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May 29, 2019

***VIA ELECTRONIC FILING***

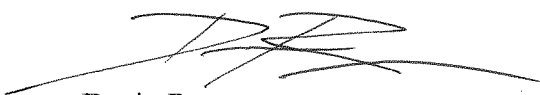
Rosemary Chiavetta, Secretary  
Pennsylvania Public Utility Commission  
Commonwealth Keystone Building  
400 North Street, 2nd Floor North  
P.O. Box 3265  
Harrisburg, PA 17105-3265

**Re: Brian Heffner v. PPL Electric Utilities Corporation**  
**Docket No. C-2018-3000471**

Dear Secretary Chiavetta:

Enclosed for filing is the Main Brief of PPL Electric Utilities Corporation in the above-referenced proceeding. Copies will be provided as indicated on the Certificate of Service.

Respectfully submitted,



Devin Ryan

DTR/jl  
Enclosures

cc: Honorable Elizabeth Barnes  
Certificate of Service

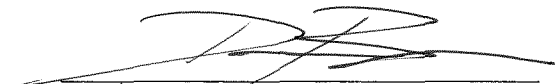
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I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

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Date: May 29, 2019



Devin T. Ryan

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Brian Heffner,	:	
	:	
Complainant,	:	
	:	
v.	:	Docket No. C-2018-3000471
	:	
PPL Electric Utilities Corporation,	:	
	:	
Respondent.	:	

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**MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

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## **I. INTRODUCTION**

On March 15, 2018, PPL Electric Utilities Corporation (“PPL Electric” or the “Company”) was served with the above-captioned Formal Complaint filed by Brian Heffner (“Complainant”) with the Pennsylvania Public Utility Commission (“Commission”). In his Complaint, the Complainant contests PPL Electric’s planned installation of a new automated metering infrastructure (“AMI”) meter at his property, 170 Ash Lane, Kunkletown, Pennsylvania.

As explained in this Main Brief, the Complainant failed to sustain his burden of proof that installing the new AMI meter on his property would constitute a violation of the Public Utility Code or any Commission regulation or order. Therefore, the Commission should dismiss the Complaint in its entirety and with prejudice.

## **II. STATEMENT OF THE CASE**

On March 15, 2018, PPL Electric was served with the above-captioned Formal Complaint filed by the Complainant.

On April 4, 2018, PPL Electric filed its Answer to the Complaint.

On April 5, 2018, a Notice was issued scheduling a telephonic hearing for August 29, 2018, before Administrative Law Judge Elizabeth H. Barnes (the “ALJ”).

On April 5, 2018, the ALJ issued the Prehearing Order, which set forth certain procedural rules in this proceeding.

On April 23, 2018, PPL Electric filed a Motion for Admission Pro Hac Vice of Curtis S. Renner, Esquire, as additional counsel on behalf of the Company.

On April 24, 2018, the ALJ issued an Interim Order granting the Motion for Admission Pro Hac Vice.

On June 20, 2018, PPL Electric filed a letter requesting that the telephonic evidentiary hearing be rescheduled.

On June 21, 2018, a Notice was issued rescheduling the telephonic evidentiary hearing for October 26, 2018. A Second Prehearing Order also was issued, which set forth certain procedural rules in this proceeding.

On September 18, 2018, PPL Electric served its exhibits and its expert witnesses' written direct testimony and exhibits, in compliance with the Prehearing Order.

On October 16, 2018, PPL Electric filed another letter requesting that the telephonic evidentiary hearing be rescheduled.

On October 17, 2018, PPL Electric filed a Notice of Withdrawal of Appearance for Amy E. Hirakis, Esquire.

On October 18, 2019, a Third Prehearing Order also was issued, which set forth certain procedural rules in this proceeding.

On October 19, 2018, a Notice was issued rescheduling the telephonic evidentiary hearing for April 18, 2019.

On November 2, 2018, PPL Electric filed a Notice of Entry of Appearance for Michael J. Shafer, Esquire.

On December 14, 2018, PPL Electric filed a letter informing the ALJ and the Complainant that Curtis Renner, Esquire, was admitted to the Pennsylvania Bar and no longer needed to be admitted *pro hac vice*.

On March 19, 2019, PPL Electric served its written direct testimony and exhibits in compliance with the schedule set forth in the Third Prehearing Order.

On March 20, 2019, PPL Electric filed a Motion to Compel the Complainant

On April 18, 2019, the telephonic evidentiary hearing was held as scheduled at 10:00 AM.

Also on April 18, 2019, the ALJ issued a Briefing Order setting forth requirements for the briefs to be submitted in this proceeding.

### **III. QUESTIONS PRESENTED**

1. Whether the Complainant has failed to sustain his burden of proof that PPL Electric's installation of a new AMI meter at his premises would violate the Public Utility Code, a Commission order, or a Commission regulation.

Suggested answer: *in the affirmative.*

2. Whether the Company has a legal right to terminate a customer's service if it is denied reasonable access to the customer's premises to replace the Company-owned meter.

Suggested answer: *in the affirmative.*

### **IV. LEGAL STANDARDS**

#### **A. BURDEN OF PROOF**

Under Section 332(a) of the Public Utility Code, 66 Pa. C.S. § 332(a), "the proponent of a rule or order has the burden of proof." It is well-established that "[a] litigant's burden of proof before administrative tribunals as well as before most civil proceedings is satisfied by establishing a preponderance of evidence which is substantial and legally credible." *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990). The preponderance of evidence standard requires proof by a greater weight of the evidence. *Commonwealth v. Williams*, 557 Pa. 207, 732 A.2d 1167 (1999). This standard is satisfied by presenting evidence

more convincing, by even the smallest amount, than that presented by another party. *Brown v. Commonwealth*, 940 A.2d 610, 614 n.14 (Pa. Cmwlth. 2008).

If the party seeking a rule or order from the Commission sets forth a *prima facie* case, then the burden shifts to the opponent. *MacDonald v. Pa. R.R. Co.*, 348 Pa. 558, 36 A.2d 492 (1944). Establishing a *prima facie* case requires either evidence sufficient to make a finding of fact permissible or evidence to create a presumption against an opponent which, if not met, results in an obligatory decision for the proponent. Once a *prima facie* case has been established, if contrary evidence is not presented, there is no requirement that the party seeking a rule or order from the Commission must produce additional evidence to sustain its burden of proof. *See Replogle v. Pa. Elec. Co.*, 54 Pa. PUC 528, 1980 Pa. PUC LEXIS 20 (Order entered Oct. 9, 1980); *see also Dist. of Columbia's Appeal*, 21 A.2d 883 (Pa. 1941); *Application of Pennsylvania-American Water Co. for Approval of the Right To Offer, Render, Furnish or Supply Water Serv. to the Pub. in Additional Portions Of Mahoning Twp., Lawrence Cnty., Pa.*, Docket No. A-212285F0148, 2008 Pa. PUC LEXIS 874 (Order entered Oct. 29, 2008).<sup>1</sup>

In addition, a person does not sustain his or her burden of proof in an electric and magnetic field exposure case when the record evidence, “taken as a whole, leads to the ultimate finding and conclusion that the scientific studies at present are inconclusive.” *Letter of Notification of Phila. Elec. Co. Relative to the Reconstructing and Rebuilding of the Existing 138 kV Line to Operate as the Woodbourne-Heaton 230 kV Line in Montgomery and Bucks Cntys.*,

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<sup>1</sup> In addition, any finding of fact necessary to support an adjudication of the Commission must be based upon substantial evidence. *Met-Ed Indus. Users Grp. v. Pa. PUC*, 960 A.2d 189, 193 n.2 (Pa. Cmwlth. 2008) (citing 2 Pa.C.S. § 704). Substantial evidence is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion. *Borough of E. McKeesport v. Special/Temporary Civil Serv. Comm'n*, 942 A.2d 274, 281 n.9 (Pa. Cmwlth. 2008) (citation omitted). Although substantial evidence must be “more than a scintilla and must do more than create a suspicion of the existence of the fact to be established,” *Kyu Son Yi v. State Bd. of Veterinary Med.*, 960 A.2d 864, 874 (Pa. Cmwlth. 2008) (citation omitted), the “presence of conflicting evidence in the record does not mean that substantial evidence is lacking.” *Allied Mech. and Elec., Inc. v. Pa. Prevailing Wage Appeals Bd.*, 923 A.2d 1220, 1228 (Pa. Cmwlth. 2007) (citation omitted).

1992 Pa. PUC Lexis 160, at \*210-11 (June 29, 1992) (Initial Decision) (“*Woodbourne-Heaton*”). Rather, the person must demonstrate by a preponderance of the evidence that such exposure actually causes adverse health effects. *Id.* at \*211. Specifically, in AMI meter-related matters, the Commission has held that “[t]he Complainant will have the burden of proof during the proceeding to demonstrate, by a preponderance of the evidence, that [the utility] is responsible or accountable for the problem described in the Complaint.” *Kreider v. PECO Energy Co.*, Docket No. P-2015-2495064, p. 18 (Order entered Sept. 3, 2015); *see also Romeo v. Pa. PUC*, 154 A.3d 422, 429 (Pa. Cmwlth. 2017) (finding that the smart meter complainant should have a hearing to try to prove his claim through “the testimony of others as well as other evidence that goes to that issue”).

## **B. APPLICABLE LEGAL STANDARDS**

Section 701 of the Public Utility Code provides that “any person . . . having an interest in the subject matter . . . may complain in writing, setting forth any act or thing done or omitted to be done by any public utility in violation, or claimed violation, of any law which the commission has jurisdiction to administer, or of any regulation or order of the commission.” 66 Pa. C.S. § 701. Therefore, a complainant must generally demonstrate that the public utility violated the Public Utility Code or a Commission regulation or order.

Section 1501 of the Public Utility Code states, in pertinent part, that:

Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay. Such service and facilities shall be in conformity with the regulations and orders of the commission. Subject to the provisions of this part and the regulations or orders of the commission, every public utility may have reasonable rules

and regulations governing the conditions under which it shall be required to render service. . . .

*Id.* § 1501. The Commission has exclusive jurisdiction to adjudicate “issues involving the reasonableness, adequacy, and sufficiency” of a public utility’s facilities and services. *See Elkin v. Bell of Pa.*, 420 A.2d 371, 374 (Pa. 1980) (citations omitted).

When presented with a challenge to an AMI meter installation, the Commission has pronounced that “[t]he ALJ’s role . . . will be to determine based on the record in this particular case, whether there is sufficient evidence to support a finding that the Complainant was adversely affected by the smart meter or whether [the utility’s] use of a smart meter will constitute unsafe or unreasonable service in violation of Section 1501 under the circumstances in this case.” *Kreider v. PECO Energy Co.*, Docket No. P-2015-2495064, p. 23 (Order entered Jan. 28, 2016) (citing *Woodbourne-Heaton*, 1992 Pa. PUC Lexis 160, at \*12-13).

## V. SUMMARY OF ARGUMENT

The Complaint should be denied in its entirety and with prejudice because the Complainant has failed to sustain his burden of proof that installing the new AMI meter would violate the Public Utility Code or any Commission regulation or order.

PPL Electric is legally required to install new AMI meters for all of its customers in accordance with Act 129 and Commission orders. The type of meter currently installed on the Complainant’s property was declared by the Commission not to be compliant with Act 129 and the Commission’s *Smart Meter Implementation Order*. Further, nothing in Act 129, the Commission’s orders, or PPL Electric’s Commission-approved Smart Meter Plan allows a customer to “opt-out” of the new AMI meter.

In addition, installing the new AMI meter would not constitute unsafe and unreasonable service. First, the Complainant has failed to demonstrate that the new AMI meter causes, contributes to, or exacerbates an illness. The Complainant did not present any expert medical or scientific testimony to support his claim that the AMI meters present a risk to human health generally or to him specifically. The Complainant's lone exhibit, Exhibit C-1, establishes, at most, that the Complainant has certain ailments. The Complainant's actual allegations about the meters, however, were based entirely on hearsay, which was properly objected to by the Company. Therefore, none of the Complainant's unsupported and unreliable allegations can form the basis of any findings of fact.

Second, the Company's expert witnesses offered thorough and persuasive testimony that: (1) there is no reliable scientific basis to support the Complainant's claim that very low, non-thermal levels of Radio Frequency ("RF") fields from the Company's meters can or will cause any biological effects; and (2) there is no reliable medical basis to conclude that RF fields from the AMI meters cause, contribute to, or exacerbate any disease, symptoms, or illness alleged by the Complainant. Indeed, the levels of RF fields from the AMI meters being used by PPL Electric are 98,000 times lower than the levels of RF fields the Federal Communications Commission ("FCC") has designated as safe for long-term public exposures.

Third, the Complainant's privacy and cybersecurity concerns are unfounded. The Company collects total usage at the premises, and the usage of any individual appliance or device is indistinguishable from any other one. Through the new AMI meter, PPL Electric only collects the electric usage data required by Act 129 and the Commission's orders and about significant events, such as outages, voltage, heat alarms, and meter tampering alerts. Furthermore, PPL Electric takes the security of its customers' information very seriously and

takes several steps to prevent such data from public disclosure, including encrypting the data and adhering to strict cybersecurity protocols.

Finally, although PPL Electric has never sent the Complainant a termination notice, the Company has a legal right under the Public Utility Code, the Commission's regulations, and the Company's Commission-approved tariff to terminate service if the Company is denied reasonable access to the premises to replace the meter.

For these reasons, and as further explained in detail below, the Commission should deny the Complaint with prejudice.

## **VI. ARGUMENT**

### **A. BACKGROUND**

On November 14, 2008, Act 129 of 2008 became effective and required electric distribution companies ("EDCs"), such as PPL Electric, to file smart meter technology procurement and installation plans with the Commission within nine months. On June 24, 2009, the Commission issued its *Smart Meter Implementation Order*, which set forth requirements for the smart meter plans and procedures for the submission, review, and approval of the smart meter plans. *See Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Order entered June 24, 2009) ("*Smart Meter Implementation Order*").

On August 14, 2009, PPL Electric filed its initial Smart Meter Plan in compliance with Act 129 and the Commission's *Smart Meter Implementation Order*. As explained in that proceeding, the Company previously deployed AMI meters and metering system between 2002 and 2004, which were a part of a power line carrier ("PLC") metering system. *See Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123945, p. 5 (Order entered June 24, 2010) ("*2010*

*Smart Meter Order*”). The Company contended that its existing PLC system met the requirements under Act 129 and the *Smart Meter Implementation Order*. However, the Commission ultimately held that PPL Electric’s existing PLC meters did not fully meet these requirements. *See 2010 Smart Meter Order*, p. 24. Accordingly, the Commission directed PPL Electric to develop a new Smart Meter Plan that would deploy a new AMI technology that fully meets these requirements. *See id.*

On June 30, 2014, PPL Electric filed its new Smart Meter Plan intended to comply with all the requirements of Act 129 and the Commission’s *Smart Meter Implementation Order*. (*See* PPL Electric Exhibit SL-1.) To meet those requirements, the Company proposed RF Mesh meters and metering system. PPL Electric selected this technology because the Company determined that the RF Mesh system would support the 15 capabilities required by Act 129 and the *Smart Meter Implementation Order*. (*See* PPL Electric Exhibit SL-1, pp. 5-6, 20-22.) The RF Mesh system allows the Company to receive data from the customer’s meter wirelessly, unlike PPL Electric’s previous PLC system that used the customer’s actual wires. (PPL Electric Statement No. 4, p. 5.) The individual RF Mesh meters are used as relay points to transmit data back to PPL Electric. (PPL Electric Statement No. 4, p. 5.) Under the Smart Meter Plan, the RF Mesh meters would be deployed between 2017 and 2019 for all of PPL Electric’s customers. (PPL Electric Exhibit SL-1 3, pp. 3, 32; PPL Electric Statement No. 4, p. 6.)

On September 3, 2015, the Commission entered its Opinion and Order approving the new Smart Meter Plan, as modified, finding that unlike the Company’s existing PLC meters, the new RF Mesh meters meet the requirements of Act 129 and the Commission’s *Smart Meter Implementation Order*. *See Petition of PPL Electric Utilities Corp. for Approval of Its Smart*

*Meter Technology Procurement and Installation Plan*, Docket No. M-2014-2430781 (Order Entered Sept. 3, 2015) (“*2015 Smart Meter Order*”).

The instant proceeding concerns PPL Electric’s installation of the new RF Mesh meter pursuant to Act 129, *Smart Meter Implementation Order*, and Commission-approved Smart Meter Plan. Specifically, the RF Mesh meter to be installed for the Complainant’s residential account is the Landis+Gyr E350 Focus AXR-SD meter. (PPL Electric Statement No. 4, p. 6.) The Complainant then initiated the instant Formal Complaint proceeding to contest PPL Electric’s planned installation of the new AMI meter for his account.

**B. THE COMPLAINANT HAS FAILED TO SUSTAIN HIS BURDEN OF PROOF**

The Complainant has failed to sustain his burden of proof that PPL Electric would violate the Public Utility Code or any Commission regulation or order by installing the new AMI meter. PPL Electric is legally required to install the new AMI meter by Act 129 and several Commission orders, and the Complainant has failed to prove that installing the meter would constitute unsafe and unreasonable service in violation of 66 Pa. C.S. § 1501. Therefore, the Complaint should be denied in its entirety and with prejudice.

**1. PPL Electric’s Installation of the New AMI Meter Is Required by Law**

PPL Electric is legally required to install the RF Mesh meter on the Complainant’s property by Act 129 and Commission orders. Section 2807(f) of the Public Utility Code prescribes that EDCs, like PPL Electric, must file smart meter plans and “**shall** furnish smart meter technology” in any of the following situations: (1) “[u]pon request from a customer that agrees to pay the cost of the smart meter at the time of the request”; (2) “[i]n new building construction”; and (3) “[i]n accordance with a depreciation schedule not to exceed 15 years.” 66 Pa. C.S. § 2807(f)(1)-(2) (emphasis added). In interpreting the smart meter provisions of Act

129, the Commission declared that EDCs must “deploy smart meters system-wide” because of the requirement that smart meters be deployed “in accordance with a depreciation schedule not to exceed 15 years.” *Smart Meter Implementation Order*, p. 14. The Commission also “recognize[d] that deployment of smart meters on a piecemeal or individual basis could involve greater costs than a systematic system-wide deployment.” *Id.*, pp. 9, 14.<sup>2</sup> Therefore, PPL Electric must install the new smart meters for every customer in its service territory, including the Complainant.

In addition, nothing in Act 129 permits a customer to “opt-out” of a smart meter installation. In fact, the Commission recently held that PPL Electric must install the new AMI meters for all of its customers. *Evangeline Hoffman-Lorah v. PPL Electric Utilities Corp.*, Docket No. C-2018-2644957, p. 43 (Order entered May 23, 2019). Similarly, the Commission found in several other cases that Act 129 contains no such opt-out language. *See, e.g., Starr v. PECO Energy Co.*, Docket No. C-2015-2516061, p. 11 (Order Entered Sept. 1, 2016) (footnote omitted). Specifically, in *Starr*, the Commission observed that it has “rejected similar claims that the installation of smart meters is not mandatory or that an opt-out is permissible under Act 129.” *Id.*; *see Frompovich v. PECO Energy Co.*, Docket No. C-2015-2474602, pp. 8-10 (Order entered May 3, 2018); *Povacz v. PECO Energy Co.*, Docket No. C-2015-2475023, p. 93 (Order entered Mar. 28, 2019); *Sunstein Murphy v. PECO Energy Co.*, Docket No. C-2015-2475726, p. 93 (Order entered May 9, 2019); *Randall & Albrecht v. PECO Energy Co.*, Docket No. C-2016-2537666, p. 88 (Order entered May 9, 2019). Although bills have been proposed in the General

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<sup>2</sup> *See also Springirth v. Nat’l Fuel Gas Distrib. Corp.*, 1991 Pa. PUC LEXIS 44, at \*1-3, 6, 16-17 (Order entered Apr. 12, 1991) (dismissing complaint of customer seeking to make installation of automated meter reading devices optional, noting that the Commission previously found in another case that “[t]he customer should not be given the option of refusing installation of equipment” because “[t]o permit customer discretion in this area would be inefficient and uneconomical”) (quoting *Stenker v. The York Water Co.*, Docket No. C-871318 (Order entered July 27, 1987)).

Assembly to add such an opt-out (see, e.g., House Bill 1564 of 2017-2018 Session), they have not been enacted. Thus, a customer cannot opt-out of the AMI meter installation under Act 129.

Moreover, PPL Electric must comply with the relevant Commission orders directing the Company to deploy the new AMI meters. As mentioned previously, the Commission determined that the Company's existing PLC meters are not compliant with Act 129 and the Commission's *Smart Meter Implementation Order*. See *2010 Smart Meter Order*, p. 24. Under the Company's Commission-approved Smart Meter Plan, PPL Electric must replace all of the PLC meters with the RF Mesh meters, which the Commission declared as meeting all of the requirements of Act 129 and the Commission's *Smart Meter Implementation Order*. See *2015 Smart Meter Order*, p. 24. PPL Electric is not permitted to install any other type of meter under its Smart Meter Plan and cannot leave the existing, non-compliant PLC meter in place. (See PPL Electric Statement No. 4, p. 6.) Therefore, if the Company does not install the new RF Mesh meter on the Complainant's residence in accordance with the Commission-approved deployment schedule,<sup>3</sup> PPL Electric may violate the Commission's *2010 Smart Meter Order*, *2015 Smart Meter Order*, and *Smart Meter Implementation Order*.

For these reasons, PPL Electric must install the new RF Mesh meter on the Complainant's residence or else the Company may violate Section 2807(f) of the Public Utility Code and the Commission's *2010 Smart Meter Order*, *2015 Smart Meter Order*, and *Smart Meter Implementation Order*.

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<sup>3</sup> In the *Smart Meter Implementation Order*, the Commission encouraged EDCs "to expedite the deployment process if it will provide increased customer benefits in a cost effective manner." *Smart Meter Implementation Order*, p. 14. The Commission also recognized that system-wide deployment of smart meters would involve "more than just the meter hardware attached to the customer's premises." *Id.*, p. 6. EDCs would need time to select the technology, train personnel, and deploy the entire AMI network, including any associated hardware and software. *Id.* For PPL Electric, the Company's Commission-approved Smart Meter Plan states that the smart meters are to be deployed system-wide from 2017 through 2019 with additional actions beyond 2019 to get the full network up and running. (PPL Electric Exhibit SL-1, pp. 3, 32; PPL Electric Statement No. 4, p. 6.) Notably, in approving the Company's Smart Meter Plan, the Commission found that the deployment of PPL Electric's new RF Mesh meters "should be done sooner rather than later." *2015 Smart Meter Order*, p. 36.

## **2. Installing the New AMI Meter Would Not Constitute Unsafe or Unreasonable Service**

The Complainant has failed to meet his burden of proof that installing the new AMI meter would constitute unsafe or unreasonable service. In this proceeding, the Complainant generally has alleged that the new AMI meter causes adverse health effects, and raises privacy and cybersecurity concerns. In support of his various claims, the Complainant personally testified and presented one exhibit. (*See, e.g.*, Complainant's Exhibit C-1; Tr. 8-23) No other persons testified on the Complainant's behalf.

As explained in more detail below, the Complainant's claims are unsubstantiated, unreliable, almost entirely predicated on hearsay, and completely lack merit. In contrast, PPL Electric presented substantial, credible, and reliable evidence that wholly rebutted the Complainant's contentions. Therefore, the Complainant has failed to meet his burden of proof that installing PPL Electric's new AMI meter would be unsafe or unreasonable service in violation of Section 1501 of the Public Utility Code.

### **a. The Complainant Has Failed to Demonstrate that the New AMI Meter Causes, Contributes to, or Exacerbates Any Adverse Health Effect**

The Complainant contends that PPL Electric should not install the new AMI meter because he has concerns that the new meter will affect his health. (Tr. 10-11.)

The Complainant did not offer any expert scientific or medical testimony in support of his allegations. Instead, all of his evidence on this issue consists of his own non-expert testimony and selected medical records. (Tr. 8-23; Complainant's Exhibit C-1.)

As explained in more detail below, the Complainant's testimony and exhibit wholly fail to sustain his burden of proof that the new AMI meter causes, contributes to, or exacerbates any adverse health effects for several reasons.

**i. There Is No Reliable Scientific Basis to Support the Complainant's Allegations that the Very Low Non-Thermal RF from AMI Meters Cause Biological Effects**

There is no reliable scientific basis to support the Complainant's claim that very low, non-thermal (non-heating) levels of RF fields from the Company's AMI meters can or will cause any biological effects.

Dr. Christopher Davis is a highly experienced scientific researcher and teacher in Physics, Electrical Engineering, Electromagnetics, and Radio Frequency Electromagnetics.<sup>4</sup> Dr. Davis has a Ph.D. in Physics and is a full Professor with an endowed Chair at the University of Maryland, where for over 30 years he has taught Physics, Electrical Engineering, Electromagnetics, and RF Electromagnetics to undergraduate and graduate students. In addition to his teaching, Dr. Davis is an active scientific researcher in the fields of Physics, Biophysics, Electrical Engineering, Bioelectromagnetics and RF Bioelectromagnetics. He has conducted many scientific studies in these fields and has published over 250 studies in peer-reviewed scientific journals. (PPL Electric Statement No. 1, pp. 1-2.) In particular, he has conducted a substantial amount of research on RF fields of the type produced by the AMI meters being used by the Company. (PPL Electric Statement No. 1, p. 3.)

Dr. Davis has served on expert committees that have evaluated the scientific research on RF fields, including the Institute of Electrical and Electronic Engineers ("IEEE") Committee on Man and Radiation ("COMAR") and as chair of the Subcommittee on Radio Frequency Fields, which consists of experts who examine the scientific research on RF fields and evaluate the IEEE exposure guidelines. He has also provided expert advice on electromagnetic fields,

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<sup>4</sup> Dr. Davis is the Minta Martin Endowed Professor of Engineering and Professor of Electrical and Computer Engineering at the University of Maryland in College Park, Maryland. (PPL Electric Statement No. 1, p. 1.) He earned a BA with Honors in Natural Sciences from Trinity College at Cambridge University and a Ph.D. in Physics at the University of Manchester. (PPL Electric Statement No. 1, p. 1.) In this proceeding, Dr. Davis was certified as an expert in physics, biophysics, chemistry, electrical engineering, electromagnetics, bioelectromagnetics, radiofrequency bioelectromagnetics, and dosimetry. (Tr. 39.)

including RF fields dosimetry and proposed mechanisms for biological effects other than heating, to the United Kingdom Health Protection Agency, the U.S. National Institutes of Health and the U.S. Food and Drug Administration's Center for Devices and Radiological Health. Dr. Davis is a Fellow of the IEEE and a Fellow of the Institute of Physics. (PPL Electric Statement No. 1, pp. 3-4.)

Dr. Davis explained that RF fields are part of the lower energy, non-ionizing portion of the electromagnetic spectrum, which consists of lower frequency signals that do not have enough energy to break chemical bonds in cells or DNA. (PPL Electric Statement No. 1, pp. 5-6; PPL Electric Exhibit CD-1.) RF fields come from many sources in our everyday environments, including AM/FM radio, television broadcast, cell phones and their communication networks, portable phones, garage door openers and wifi networks. (PPL Electric Statement No. 1, pp. 5-6, 14; PPL Electric Exhibit CD-1.)

There is nothing unusual about the RF fields from the AMI meters being deployed by the Company. (PPL Electric Statement No. 1, p. 14.) Dr. Davis testified that the FCC has determined safe public exposure levels for RF fields from devices that transmit RF signals, such as the AMI meters. (PPL Electric Statement No. 1, p. 9.) The FCC safe public exposure limits are based on evaluations of the body of scientific research on RF fields and were adopted in consultation with other federal agencies, including the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA). (PPL Electric Statement No. 1, pp. 9-10.) The FCC continues to coordinate with the agencies and to consider whether new scientific research shows any adverse effects from RF fields. (PPL Electric Statement No. 1, pp. 10-11.)

Based on the engineering specifications for the Landis & Gyr AMI meter being deployed by the Company, Dr. Davis calculated that the levels of RF fields from the AMI meters are

**98,000 times lower** than the RF exposure safety limits established by the FCC. (PPL Electric Statement No. 1, p. 13; *see* PPL Electric Exhibit CD-2.) As a result, Dr. Davis found that “the RF field levels from the AMI meters being used by PPL Electric more than comply with the applicable FCC RF exposure limit.” (PPL Electric Statement No. 1, p. 13.) Moreover, the RF signals from the AMI meter are of very short duration and will occur for only a total of 84 seconds over a 24-hour period. (PPL Electric Statement No. 1, p. 7.)

Dr. Davis also testified that there are many sources of RF signals in the everyday environment and the RF fields from the AMI meter are much lower than from other typical sources. For example, RF fields from using cell phones can be over 260,000 times higher than the RF fields from the AMI meter, and RF exposures from microwave ovens can be over 820,000 times higher. (PPL Electric Statement No. 1, p. 14.) Even 30 feet away from a person using a cell phone, the RF fields are 3 times higher than from the AMI meter. (PPL Electric Statement No. 1, p. 14.) Further, the Complainant testified that he was using his cell phone to participate in the telephonic hearing. (Tr. 19.) When Dr. Davis testified, the hearing had been going on for almost an hour. (Tr. 41.) Based on Dr. Davis’s expert calculations, the Complainant voluntarily exposed himself to RF fields that are at hundreds of times greater than he would receive if he was standing within three feet of the AMI meter. (Tr. 41.)

In addition, the existing background levels of RF fields at Complainant’s residence are many times higher than the fields from the AMI meter. Dr. Davis testified that there are 14 television broadcast towers with a 50 mile radius of Complainant’s location. (PPL Electric Statement No. 1, p. 15.) Based on the locations of each tower and their RF power outputs, the background level of RF fields at Complainant’s residence are **14.8 times higher** than the RF signals from the AMI meter. (PPL Electric Statement No. 1, p. 15; *see* PPL Electric Exhibit CD-

5.) Therefore, the unrebutted expert testimony about RF field levels in this case is that the existing and continuous background level of RF fields at Complainant's residence is many times higher than the very low and short duration RF signals from the AMI meter.

In this proceeding, Dr. Davis was recognized as an expert in Physics, Biophysics, Chemistry, Electrical Engineering, Electromagnetics, Bioelectromagnetics, and Radio Frequency Bioelectromagnetics and Dosimetry. Based on his education, training and experience in those fields of expertise, Dr. Davis concluded overall that:

1) The levels of RF fields from the AMI meters being used by PPL Electric are extremely low (98,000 times lower than the RF exposure safety limits established by the FCC). (PPL Electric Statement No. 1, p. 16.)

2) These extremely low level RF fields are many times lower than the RF fields people are commonly encounter from everyday sources, including the background levels of RF fields at Complainant's residence. (PPL Electric Statement No. 1, p. 16.)

3) There is no reliable scientific basis in physics, biophysics, bioelectromagnetics or RF bioelectromagnetics to conclude that the very low levels of RF fields from the AMI meters being deployed by the Company can or will cause any adverse thermal or non-thermal biological effects in people. (PPL Electric Statement No. 1, p. 17.)

**ii. There Is No Reliable Medical Basis to Support the Complainant's Allegations that the AMI Meters Cause Adverse Health Effects**

There is no reliable medical basis to conclude that the new AMI meter causes, contributes to, or exacerbates any illness, disease, or symptoms alleged by the Complainant.

Dr. Mark Israel<sup>5</sup> is an eminent physician and medical researcher. Over the course of his 40 year medical career, he has been responsible for diagnosing and treating patients, conducting medical and biological research, and directing a major medical care center. He is Professor of Medicine, Pediatrics, and Molecular and Systems Biology at the Dartmouth Medical School and the Executive Director of the Israel Cancer Research Fund in New York, an international charitable fund for medical and scientific research programs. Previously, Dr. Israel was the Director of the Cancer Center at Dartmouth Medical School and the Dartmouth Hitchcock Medical Center. As Director of the Cancer Center, Dr. Israel oversaw a major medical health care facility providing care to more than 5,000 new patients each year and he managed research programs with an annual budget of more than \$250 million. (PPL Electric Statement No. 2, pp. 1-3.)

Prior to becoming Director of the Cancer Center, Dr. Israel treated patients, taught medical students and directed a medical research laboratory at the University of California at San Francisco (“UCSF”), where he also directed the Preuss Laboratory of Molecular Neuro-oncology. Before joining UCSF, Dr. Israel spent 14 years conducting research and treating patients at the US National Institutes of Health (“NIH”), where he was the Head of the Molecular Genetics Section of the Pediatrics Branch at the National Cancer Institute and also worked in the National Institute of Allergy and Infectious Diseases. His research at the NIH identified specific genes responsible for the cause of certain childhood cancers and contributed to improvements in the diagnosis and treatment of childhood cancer, as well as early developments in the field of cancer gene therapy. (PPL Electric Statement No. 2, p. 2.)

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<sup>5</sup> Dr. Israel received his undergraduate degree from Hamilton College and his medical degree from the Albert Einstein College of Medicine. He completed his medical training at Harvard Medical School and the National Institutes of Health. (PPL Electric Statement No. 2, p. 1.) Dr. Israel was certified as an expert in medicine and medical research, in particular as related to RF fields and health. (Tr. 46.)

Dr. Israel is board certified and licensed to practice medicine. (PPL Electric Statement No. 2, p. 3.) He has conducted medical research for 40 years in a wide variety of areas, including systems biology, biochemistry, cell biology, cancer, molecular biology, and molecular genetics. He has published 250 medical research studies in leading peer-reviewed scientific journals. Dr. Israel also has taught medicine and science for more than 30 years to medical students, graduate students, interns, residents, and practicing physicians subjects in a number of fields, including endocrinology, immunology, hematology, neurology, cardiology, biochemistry, cell biology, genetics, molecular genetics, medical oncology, and radiation oncology. (PPL Electric Statement No. 2, pp. 3-4.)

Dr. Israel is an elected Fellow of the American Association for the Advancement of Science, an elected member of the Association of American Physicians, and an elected member of the American Society for Clinical Investigation, each of which is based on peer recognition of the scientific merit of his work and commitment to advancing medical science. He has been asked to provide scientific advice and direction to a number of organizations by serving on their advisory boards, such as the Science Advisory Board for the Yale Cancer Center, which he chaired for almost a decade, and the External Advisory Boards for the Children's Cancer Research Institute at the University of Texas Health Science Center, the University of Nebraska Eppley Cancer Center, the Carbone Cancer Center at the University of Wisconsin, and the National Brain Tumor Society, among others. He also served on the Board of Scientific Counselors for the NCI. During his work at the NCI, he was awarded two U.S. Public Health Service commendation medals. In 1998, he received the Farber Award, which is awarded annually by the American Association of Neurological Surgeons for excellence in cancer

research. In 2014, he received the C. Everett Koop Courage Award for the pursuit of evidence-based medicine. (PPL Electric Statement No. 2, p. 5.)

Dr. Israel testified that claimed symptoms related to EHS are more accurately described as “Idiopathic Environmental Intolerance” (“IEI”), in which “idiopathic” means “cause unknown,” rather than electromagnetic hypersensitivity. (PPL Electric Statement No. 2, p. 13.) Dr. Israel evaluated the few medical records produced by the Complainant in this proceeding. (PPL Electric Statement No. 2, p. 7.) Notably, these medical records do not include any diagnosis of the Complainant developing any condition due to RF fields. (PPL Electric Statement No. 2, p. 8; *see* Complainant’s Exhibit C-1.) Thus, the Complainant’s medical records do not support his allegation that he has health conditions that would be caused by, contributed to, or exacerbated by the new AMI meter.

Dr. Israel also evaluated the scientific research on IEI and found that “[r]eliable studies dating back to at least 2002 and also recent reviews of the studies by experts and reviews by expert panels of public health authorities have found IEI and the variety of symptoms attributed to it are not caused by exposure to RF fields.” (PPL Electric Statement No. 2, p. 13.) For example, a systematic review of 46 studies involving 1,175 individuals who claimed IEI symptoms found that people claiming IEI symptoms from RF fields could not replicate the claimed effect under controlled laboratory conditions. (PPL Electric Statement No. 2, p. 14.) Another recent study found that people who claimed IEI symptoms from RF fields reported lower levels of well-being when they knew they were exposed to RF fields, but when they did not know if they were being exposed, their reports of symptoms were not associated with RF fields. (PPL Electric Statement No. 2, p. 14.) That study concluded that “it is IEI-EMF individuals’ belief that exposure to RF EMFs will cause harm, rather than actual exposure itself,

that results in the presence of symptoms in IEI-EMF individuals.” (PPL Electric Statement No. 2, p. 14.)

In addition, the research on IEI has been evaluated by credible public health entities and expert groups, including the United Kingdom Health Protection Agency (2012), the Royal Society of Canada (2013), the New Zealand Ministry of Health (2015), and the European Commission’s Scientific Committee on Emerging and Newly Identified Health Risks (2015). Based on their reviews of the scientific research, these entities concluded there is no reliable scientific evidence that exposure to RF fields causes claimed IEI symptoms. (PPL Electric Statement No. 2, p. 15; PPL Electric Exhibit MI-3.) The World Health Organization has found that “There is little scientific evidence to support the idea of electromagnetic hypersensitivity.” (PPL Electric Statement No. 2, p. 15.) These findings from public health entities and expert panels show that the theory of IEI caused by exposure to RF fields has not been generally accepted in the medical community. (PPL Electric Statement No. 2, pp. 15-16.)

Further, Dr. Israel evaluated whether there is a credible scientific basis for Complainant’s claim that exposure to RF fields causes or contributes to tinnitus. (PPL Electric Statement No. 2, p. 16.) There have been a number of studies on whether exposure to RF fields causes or contributes to tinnitus. (PPL Electric Statement No. 2, p. 16.) Several studies found no increase in tinnitus related to exposure to RF fields from cell phones or other sources, such as cell phone broadcast towers, cordless telephones, and wireless networks. (PPL Electric Statement No. 2, p. 16.) Therefore, there is no reliable scientific basis to conclude that exposure to RF fields from the AMI meters being used by PPL Electric causes or contributes to tinnitus. (PPL Electric Statement No. 2, p. 16.) Moreover, Dr. Israel testified about the Complainant’s allegation that exposure to RF fields would cause or contribute to the development of gout. (PPL Electric

Statement No. 2, p. 17.) Dr. Israel testified that he could find no studies showing that exposure to RF fields causes, contributes to, or exacerbates the development of gout in humans. (PPL Electric Statement No. 2, p. 17.)

Dr. Israel also evaluated scientific research on RF fields and adverse health effects generally. He testified that he has been systematically examining this research over the past several decades and that many hundreds of studies have been published. (PPL Electric Statement No. 2, pp. 6, 8.) He testified that three groups of controlled laboratory studies on animals “are particularly informative because they address fundamental biological functions that are very sensitive to any disruption: genetics, reproduction, and growth and development.” (PPL Electric Statement No. 2, p. 9.) Dr. Israel described a number of the studies in these areas which he considered good examples of well-designed and well-conducted studies. These studies found no adverse effects on genetics, fertility, reproduction, growth or development in the animals exposed to RF fields. (PPL Electric Statement No. 2, p. 9.) Dr. Israel also provided examples of well-conducted animal studies on RF fields and cancer. He testified that these studies, which involved animals with lifetime exposures to RF fields, did not find any increased incidence in cancer in the RF exposed animals compared to non-exposed animals. (PPL Electric Statement No. 2, p. 10.)

Based on the body of scientific research showing no consistent and reproducible effects from RF fields on cancer and other adverse health effects, the World Health Organization (“WHO”) has concluded that “no adverse health effects have been established as being caused by mobile phone use.” (PPL Electric Statement No. 2, p. 10.) A number of other public health authorities, including agencies in the Canada, the U.K., Sweden, Norway, the Netherlands, and New Zealand, among others, have recently reached similar conclusions. (PPL Electric Statement

No. 2, p. 11; PPL Electric Exhibit MI-1.) In addition, several U.S. state public health authorities and Public Utility Commissions have investigated claims about health effects from smart meters. These include the Maine Center for Disease Control (2010), the Vermont Department of Health (2012), Arizona Department of Health, Office of Environmental Health (2014), and North Carolina Department of Health and Human Services, Division of Public Health, Occupational and Environmental Epidemiology Branch (2015). These evaluations by State public health authorities and Public Utility Commissions conclude that RF fields from smart meters do not pose any public health risk. (PPL Electric Statement No. 2, p. 11; PPL Electric Exhibit MI-2.)

Overall, as an expert in medicine and medical research, particularly as related to RF fields and health, Dr. Israel found, based on his medical education, training and experience, and his evaluation of the scientific research, and to a reasonable degree of medical certainty, that:

1) There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL Electric will cause or contribute to the development of illness or disease. (PPL Electric Statement No. 2, p. 17.)

2) There is no reliable medical basis to conclude that RF fields from the AMI meter being used by PPL Electric would cause, contribute to, or exacerbate any adverse health effects, including cancer. (PPL Electric Statement No. 2, p. 18.)

**iii. The Complainant's Evidence Cannot Support Any Findings of Fact**

In support his allegations that the new AMI meters cause, contribute to, or exacerbate any illnesses, the Complainant testified on his own behalf and submitted one exhibit consisting of various medical records (see Complainant's Exhibit C-1). None of the Complainant's evidence can support any findings of fact that the Company's new AMI meter would cause, contribute to, or exacerbate adverse health effects.

First, the Complainant's testimony about the alleged adverse health effects was based upon his alleged "research" and hearsay documents that were not presented as exhibits. (Tr. 11-12.) None of the authors of these statements were presented as witnesses to authenticate the veracity of their contents. Therefore, the Complainant's testimony on these issues was properly objected to and rejected as hearsay.

Under Pennsylvania's "Walker Rule," it is well-established that "[h]earsay evidence, properly objected to, is not competent evidence to support a finding." *Walker v. Unemployment Comp. Bd. of Review*, 367 A.2d 366, 370 (Pa. Cmwlth. 1976) (citations omitted). Even if hearsay evidence is "admitted without objection," the ALJ must give the evidence "its natural probative effect and may only support a finding . . . if it is corroborated by any competent evidence in the record;" as "a finding of fact based solely on hearsay will not stand." *Id.* at 370 (citations omitted).<sup>6</sup>

Here, PPL Electric objected to the Complainant's testimony because the documents upon which it was completely based are hearsay and not subject to a hearsay exception. (Tr. 11-12.) Accordingly, the Complainant's testimony should not be used to support any findings of fact. Indeed, PPL Electric has a statutory right to cross-examine persons "as may be required for a full and true disclosure of the facts." 66 Pa. C.S. § 332(c). Because the authors of these hearsay statements did not testify, the Company was denied this right and unable to test the veracity of their statements. It is for this reason such hearsay is generally inadmissible and should not be relied upon in this proceeding.<sup>7</sup>

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<sup>6</sup> The "Walker Rule" has been affirmed by the Pennsylvania Supreme Court. *Rox Coal Co. v. Workers' Comp. Appeal Bd. (Snizaski)*, 570 Pa. 60, 807 A.2d 906 (2002).

<sup>7</sup> The Company notes that expert witnesses can rely on hearsay in forming their opinions, where such material is of a type customarily relied on by experts in their profession. *See Lower Makefield Twp. v. Lands of Dalgewicz*, 4 A.3d 1114, 1122 (Pa. Cmwlth. 2010), *affirmed*, 67 A.3d 772 (Pa. 2013); *Collins v. Cooper*, 746 A.2d 615, 618 (Pa. Super. 2000); *Primavera v. Celotex Corp.*, 608 A.2d 515, 520-21 (Pa. Super. 1992); Pa.R.E. 703. However, the Complainant is not an expert witness, and he presented no expert witnesses, let alone ones who could

Moreover, even assuming *arguendo* that the evidence was not properly objected to, the Complainant has presented no “competent evidence” to corroborate those statements. *Walker* at 370. As explained in more detail below, the exhibits contain many flaws and mischaracterizations and cannot be used to form a reliable opinion. Therefore, as the Commission has previously held, “[w]hether the ALJ erred by initially admitting the hearsay evidence is an issue we need not address” because “[e]ven if such evidence can be admitted, it is clear that . . . such evidence may not be given any weight in an administrative proceeding.” *Anserphone, Inc. & Elite Answering Serv. v. The Belle Tele. Co. of Pa.*, 1993 Pa. PUC LEXIS 70, at \*29-30 (Order entered April 1, 1993). Thus, the Complainant’s testimony cannot support a finding of fact that the new AMI meters cause, contribute to, or exacerbate any illnesses.

Second, the Complainant’s only exhibit, Complainant’s Exhibit C-1, consists entirely of medical records that, at most, establish that the Complainant has various health ailments. However, as explained by PPL Electric’s expert medical witness, these medical records do not include any diagnosis of the Complainant developing any condition due to RF fields. (PPL Electric Statement No. 2, p. 8; *see* Complainant’s Exhibit C-1.) Therefore, Complainant’s Exhibit C-1 does not support his allegation that he has health conditions that would be caused by, contributed to, or exacerbated by the new AMI meter.

Based on the foregoing, the Complainant has failed to sustain his burden of proof that PPL Electric’s new AMI meter causes, contributes to, or exacerbates any disease, symptom or illness.

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rely on these materials. Moreover, although hearsay statements, such as articles, studies, and treatises, can be relied upon by expert witnesses in forming their opinions, the substance of those hearsay statements is not permitted to be entered into the record to prove the truth of the matter asserted. *See Klein v. Aronchick*, 85 A.3d 487, 503-04 (Pa. Super. 2014) (citing *Aldridge v. Edmunds*, 750 A.2d 292, 297-98 (Pa. 2000)); *Nigro v. Remington Arms Co.*, 637 A.2d 983, 993 (Pa. Super. 1993) (citations omitted).

**b. The Complainant Has Failed to Prove that the New AMI Meter Is a Privacy and Cybersecurity Risk**

The Complainant also has raised privacy and cybersecurity issues with the new AMI meter, specifically whether the Company takes appropriate steps to protect against hacking. (Tr. 13-14.) The Company's testimony demonstrated that the Complainant's privacy and cybersecurity concerns are without merit.

First, PPL Electric witness Vinciguerra<sup>8</sup> testified that "[c]ybersecurity was one of the cornerstones" of its Smart Meter Plan filing and that the Company takes several steps to protect the data it receives from the new AMI meters, including the use of technologies such as firewalls, encryption, digital signatures, authentication and access controls. (PPL Electric Statement No. 4, pp. 7-8.) Data collected within the meters is protected through proprietary-based applications and five levels of password protection. (PPL Electric Statement No. 4, p. 7.) Prior to transmission, the data is highly encrypted utilizing advanced security appliances. (PPL Electric Statement No. 4, p. 7.) Once the data reaches the Company's head systems, the data is further protected through means of firewalls and user role functions. (PPL Electric Statement No. 4, p. 7.) These user role functions limit the availability of data and functions to only what the user's job requires, and even within these roles, the user is only granted a security key that allows access for that day. (PPL Electric Statement No. 4, pp. 7-8.) All of these cybersecurity policies and practices are consistent with the national standard for the industry. (PPL Electric Statement No. 4, p. 8.)

Second, the new AMI meter cannot tell if a customer is using a particular appliance. (PPL Electric Statement No. 3, p. 7.) As PPL Electric witness Durkin explained, "The Company only collects information about the total electric usage at the premises," and this "information

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<sup>8</sup> PPL Electric witness Donald Vinciguerra adopted the pre-served written testimony of PPL Electric witness Scott Larson. (Tr. 13-14.)

does not differentiate between the use of any specific appliance or appliances.” (PPL Electric Statement No. 3, p. 7.) Moreover, as a part of its Smart Meter Plan proceeding, PPL Electric filed a detailed AMI Customer Privacy Policy, which sets forth the data PPL Electric will collect through the new smart meter, the steps the Company will take to protect the data, and the ways in which PPL Electric will use the data. (PPL Electric Statement No. 3, p. 6; PPL Electric Exhibit KD-3.) Consistent with that policy, the Company will collect data on the total amount of electricity used at the premises as well as significant event information, such as outages, voltage, heat alarms, and meter tampering alerts. (PPL Electric Statement No. 3, p. 7; PPL Electric Exhibit KD-3, Section 1.2.)

For these reasons, the Complainant has failed to prove that the new AMI meter is a privacy and cybersecurity risk.

### **3. Conclusion**

Based on the foregoing, the Complainant has failed to sustain his burden of proof that installing the new AMI meter would constitute a violation of the Public Utility Code or any Commission regulation or order. Accordingly, the Complaint should be denied in its entirety and with prejudice.

#### **C. PPL ELECTRIC HAS A LEGAL RIGHT TO TERMINATE SERVICE IF IT IS DENIED REASONABLE ACCESS TO ITS METER**

An issue also has been raised regarding whether the Complainant’s electric service can be terminated for denying the Company access to replace the existing meter. (Tr. 5.)

PPL Electric has a legal right to terminate the Complainant’s service if it is denied reasonable access to the Company’s meter. Rule 2F of the Company’s Commission-approved tariff states that PPL Electric “shall have access at all reasonable hours to customer’s premises, without charge, or the purpose of inspecting, installations, installing meters, reading, testing,

removing, replacing, or otherwise maintaining or disposing of any of Company's property.” (PPL Electric Exhibit KD-4) (emphasis added). It is well-established that public utilities' tariffs have the force and effect of law and are binding on the utilities and their customers. *See PPL Elec. Utils. Corp. v. Pa. PUC*, 912 A.2d 386, 402 (Pa. Cmwlth. 2006) (citing 66 Pa. C.S. § 1303 and *Pa. Elec. Co. v. Pa. PUC*, 663 A.2d 281, 284 (Pa. Cmwlth. 1995)). Therefore, the Complainant must grant the Company reasonable access to the property to replace the existing meter.

In fact, the Company would be expressly permitted to terminate service if it is prevented from replacing the meter. *See* 66 Pa. C.S. § 1406(a)(4); 52 Pa. Code § 56.81(3); (PPL Electric Exhibit KD-5). Both the Public Utility Code and the Commission's regulations provide that “[f]ailure to permit access to meters, service connections or other property of the public utility for the purpose of replacement, maintenance, repair or meter reading” is grounds for terminating service. *See* 66 Pa. C.S. § 1406(a)(4); 52 Pa. Code § 56.81(3). Moreover, Rule 10(B)(2)(g) of PPL Electric's tariff similarly states that the Company is authorized to terminate service when: (1) its “representatives cannot gain admittance or are refused admittance to the premises for the purpose of reading meters, making repairs, making inspections, or removing Company property”; (2) “the customer interferes with Company representatives in the performance of their duties; or (3) “the meters or other equipment of the Company are not accessible during reasonable hours.” (PPL Electric Exhibit KD-5, p. 2.)

For these reasons, even though PPL Electric never sent the Complainant a notice of termination, the Company has a legal right to terminate service if it is prevented from reasonably accessing its meter to install a new meter or replace an existing one.

**VII. CONCLUSION**

WHEREFORE, PPL Electric Utilities Corporation respectfully requests that Administrative Law Judge Elizabeth H. Barnes recommend and the Pennsylvania Public Utility Commission order that the Formal Complaint of Brian Heffner is dismissed with prejudice.

Respectfully submitted,



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Date: May 29, 2019

Attorneys for PPL Electric Utilities Corporation

# APPENDIX “A”

## **Appendix A – Proposed Findings of Fact**

1. On June 30, 2014, PPL Electric Utilities Corporation (“PPL Electric” or the “Company”) filed its new Smart Meter Plan intended to comply with all the requirements of Act 129 and the Pennsylvania Public Utility Commission’s (“Commission”) *Smart Meter Implementation Order*. (See PPL Electric Exhibit SL-1.)

2. To meet those requirements, the Company selected Radio Frequency (“RF”) Mesh meters and metering system because the Company determined that the RF Mesh system would support the 15 capabilities required by Act 129 and the *Smart Meter Implementation Order*. (See PPL Electric Exhibit SL-1, pp. 5-6, 20-22.)

3. The RF Mesh system allows the Company to receive data from the customer’s meter wirelessly, unlike PPL Electric’s previous powerline carrier (“PLC”) system that used the customer’s actual wires. (PPL Electric Statement No. 4, p. 5.)

4. The individual RF Mesh meters are used as relay points to transmit data back to PPL Electric. (PPL Electric Statement No. 4, p. 5.)

5. Under the Smart Meter Plan, the RF Mesh meters are to be deployed between 2017 and 2019 for all of PPL Electric’s customers. (PPL Electric Exhibit SL-1 3, pp. 3, 32; PPL Electric Statement No. 4, p. 6.)

6. The Company currently is in the process of deploying the RF Mesh meters for all of its customers pursuant to its Commission-approved Smart Meter Plan. (PPL Electric Statement No. 4, p. 6.)

7. The RF Mesh meter to be installed for the Complainant’s residential account is the Landis+Gyr E350 Focus AXR-SD meter. (PPL Electric Statement No. 4, p. 6.)

8. The Complainant contests PPL Electric's planned installation of the new AMI meter at his property, 170 Ash Lane, Kunkletown, Pennsylvania 18058. (Tr. 8-9.)

9. The Complainant generally has alleged that the new AMI meter causes adverse health effects and raises privacy and cybersecurity concerns. In support of his various claims, the Complainant personally testified and presented one exhibit. (*See* Complainant's Exhibit C-1; Tr. 8-23.)

10. The Complainant contends that PPL Electric should not install the new AMI meter because he has concerns that the new meter will affect his health. (Tr. 10-11.)

11. The Complainant did not offer any expert scientific or medical testimony in support of his allegations. Instead, all of his evidence on this issue consists of his own non-expert testimony and selected medical records. (Tr. 8-23; Complainant's Exhibit C-1.)

12. Dr. Christopher Davis is a highly experienced scientific researcher and teacher in Physics, Electrical Engineering, Electromagnetics, and RF Electromagnetics. (PPL Electric Statement No. 1, pp. 1-5.)

13. Dr. Davis has a Ph.D. in Physics and is a full Professor with an endowed Chair at the University of Maryland, where for over 30 years he has taught Physics, Electrical Engineering, Electromagnetics, and RF Electromagnetics to undergraduate and graduate students. (PPL Electric Statement No. 1, pp. 1-2.)

14. In addition to his teaching, Dr. Davis is an active scientific researcher in the fields of Physics, Biophysics, Electrical Engineering, Bioelectromagnetics and RF Bioelectromagnetics, conducting many scientific studies in these fields and publishing over 250 studies in peer-reviewed scientific journals. (PPL Electric Statement No. 1, p. 2.)

15. In particular, Dr. Davis has conducted a substantial amount of research on RF fields of the type produced by the AMI meters being used by the Company. (PPL Electric Statement No. 1, p. 3.)

16. Dr. Davis explained that RF fields are part of the lower energy, non-ionizing portion of the electromagnetic spectrum which consists of lower frequency signals that do not have enough energy to break chemical bonds in cells or DNA. (PPL Electric Statement No. 1, pp. 5-6.)

17. There is nothing unusual about the RF fields from the AMI meters being deployed by the Company. (PPL Electric Statement No. 1, p. 14.)

18. RF fields come from many sources in our everyday environments, including AM/FM radio, television broadcast, cell phones and their communication networks, portable phones, garage door openers and wifi networks. (PPL Electric Statement No. 1, pp. 5-6, 14; PPL Electric Exhibit CD-1.)

19. Dr. Davis testified that the FCC has determined safe public exposure levels for RF fields from devices that transmit RF signals, such as the AMI meters. (PPL Electric Statement No. 1, p. 9.)

20. The FCC safe public exposure limits are based on evaluations of the body of scientific research on RF fields and were adopted in consultation with other federal agencies, including the Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA). (PPL Electric Statement No. 1, pp. 9-10.)

21. Based on the engineering specifications for the Landis & Gyr AMI meter being deployed by the Company, Dr. Davis calculated that the levels of RF fields from the AMI meters

are 98,000 times lower than the RF exposure safety limits established by the FCC. (PPL Electric Statement No. 1, p. 13; *see* PPL Electric Exhibit CD-2.)

22. As a result, Dr. Davis found that “the RF field levels from the AMI meters being used by PPL Electric more than comply with the applicable FCC RF exposure limit.” (PPL Electric Statement No. 1, p. 13.)

23. Moreover, the RF signals from the AMI meter are of very short duration and will occur for only a total of 84 seconds over a 24-hour period. (PPL Electric Statement No. 1, p. 7.)

24. Dr. Davis also testified that RF fields from using cell phones can be over 260,000 times higher than the RF fields from the AMI meter, and RF exposures from microwave ovens can be over 820,000 times higher. (PPL Electric Statement No. 1, p. 14.)

25. Even 30 feet away from a person using a cell phone, the RF fields are 3 times higher than from the AMI meter. (PPL Electric Statement No. 1, p. 14.)

26. The Complainant testified that he was using his cell phone to participate in the telephonic hearing. (Tr. 19.)

27. When Dr. Davis testified, the hearing had been going on for almost an hour. (Tr. 41.)

28. Based on Dr. Davis’s expert calculations, the Complainant voluntarily exposed himself to RF fields that are at hundreds of times greater than he would receive if he was standing within three feet of the AMI meter. (Tr. 41.)

29. Dr. Davis testified that there are 14 television broadcast towers with a 50 mile radius of Complainant’s location. (PPL Electric Statement No. 1, p. 15.)

30. Based on the locations of each tower and their RF power outputs, the background level of RF fields at Complainant's residence are 14.8 times higher than the RF signals from the AMI meter. (PPL Electric Statement No. 1, p. 15; *see* PPL Electric Exhibit CD-5.)

31. There is no reliable scientific basis in physics, biophysics, bioelectromagnetics or RF bioelectromagnetics to conclude that the very low levels of RF fields from the AMI meters being deployed by the Company can or will cause any adverse thermal or non-thermal biological effects in people. (PPL Electric Statement No. 1, pp. 16-17.)

32. Dr. Mark Israel is an eminent physician and medical researcher. (PPL Electric Statement No. 2, pp. 1-6)

33. Dr. Israel received his undergraduate degree from Hamilton College and his medical degree from the Albert Einstein College of Medicine, and he completed his medical training at Harvard Medical School. (PPL Electric Statement No. 2, p. 1.)

34. Dr. Israel is Professor of Medicine, Pediatrics, and Molecular and Systems Biology at the Dartmouth Medical School and the Executive Director of the Israel Cancer Research Fund in New York, an international charitable fund for medical and scientific research programs. (PPL Electric Statement No. 2, p. 1.)

35. Dr. Israel is board certified and licensed to practice medicine. (PPL Electric Statement No. 2, p. 3.)

36. Dr. Israel has conducted medical research for 40 years in a wide variety of areas, including systems biology, biochemistry, cell biology, cancer, molecular biology, and molecular genetics and has published 250 medical research studies in leading peer-reviewed scientific journals. (PPL Electric Statement No. 2, pp. 3-4.)

37. Dr. Israel also has taught medicine and science for more than 30 years to medical students, graduate students, interns, residents, and practicing physicians subjects in a number of fields, including endocrinology, immunology, hematology, neurology, cardiology, biochemistry, cell biology, genetics, molecular genetics, medical oncology, and radiation oncology. (PPL Electric Statement No. 2, pp. 3-4.)

38. Dr. Israel evaluated scientific research on RF fields and adverse health effects and testified that he has been systematically examining this research over the past several decades and that many hundreds of studies have been published. (PPL Electric Statement No. 2, pp. 6, 8.)

39. Dr. Israel testified that three groups of controlled laboratory studies on animals “are particularly informative because they address fundamental biological functions that are very sensitive to any disruption: genetics, reproduction, and growth and development.” (PPL Electric Statement No. 2, p. 9.)

40. Dr. Israel described a number of the studies in these areas which he considered good examples of well-designed and well-conducted studies. These studies found no adverse effects on genetics, fertility, reproduction, growth or development in the animals exposed to RF fields. (PPL Electric Statement No. 2, p. 9.)

41. Dr. Israel also provided examples of well-conducted animal studies on RF fields and cancer and testified that these studies, which involved animals with lifetime exposures to RF fields, did not find any increased incidence in cancer in the RF exposed animals compared to non-exposed animals. (PPL Electric Statement No. 2, p. 10.)

42. Dr. Israel testified that claimed symptoms related to EHS are more accurately described as “Idiopathic Environmental Intolerance” (“IEI”), in which “idiopathic” means “cause

unknown,” rather than electromagnetic hypersensitivity. (PPL Electric Statement No. 2, p. 13) (emphasis added).

43. Dr. Israel evaluated the few medical records produced by the Complainant in this proceeding. (PPL Electric Statement No. 2, p. 7.)

44. Notably, these medical records do not include any diagnosis of the Complainant developing any condition due to RF fields. (PPL Electric Statement No. 2, p. 8; *see* Complainant’s Exhibit C-1.)

45. Dr. Israel evaluated the scientific research on IEI and testified that “[r]eliable studies dating back to at least 2002 and also recent reviews of the studies by experts and reviews by expert panels of public health authorities have found IEI and the variety of symptoms attributed to it are not caused by exposure to RF fields.” (PPL Electric Statement No. 2, p. 13.)

46. In addition, Dr. Israel testified that the research on IEI has been evaluated by credible public health entities and expert groups, including the United Kingdom Health Protection Agency (2012), the Royal Society of Canada (2013), the New Zealand Ministry of Health (2015), and the European Commission’s Scientific Committee on Emerging and Newly Identified Health Risks (2015). Based on their reviews of the scientific research, these entities concluded there is no reliable scientific evidence that exposure to RF fields causes claimed IEI symptoms. (PPL Electric Statement No. 2, p. 15; PPL Electric Exhibit MI-3.)

47. Dr. Israel further reported that the World Health Organization and a number of other public health authorities have concluded that the scientific research on RF exposures from cell phone use, which are far higher than the RF from PPL Electric’s smart meters, has not shown that RF fields cause adverse health effects. (PPL Electric Statement No. 2, pp. 10-11; PPL Electric Exhibit MI-1.)

48. Several U.S. state public health authorities also have investigated claims about health effects from smart meters and have concluded that there is no credible scientific evidence that RF fields from smart meters will cause or contribute to any adverse health effects. (PPL Electric Statement No. 2, p. 11.; PPL Electric Exhibit MI-2.)

49. There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL Electric will cause or contribute to the development of illness or disease. (PPL Electric Statement No. 2, p. 17.)

50. There is no reliable medical basis to conclude that RF fields from the AMI meter being used by PPL Electric would cause, contribute to, or exacerbate any adverse health effects, including cancer. (PPL Electric Statement No. 2, p. 18.)

51. The Complainant also has raised privacy and cybersecurity issues with the new AMI meter, specifically whether the Company takes appropriate steps to protect against hacking. (Tr. 13-14.)

52. PPL Electric witness Vinciguerra<sup>1</sup> testified that “[c]ybersecurity was one of the cornerstones” of its Smart Meter Plan filing and that the Company takes several steps to protect the data it receives from the new AMI meters, including the use of technologies such as firewalls, encryption, digital signatures, authentication and access controls. (PPL Electric Statement No. 4, pp. 7-8.)

53. Data collected within the meters is protected through proprietary-based applications and five levels of password protection. (PPL Electric Statement No. 4, p. 7.)

54. Prior to transmission, the data is highly encrypted utilizing advanced security appliances. (PPL Electric Statement No. 4, p. 7.)

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<sup>1</sup> PPL Electric witness Donald Vinciguerra adopted the pre-served written testimony of PPL Electric witness Scott Larson. (Tr. 13-14.)

55. Once the data reaches the Company's head systems, the data is further protected through means of firewalls and user role functions. (PPL Electric Statement No. 4, p. 7.)

56. These user role functions limit the availability of data and functions to only what the user's job requires, and even within these roles, the user is only granted a security key that allows access for that day. (PPL Electric Statement No. 4, pp. 7-8.)

57. All of these cybersecurity policies and practices are consistent with the national standard for the industry. (PPL Electric Statement No. 4, p. 8.)

58. The new AMI meter cannot tell if a customer is using a particular appliance. (PPL Electric Statement No. 3, p. 7.)

59. "The Company only collects information about the total electric usage at the premises," and this "information does not differentiate between the use of any specific appliance or appliances." (PPL Electric Statement No. 3, p. 7.)

60. As a part of its Smart Meter Plan proceeding, PPL Electric filed a detailed AMI Customer Privacy Policy, which sets forth the data PPL Electric will collect through the new smart meter, the steps the Company will take to protect the data, and the ways in which PPL Electric will use the data. (PPL Electric Statement No. 3, p. 6; PPL Electric Exhibit KD-3.)

61. Consistent with that policy, the Company will collect data on the total amount of electricity used at the premises as well as significant event information, such as outages, voltage, heat alarms, and meter tampering alerts. (PPL Electric Statement No. 3, p. 7; PPL Electric Exhibit KD-3, Section 1.2.)

62. PPL Electric has never issued the Complainant a notice of termination in connection with the Company's meter replacement. (PPL Electric Statement No. 3, pp. 8-9.)

# APPENDIX “B”

## Appendix B – Proposed Conclusions of Law

1. Under Section 332(a) of the Pennsylvania Public Utility Code, the proponent of a rule or order has the burden of proof. 66 Pa. C.S. § 332(a). It is well established that “[a] litigant’s burden of proof before administrative tribunals as well as before most civil proceedings is satisfied by establishing a preponderance of evidence which is substantial and legally credible.” *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990).

2. The preponderance of evidence standard requires proof by a greater weight of the evidence. *Commonwealth v. Williams*, 557 Pa. 207, 732 A.2d 1167 (1999). This standard is satisfied by presenting evidence that makes the existence of a contested fact is more likely than its nonexistence. *Brown v. Commonwealth*, 940 A.2d 610, 614 n.14 (Pa. Cmwlth. 2008) (citation omitted).

3. A person does not sustain his or her burden of proof in an electric and magnetic field exposure case when the record evidence, “taken as a whole, leads to the ultimate finding and conclusion that the scientific studies at present are inconclusive”; rather, the person must demonstrate by a preponderance of the evidence that such exposure actually causes adverse health effects. *Letter of Notification of Phila. Elec. Co. Relative to the Reconstructing and Rebuilding of the Existing 138 kV Line to Operate as the Woodbourne-Heaton 230 kV Line in Montgomery and Bucks Cntys.*, 1992 Pa. PUC Lexis 160, at \*210-11 (June 29, 1992) (Initial Decision) (“*Woodbourne-Heaton*”).

4. In AMI meter-related matters, the Commission has held that “[t]he Complainant will have the burden of proof during the proceeding to demonstrate, by a preponderance of the evidence, that [the utility] is responsible or accountable for the problem described in the Complaint.” *Kreider v. PECO Energy Co.*, Docket No. P-2015-2495064, p. 18 (Order entered Sept. 3, 2015).

5. Section 701 of the Public Utility Code provides that “any person . . . having an interest in the subject matter . . . may complain in writing, setting forth any act or thing done or omitted to be done by any public utility in violation, or claimed violation, of any law which the commission has jurisdiction to administer, or of any regulation or order of the commission.” 66 Pa. C.S. § 701.

6. Section 1501 of the Public Utility Code states, in pertinent part, that:

Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, and shall make all such repairs, changes, alterations, substitutions, extensions, and improvements in or to such service and facilities as shall be necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public. Such service also shall be reasonably continuous and without unreasonable interruptions or delay. Such service and facilities shall be in conformity with the regulations and orders of the commission. Subject to the provisions of this part and the regulations or orders of the commission, every public utility may have reasonable rules and regulations governing the conditions under which it shall be required to render service. . . .

*Id.* § 1501.

7. The Commission has exclusive jurisdiction to adjudicate “issues involving the reasonableness, adequacy, and sufficiency” of a public utility’s facilities and services. *See Elkin v. Bell of Pa.*, 420 A.2d 371, 374 (Pa. 1980) (citations omitted).

8. When presented with a challenge to an AMI meter installation, the Commission has pronounced that “[t]he ALJ’s role . . . will be to determine based on the record in this particular case, whether there is sufficient evidence to support a finding that the Complainant was adversely affected by the smart meter or whether [the utility’s] use of a smart meter will constitute unsafe or unreasonable service in violation of Section 1501 under the circumstances in this case.” *Kreider v. PECO Energy Co.*, Docket No. P-2015-2495064, p. 23 (Order entered Jan. 28, 2016) (citing *Woodbourne-Heaton*, 1992 Pa. PUC Lexis 160, at \*12-13).

9. Under Pennsylvania’s “Walker Rule,” it is well-established that “[h]earsay evidence, properly objected to, is not competent evidence to support a finding.” *Walker v. Unemployment Comp. Bd. of Review*, 367 A.2d 366, 370 (Pa. Cmwlth. 1976) (citations omitted).

10. Even if hearsay evidence is “admitted without objection,” the ALJ must give the evidence “its natural probative effect and may only support a finding . . . if it is corroborated by any competent evidence in the record;” as “a finding of fact based solely on hearsay will not stand.” *Id.* at 370 (citations omitted).

11. The Complainant has failed to sustain his burden of proof that installing the new AMI meter would violate the Public Utility Code or any Commission regulation or order. *See* 66 Pa. C.S. § 332(a), 701.

12. PPL Electric is legally required to install the RF Mesh meter on the premises by Act 129 and Commission orders. *See* 66 Pa. C.S. § 2807(f); *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655, pp. 9, 14 (Order entered June 24, 2009) (“*Smart Meter Implementation Order*”).

13. Nothing in Act 129 permits a customer to “opt-out” of the Company’s AMI meter installation. *See Evangeline Hoffman-Lorah v. PPL Electric Utilities Corp.*, Docket No. C-2018-2644957, p. 43 (Order entered May 23, 2019); *see also Starr v. PECO Energy Co.*, Docket No. C-2015-2516061, p. 11 (Order Entered Sept. 1, 2016); *Frompovich v. PECO Energy Co.*, Docket No. C-2015-2474602, pp. 8-10 (Order entered May 3, 2018); *Povacz v. PECO Energy Co.*, Docket No. C-2015-2475023, p. 93 (Order entered Mar. 28, 2019); *Sunstein Murphy v. PECO Energy Co.*, Docket No. C-2015-2475726, p. 93 (Order entered May 9, 2019); *Randall & Albrecht v. PECO Energy Co.*, Docket No. C-2016-2537666, p. 88 (Order entered May 9, 2019).

14. The Commission previously determined that the Company's existing PLC meters are not compliant with Act 129 and the Commission's *Smart Meter Implementation Order*. See *Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123945, p. 24 (Order entered June 24, 2010) ("2010 Smart Meter Order").

15. Under the Company's Commission-approved Smart Meter Plan, PPL Electric must replace all of the PLC meters with the RF Mesh meters, which the Commission declared as meeting all of the requirements of Act 129 and the Commission's *Smart Meter Implementation Order*. See *Petition of PPL Electric Utilities Corp. for Approval of Its Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2014-2430781, p. 24 (Order Entered Sept. 3, 2015) ("2015 Smart Meter Order").

16. If the Company does not install the new RF Mesh meter on the property where the Complainant resides in accordance with the Commission-approved deployment schedule, PPL Electric may violate the Commission's *2010 Smart Meter Order*, *2015 Smart Meter Order*, and *Smart Meter Implementation Order*.

17. The Complainant has failed to demonstrate that the new AMI meter causes, contributes to, or exacerbates any adverse health effects.

18. The Complainant has failed to sustain his burden of proof that installing the new AMI meter would constitute unsafe or unreasonable service in violation of 66 Pa. C.S. § 1501.

19. PPL Electric is permitted under Rule 2F of its Commission-approved to access the Complainant's property for the purpose of installing the new AMI meter. (PPL Electric Exhibit KD-4.)

20. Public utilities' tariffs have the force and effect of law and are binding on the utilities and their customers. *See PPL Elec. Utils. Corp. v. Pa. PUC*, 912 A.2d 386, 402 (Pa. Cmwlth. 2006) (citing 66 Pa. C.S. § 1303 and *Pa. Elec. Co. v. Pa. PUC*, 663 A.2d 281, 284 (Pa. Cmwlth. 1995)).

21. The Public Utility Code, the Commission's regulations, and PPL Electric's tariff expressly permit the Company to terminate service if a customer fails to provide the Company with access to the property in order to replace the meter. *See* 66 Pa. C.S. § 1406(a)(4); 52 Pa. Code § 56.81(3); (PPL Electric Exhibit KD-5, p. 2).

# APPENDIX “C”

### **Appendix C – Proposed Ordering Paragraphs**

1. That the Formal Complaint filed by Brian Heffner against PPL Electric Utilities Corporation at Docket No. C-2018-3000471 is hereby dismissed in its entirety with prejudice.
2. That this matter is marked closed.