be affected.

18 (2) The Company may temporarily suspend service for the
19 purpose of making necessary repairs and makes every reasonable
20 effort to notify customers in advance, except in cases of emergency.
21
22
23

24 When there is an "emergency load situation," the Company's Commission-
25 approved tariff is even more explicit about PPL Electric's ability to reduce or interrupt
26 customers' service. Specifically, Rule 4(G)² of the tariff states the following:

¹ See Supplement No. 42 to Electric Pa.P.U.C. No. 201, Fourth Revised Page No. 8D.

² See Supplement No. 42 to Electric Pa.P.U.C. No. 201, Fourth Revised Page No. 8D.

1 G. EMERGENCY LOAD CONTROL

2
3 (1) A load emergency situation exists whenever:

4
5 (a) the demands for power on all or part of the utility's
6 system exceed or threaten to exceed the capacity then actually
7 available to supply such demands;

8
9 (b) system instability or cascading outages could result
10 from actual or expected transmission overloads or other
11 contingencies; or

12
13 (c) such conditions exist in the system or another public
14 utility or power pool with which the utility's system is
15 interconnected and cause a reduction in the capacity available to
16 the utility from that source or threaten the integrity of the utility's
17 system.

18
19 (2) In such case, the utility shall take such reasonable steps as
20 the time available permits to bring the demands within the then-
21 available capacity or to otherwise control load. Such steps shall
22 include but shall not be limited to reduction or interruption of
23 service to one or more customers, in accordance with the utility's
24 procedures for controlling load.

25
26 Furthermore, the other parties overlook the provisions governing how net
27 metering compensation is calculated under the Commission's regulations and PPL
28 Electric's tariff. I have been advised by counsel that Section 75.13(d) of the
29 Commission's regulations states that customer-generators are to be compensated for the
30 kilowatt hours ("kWh") of generation "produced" and the excess kWh "supplie[d]" to the
31 "electric distribution system." 52 Pa. Code § 75.13(d). Similarly, PPL Electric's
32 Commission-approved tariff states that the customer-generators are compensated for the
33 kWh "received by the Company" or "supplie[d]" for the distribution system.³

³ See Supplement No. 275 to Electric Pa.P.U.C. No. 201, Eighth Revised Page No. 19L.4.

1 Additionally, I have been advised by counsel that PPL Electric must follow these
2 regulations after the DER Management Petition is approved. Likewise, counsel has
3 advised me that PPL Electric’s Commission-approved tariff provisions are presumed to
4 be just and reasonable, must be strictly followed by the Company, are binding on all
5 customers, and, have the force and effect of law. Thus, although I am not a lawyer, my
6 understanding is that these provisions in the Commission’s regulations and the
7 Company’s tariff provisions must apply after the Company’s DER Management Petition
8 is approved. As a result, I believe that customer-generators should not receive
9 compensation for generation that was not “produced,” “received by the Company,” or
10 “supplie[d],” even if the Company’s use of the grid support functions to help ensure the
11 safety, reliability, and power quality of the distribution system causes the DERs to
12 experience reductions in real power output.

13 Moreover, the Company’s updated proposal to purchase, install, own, and
14 maintain the ConnectDER DER Management devices at no direct cost to the DER
15 customers will reduce the burden on new DER customers and provide them with
16 financial incentives to install DERs on PPL Electric’s distribution’s system. Indeed, the
17 total unit and installation cost of those devices is approximately \$755 (see PPL Electric
18 Statement Nos. 1-R and 6-R). Therefore, compared to the Company’s original proposal,
19 a new DER customer will not have to pay an additional \$755 to interconnect the DER
20 with PPL Electric’s distribution system.

21 In addition, by installing those devices, PPL Electric will reduce the total cost of
22 DER installations with nameplate capacities under 15 kW by approximately \$393 to \$700
23 (see PPL Electric Statement Nos. 1-R and 6-R; PPL Electric Exhibit SS-1R). Notably,

1 approximately 80% of DERs interconnected to PPL Electric's distribution system are less
2 than 15 kW (see PPL Electric Statement Nos. 1-R and 6-R). As a result, the large
3 majority of new DER customers in PPL Electric's service territory should have their total
4 DER installation costs reduced by approximately \$393 to \$700. Further, Mr. Salet and
5 Mr. Wallace explain that the ConnectDER DER Management device can often allow a
6 DER under 15 kW to be connected without the customer needing to upgrade the electrical
7 panel, which results in another \$1,000 to \$1,600 in estimated cost savings.

8 Additionally, as explained by Mr. Salet in his rebuttal testimony (PPL Electric
9 Statement No. 1-R), a customer's interconnection costs may be further reduced due to an
10 increase in hosting capacity. Currently, if the distribution circuit lacks hosting capacity
11 to accommodate the DER, the customer has to pay for the installation of traditional
12 voltage control equipment, such as a voltage regulator that costs approximately \$60,000
13 (see PPL Electric Statement No. 1-R). Because PPL Electric's DER Management
14 proposal can potentially increase a distribution circuit's hosting capacity to the point
15 where the DER can be safely interconnected without the need for any traditional voltage
16 control equipment, it would result in substantial cost savings for the customer in that
17 scenario (see PPL Electric Statement No. 1-R).

18 Thus, compared to the status quo, the Company's updated proposal results in: (1)
19 the large majority of new DER customers saving, at least, \$393 to \$700 to install DERs
20 and interconnect with PPL Electric's distribution system, with some of those customers
21 even saving an additional \$1,000 to \$1,600 in the costs to upgrade their electrical panel;
22 and (2) an increase in distribution circuits' hosting capacity, which could save an

1 interconnecting customer the substantial costs of paying for distribution system upgrades,
2 such as a voltage regulator that costs \$60,000.

3 Further, the Company's use of the smart inverters' Volt/VAR, Constant Power
4 Factor, Voltage Ride-through, and Frequency Ride-through functions is estimated to
5 reduce the net metering load for a typical 6 kW residential solar system by **only 8.9 kWh,**
6 **resulting in an annual customer credit reduction of approximately \$1.04** (see PPL
7 Electric Statement No. 1-R; PPL Electric Exhibit SS-2R). Also, the Company does not
8 project its proposal having any adverse impact on a customer's solar renewable energy
9 certificate ("SREC") production (see PPL Electric Statement No. 1-R). Therefore, the
10 projected revenue impact on DER customers is negligible and substantially less than the
11 reduced installation costs. Moreover, customer-generators already receive compensation
12 by way of net metering credits and SREC revenue.

13 For all of these reasons, the Commission does not need to establish a
14 compensation mechanism for grid support services before approving the DER
15 Management Petition.

16 Notwithstanding, if the Commission orders PPL Electric to provide compensation
17 for the affected kWh output as part of approving PPL Electric's DER Management
18 Petition, the Company would implement the following: the Company would calculate
19 the kWh output the DER system would have produced if not for Company control and
20 adjust the DER customers' kWh bank accordingly. All other net metering compensation
21 regulations, calculations, and process would continue to apply as they do today. The only
22 change to the current net metering process would be the specific customers' kWh would
23 be adjusted due to the Company's occasional control.

1

2

III. [BEGIN CONFIDENTIAL] [REDACTED]
[REDACTED] [END CONFIDENTIAL]

5

[BEGIN CONFIDENTIAL]

- [REDACTED]
- [REDACTED]
- [REDACTED]
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- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

9 [END CONFIDENTIAL]

10

11 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY AT THIS TIME?**

12 A. Yes, although I reserve the right to supplement my rebuttal testimony.

PPL Electric Exhibit BLJ-1R

PPL Electric
Statement 7-R - Exhibit BLJ-1R - Estimated Average Residential Bill Impact due to Company Ownership
of DER Communication Device
Hypothetical 2021 Rate Case with Fully Projected Future Test Year Revenue Requirement

<u>Line No.</u>			
1	Total Investment ⁽¹⁾	\$	4,413,730
2	Depreciation Reserve ⁽²⁾	\$	425,015
3	Net Investment (Line 1 - Line 2)	\$	3,988,715
4	Total Depreciation Expense	\$	294,249
5	Maintenance Expense (~\$35/device/year)	\$	204,610
6	Allowed Rate of Return - Equity portion (Line 3 x 5.14%) ⁽³⁾	5.14% \$	205,020
7	Allowed Rate of Return - Debt portion (Docket No. R-2019-3006863) (Line 3 x 2.01%)	2.01% \$	80,173
8	Federal Income Tax Rate gross up on Equity portion (Line 6 / (1-21%) - Line 6)	21.00% \$	54,499
9	State Income Tax Rate gross up on Equity portion (((Line 6 + Line 8) / (1-9.99%)) - (Line 6 + Line 8))	9.99% \$	28,803
10	Revenue Requirement (w/o GRT) (Sum of Lines 4 through Line 9)	\$	867,354
11	Gross Receipts Tax gross up ((Line 10 / (1-5.90%)) - Line 10)	5.90% \$	54,382
12	Revenue Requirement (w/ GRT) (Line 10 + Line 11)	\$	921,736
13	Provision for Regulatory Assessment gross up (Line 12 * .25%)	0.25% \$	2,304
14	Revenue Requirement (w/ GRT and Provision for Regulatory Assessment) (Line 12 + Line 13)	\$	924,040
<u>Increase in Customer Bill</u>			
Assuming 100% of revenue requirement is allocated to residential customers and collected via kWh charges			
15	Revenue requirement to be collected from customers (Line 14)	\$	924,040
16	kWh sales (Assumes approximate 2019 sales)		14,450,000,000
17	kWh price to recover revenue requirement (Line 15 / Line 16)	\$	0.000064
18	Average residential customer usage (kWh)		1,000
19	Customer bill increase/month (Line 17 x Line 18)	\$	0.06
20	Customer bill increase/year (Line 19 x 12)	\$	0.77

(1) The total investment assumes a device cost of \$755/installation. Installations: 2021=2,598; 2022=3,248.

(2) Assumes 15 year life.

(3) Assumes equity % as filed in PPL Electric's most recent quarterly financial report at Docket No. M-2019-3006863; PUC Allowed ROE for DSIC related work is 9.45% (Docket No. M-2019-3015178).

VERIFICATION

I, BETHANY L. JOHNSON, being the Manager-Regulatory Operations at PPL Electric Utilities Corporation, hereby state that the facts above set forth are true and correct to the best of my knowledge, information and belief and that I expect PPL Electric Utilities Corporation to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa.C.S. § 4904 relating to unsworn falsification to authorities.

Date: March 4, 2020

Bethany L. Johnson
Bethany L. Johnson