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May 18, 2018

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: Richard N. Myers v. PPL Electric Utilities Corporation
Docket No. C-2017-2620710

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

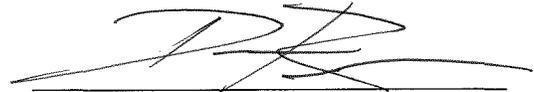
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I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

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Devin T. Ryan

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Richard N. Myers,	:	
	:	
Complainant,	:	
	:	
v.	:	Docket No. C-2017-2620710
	:	
PPL Electric Utilities Corporation,	:	
	:	
Respondent.	:	

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I. INTRODUCTION

On August 22, 2017, PPL Electric Utilities Corporation (“PPL Electric” or the “Company”) was served with the above-captioned Formal Complaint filed by Richard N. Myers (“Complainant”) with the Pennsylvania Public Utility Commission (“Commission”). The Complainant contests PPL Electric’s planned installation of a new automated metering infrastructure (“AMI”) meter at his property, 1123 Elm Avenue, Lancaster, Pennsylvania, as well as the Company’s installation of new AMI meters at his 11 rental properties, which are located in Lancaster and Columbia, Pennsylvania and have electric service accounts in the tenants’ names.

As explained in this Main Brief, the Complainant failed to sustain his burden of proof that installing the new AMI meter on the properties would constitute a violation of the Public Utility Code or any Commission regulation or order. Moreover, the Complainant cannot contest the installation of the AMI meters for his tenants’ accounts without violating the tenants’ due process rights, as they never testified or authorized the Complainant to represent their interests. Further, the Complainant erroneously contends that PPL Electric was enjoined from installing the new AMI meters for the tenants’ accounts, even though he never obtained an injunction. Therefore, the Commission should dismiss the Complaint in its entirety and with prejudice.

II. STATEMENT OF THE CASE

On August 22, 2017, PPL Electric was served with the above-captioned Complaint filed by the Complainant.

On September 11, 2017, PPL Electric timely filed an Answer to the Complaint.

On October 3, 2017, a Notice was issued scheduling an evidentiary hearing for January 31, 2018, in Harrisburg, Pennsylvania.

On October 4, 2017, Administrative Law Judge Elizabeth H. Barnes (the “ALJ”) issued the First Prehearing Order, which set forth certain procedural rules in this proceeding.

On December 18, 2017, PPL Electric filed a Motion for Admission Pro Hac Vice of Curtis S. Renner, Esquire, as additional counsel on behalf of the Company.

On December 20, 2017, PPL Electric filed a letter requesting that the January 31, 2018 hearing be rescheduled because its witnesses were unavailable for a hearing on that date.

On December 27, 2017, PPL Electric filed a letter requesting that any expert testimony and exhibits be presented in written form in advance of the hearing and exchanged by the parties on or before January 15, 2018.

On January 3, 2018, a Notice was issued rescheduling the evidentiary hearing for February 5, 2018.

On January 9, 2018, the ALJ issued an Interim Order granting the Motion for Admission Pro Hac Vice.

On January 15, 2018, the Complainant served: (1) the direct written testimony and exhibits of the Complainant; (2) the direct written testimony and exhibit of Martha R. Herbert; and (3) the direct written testimony and exhibits of David O. Carpenter.

On January 19, 2018, the ALJ issued the Second Prehearing Order, which established a due date of February 15, 2018, for PPL Electric to submit its written expert rebuttal testimony and exhibits.

On January 22, 2018, the ALJ issued an Amended Second Prehearing Order, which permitted the Complainant to have his expert witnesses participate via telephone at the evidentiary hearing. A Notice also was issued rescheduling the evidentiary hearing for April 2, 2018.

On February 6, 2018, the Complainant requested that he be allowed to update his direct testimony and exhibits.

On February 8, 2018, the parties and the ALJ exchanged email correspondence, which established a due date of March 16, 2018, for the Complainant's updated testimony and exhibits as well as a due date of March 26, 2018, for PPL Electric's written expert rebuttal testimony and exhibits.

On March 16, 2018, the Complainant served his updated direct testimony and exhibits.

On March 26, 2018, PPL Electric served its written expert rebuttal testimony and exhibits.

On March 30, 2018, PPL Electric filed a Motion in Limine to exclude the Complainant's exhibits.

The parties engaged in discovery at various points in the proceeding before the evidentiary hearing.

On April 2, 2018, the in-person evidentiary hearing was held as scheduled at 10:00 AM.

On April 4, 2018, the ALJ issued a Briefing Order setting forth requirements for the briefs to be submitted in this proceeding.

Under the Briefing Order, the parties were directed to file their Main Briefs on or before May 18, 2018, and Reply Briefs on or before June 4, 2018.

III. QUESTIONS PRESENTED

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

Suggested answer: *in the affirmative.*

2. Whether the Complainant can challenge PPL Electric's installation of new AMI meters for the tenants' accounts without violating the tenants' due process rights, when the tenants never testified or authorized the Complainant to represent their interests.

Suggested answer: *in the negative*.

3. Whether PPL Electric was enjoined from installing the new AMI meters for the Complainant's tenants' accounts after the Complaint was filed, despite the Complainant never obtaining an injunction.

Suggested answer: *in the negative*.

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).¹

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.*, 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

¹ 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).

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 meters 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 residence, and that was previously installed on the rental properties, 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 meters 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 testimony offered by the Complainant’s expert witness was neither scientifically reliable nor credible. Instead of a balanced assessment of the science, it was advocacy in opposition to the views of major governmental and public health authorities that address the issue of RF fields, including the Federal Communications

Commission (“FCC”) and the World Health Organization (“WHO”). As such, this slanted testimony does not provide a reliable basis for reaching conclusions about RF fields and health and should be given no weight, as has been the result in many other cases in which this individual has appeared, including before this Commission.² Similarly, the hearsay documents introduced by Complainant are not credible or competent scientific evidence in support of his claims about alleged health effects from RF fields. None of them can support a finding of fact in this case because they were properly objected to by the Company as hearsay, they are unreliable, and they lack scientific merit.

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 FCC has designated as safe for long-term public exposures.

Third, the Complainant has presented no evidence to show that the new AMI meter is otherwise unsafe and would cause fires. The meter is composed of fire-resistant materials and has alarms designed to alert the Company if the meter’s temperature reaches a certain level. Therefore, the new AMI meter can actually help prevent fires.

² See *Application of PPL Elec. Utils. Corp. Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Constr. Of the Pa. Portion of the Proposed Susquehanna-Roseland 500 kV Transmission Line in Portions of Lackawanna, Luzerne, Monroe, Pike and Wayne Cntys., Pa.*, Docket Nos. A-2009-2082652, et al., 2010 Pa. PUC LEXIS 434, at *172-73, 176-77, 180 (Order entered Feb. 12, 2010).

Further, the Complainant cannot contest the installation of the tenants' AMI meters in this proceeding without violating their due process rights. The service accounts for these properties are in the names of his tenants, none of whom testified in this proceeding or authorized the Complainant to represent their interests. Moreover, the new AMI meter offers several benefits to customers, such as heat alarms and improved information about customer usage. Thus, it would violate these customers' due process rights if decisions were made about their AMI meters in this proceeding.

Finally, the Complainant mistakenly believes that PPL Electric was enjoined from installing the new AMI meters on his rental properties due to the filing of his Complaint. Simply filing a Complaint does not entitle a party to injunctive relief. Rather, the Complainant had to file a motion for preliminary injunction or a petition for interim emergency order to obtain such relief. Here, the Complainant never filed such a pleading, and even if he did, he would not have been able to satisfy all of the requirements for obtaining injunctive relief.

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 No. 3) 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 No. 3, pp. 5-6, 20-22; Tr. 218-19) 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. (Tr. 218) The individual RF Mesh meters are used as relay points to transmit data back to PPL

Electric. (Tr. 218-19) Under the Smart Meter Plan, the RF Mesh meters would be deployed between 2017 and 2019 for all of PPL Electric's 1.4 million customers. (PPL Electric Exhibit No. 3, pp. 1, 3, 32; Tr. 218)

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, p. 24 (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. On July 20, 2017, PPL Electric sent the Complainant a letter notifying him that it intended to install the new RF Mesh meter on his premises within approximately the next three weeks.³ (PPL Electric Exhibit No. 2) Specifically, the RF Mesh meter that the Company is installing on residential properties is the Landis+Gyr Focus AX-SD meter. (Tr. 217, 221) Subsequently, the Complainant initiated the instant Formal Complaint proceeding to contest PPL Electric's planned installation of the new AMI meter for his account and the installation of the new AMI meters for his tenants' accounts.⁴

³ Between July 20 and August 21, 2017, the Company also sent the Complainant's tenants letters notifying them that it intended to install the new AMI meters for their accounts within approximately the next three weeks. (PPL Electric Exhibit No. 11) The addresses for the Complainant's 11 rental properties are 735 Bay Street, 521 Beaver Street, 523 Beaver Street, 525 Beaver Street, 551 Dauphin Street, 17 E. Filbert Street, 31 W. Frederick Street, 720 High Street, and 529 Poplar Street, Lancaster, Pennsylvania 17603 as well as 115 S. 3rd Street, Columbia, Pennsylvania 17512. (PPL Electric Exhibit No. 11)

⁴ The Complainant originally stated in his Complaint that he was contesting the installation of the new AMI meters at his rental properties. (Complainant's Exhibit 29) However, the Complainant did not mention anything about his rental properties in his written direct testimony. (See Complainant's Direct Testimony) At the evidentiary hearing, the Complainant first stated that this was because he was seeking an exemption for himself, but hoped that

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 meters. 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 properties 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

his exemption could be a precedent for others, including his tenants. (Tr. 179-80) The Complainant then averred that he was asking for an exemption for himself and his tenants. (Tr. 180) As explained in Section VI.D., *infra*, the Complainant cannot contest the installation of the new AMI meters for the tenants' accounts in this proceeding because the tenants did not participate and did not authorize the Complainant to represent their interests.

greater costs than a systematic system-wide deployment.” *Id.*, pp. 9, 14.⁵ Therefore, PPL Electric must install the new smart meters for every customer in its service territory, including the Complainant and his tenants.

In addition, nothing in Act 129 permits a customer to “opt-out” of a smart meter installation. Indeed, the Commission previously has found in several 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.* Although bills have been proposed in the General 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

⁵ *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)).

and cannot leave the existing, non-compliant PLC meter in place. (Tr. 218) 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,⁶ 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*.

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 meters would constitute unsafe or unreasonable service. In this proceeding, the Complainant generally has alleged that the new AMI meter causes adverse health effects and causes fires. In support of his various claims, the Complainant personally testified and presented several written exhibits.⁷ (*See* Complainant's Direct Testimony; Complainant's Exhibits 1-6, 8-10, 12-27, 29-30; Tr. 171-200) The Complainant called only one witness, Dr. David O. Carpenter, to testify on

⁶ Although Act 129 uses the language "not to exceed 15 years," 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 No. 3, pp. 3, 32; Tr. 218) 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.

⁷ Complainant's Exhibits 7, 11, and 28 were not admitted into the record. (Tr. 25, 49)

his behalf about health effects allegedly caused by low-level non-ionizing RF fields. (See Tr. 51-169)

As explained in more detail below, the Complainant's claims are unsubstantiated, unreliable, and based on exhibits that are hearsay and wholly lack merit as well as on the flawed opinions of Dr. Carpenter. 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 there could be health risks due to RF fields from the new meter. As discussed below, the Complainant did not offer any credible expert scientific testimony in support of his allegations about health risks from RF fields. In addition, all of his documentary evidence on this issue consists of hearsay documents that are not competent evidence to show that RF fields cause adverse health effects. As explained in more detail below, the Complainant's testimony and exhibits 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.⁸ 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, p. 1, line 12 to p. 2, line 19) 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, lines 5-6)

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, 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.

⁸ 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, lines 9-10) 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, lines 12-18) In this proceeding, Dr. Davis was certified as an expert in physics, biophysics, chemistry, electrical engineering, electromagnetics, bioelectromagnetics, radiofrequency bioelectromagnetics, and dosimetry. (Tr. 228-29)

Davis is a Fellow of the IEEE and a Fellow of the Institute of Physics. (PPL Electric Statement No. 1, p. 3, line 7 to p. 4, line 22)

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, p. 5, line 15 to p. 6, line 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 Wi-Fi networks. (PPL Electric Statement No. 1, p. 5, line 22 to p. 6, line 4; p. 14, lines 12-16; 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, lines 12-16) 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. 8, line 18-20; Tr. 110-11) 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, p. 8, line 20 to p. 9, line 8) The FCC continues to consider whether new scientific research shows any adverse effects from RF fields. (PPL Electric Statement No. 1, p. 9, lines 8-11)

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, lines 13-17; *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, lines 13-15) 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, lines 21-23)

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, line 20 to p. 15, line 4) 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, lines 22-23) The Complainant reported that he used his cell phone for 16,222 minutes over a 12-month period. (PPL Electric Statement No. 1, p. 15, lines 5-12; PPL Electric Exhibit No. 10) This is equivalent to 3,198 years of continuous RF exposure at approximate 3 feet from the AMI meter. (PPL Electric Statement No. 1, p. 15, lines 5-22)

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 seven television broadcast towers with a 50 mile radius of Complainant’s location. (PPL Electric Statement No. 1, p. 16, lines 5-7) Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant’s residence are **18.4 times higher** than the RF signals from the AMI meter. (PPL Electric Statement No. 1, p. 16, lines 10-12; *see* PPL Electric Exhibit CD-5) Dr. Davis’s expert testimony on RF field levels was

unchallenged by Complainant. 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.⁹

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. 17, lines 20-22)

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 the Complainant's residence and the rental properties. (PPL Electric Statement No. 1, p. 17, line 20 to p. 18, line 2)

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

⁹ Dr. Davis also demonstrated that the existing background levels of RF fields at Complainant's rental properties are many times higher than the fields from the AMI meter. (PPL Electric Statement No. 1, p. 16, line 13 to p. 17, line 2) "The Lancaster rental properties are all within relatively close proximity to [the Complainant's] residence[,] and the background levels of RF fields from UHF TV broadcasting at the Lancaster rental properties are not substantially different from the background level at [the Complainant's] residence." (PPL Electric Statement No. 1, p. 16, lines 18-21) Further, Dr. Davis made a separate calculation for the property located at 115 S. 3rd Street in Columbia, Pennsylvania, which showed that "the RF fields at 3 meters from the AMI meter being used by PPL Electric are 94 times smaller than the background RF exposure from UHF TV broadcasting at [the Complainant's] rental property in Columbia." (PPL Electric Statement No. 1, p. 16, line 21 to p. 17, line 2; PPL Electric Exhibit CD-7)

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. 18, lines 3-6)

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 Israel¹⁰ 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, p. 1, lines 5-14; p. 2, line 17 to p. 3, line 2)

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

¹⁰ 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, lines 16-23) Dr. Israel was certified as an expert in medicine and medical research, in particular as related to RF fields and health. (Tr. 260-61)

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, lines 3-16)

Dr. Israel is board certified and licensed to practice medicine. (PPL Electric Statement No. 2, p. 3, lines 3-6) 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 over 245 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, p. 3, line 9 to p. 4, line 2)

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, lines 3-18)

Dr. Israel evaluated scientific research on RF fields and adverse health effects. 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, p. 6, lines 7-15; p. 8, lines 16-18) 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. 8, lines 19-23) 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. 8, line 23 to p. 9, line 18) 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. 9, line 19 to p. 10, line 11)

Dr. Israel also noted 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. 11, line 20 to p. 12, line 10) (emphasis added) Dr. Israel 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. 12, lines 13-15) 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. 13, lines 1-5) 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. 13, lines 8-13) 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. 13, lines 13-16)

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. 13, line 20 to p. 14, line 15; PPL Electric Exhibit MI-3) The WHO has found that “[t]here is little scientific evidence to support the idea of electromagnetic

hypersensitivity.” (PPL Electric Statement No. 2, p. 14, lines 10-12) 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, p. 14, lines 12-14)

Based on the body of scientific research showing no consistent and reproducible effects from RF fields on cancer and other adverse health effects, the 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, lines 12-15) A number of other public health authorities, including agencies in Canada, the U.K., Sweden, Norway, the Netherlands, and New Zealand, among others, have recently reached similar conclusions. (PPL Electric Statement No. 2, p. 10, line 18 to p. 11, line 5; 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, lines 6-16; PPL Electric Exhibit MI-2)

Dr. Israel evaluated the exhibits that the Complainant downloaded from the internet, including the BioInitiative Report (Complainant’s Exhibit 3), the 1971 bibliography from the National Technical Information Service (Complainant’s Exhibit 4), the list of “155 reviews” (Complainant’s Exhibit 5), and the “International Appeal” (Complainant’s Exhibit 23), among

others. (PPL Electric Statement No. 2, p. 14, line 16 to p. 22, line 8) He testified that these exhibits are not scientific studies and demonstrated that they do not provide scientific data that can be used to reach a reliable conclusion about RF fields and health. (PPL Electric Statement No. 2, p. 14, line 16 to p. 22, line 8) (see also, discussion of individual exhibits below)

Dr. Israel also evaluated the 2010 paper that the Complainant's expert, Dr. Carpenter, offered as his written testimony in this case. This paper is not a report of original research, but a review paper in which Dr. Carpenter provides his opinions about studies conducted by others. (PPL Electric Statement No. 2, p. 22, line 14-16) The paper also is a piece of advocacy that argues for a change in the existing exposure standards for power frequency fields as well as RF fields. (PPL Electric Statement No. 2, p. 22, lines 16-18) Dr. Israel explained that this 2010 paper by Dr. Carpenter presents a limited and selective view of the research on RF fields. (PPL Electric Statement No. 2, p. 24, lines 10-11) It reports results from some studies, but not from other studies that do not support Dr. Carpenter's views. (PPL Electric Statement No. 2, p. 24, lines 11-12) It selectively points to some data from individual studies and ignores other contrary data from the same studies. (PPL Electric Statement No. 2, p. 24, lines 12-18) Dr. Carpenter largely ignores the large body of laboratory research that shows no consistent evidence of RF fields causing or contributing to cancer in animals. (PPL Electric Statement No. 2, p. 24, lines 18-20)

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. 25, lines 12-15)

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. (PPL Electric Statement No. 2, p. 25, lines 20-22)

iii. The Complainant's Expert Witness, Dr. Carpenter, Is An Advocate Who Did Not Provide Balanced Or Credible Scientific Testimony

The Complainant presented Dr. David Carpenter as an expert witness. Dr. Carpenter has a medical degree, but he has never been licensed to practice medicine, he is not board certified in any area of medicine, and he does not diagnose or treat patients for any kind of condition or illness. (Tr. 105-06) Dr. Carpenter did not offer any opinions about the Complainant's health or the levels of RF fields at the Complainant's home or any of his rental properties. (Tr. 107-08) Indeed, Dr. Carpenter had never even seen any of the Complainant's properties. (Tr. 108) In addition, Dr. Carpenter did not know the type of RF fields used by the AMI meters being deployed by the Company, had never looked at the specifications for the meters, and did not even know the level of RF fields produced by the meters. (Tr. 109-10) He based his opinion about health effects on his belief that smart meters create pulsed RF fields. (Tr. 93) This was directly contradicted by Dr. Davis—who is an expert in physics and radio frequency exposure assessment and who testified that the AMI meter being used by the Company “produces sinusoidal RF fields, which are physically different from pulsed fields.” (PPL Electric Statement No. 1, p. 8, lines 12-14)

Despite his distinct lack of knowledge about the RF fields from the AMI meters, Dr. Carpenter nonetheless offered an opinion that the RF fields from the AMI meter complied with

the RF exposure safety standard mandated by the FCC. (Tr. 110) He disagrees with the FCC RF standard and has gone so far as to lobby the FCC to change the standards. (Tr. 110-11) However, while Dr. Carpenter felt very strongly about the issue of needing to change the FCC standard, he did not actually know what the standard is.

Q. What is the FCC RF exposure applicable to the AMI meters being used by PP&L?

A. I can't state that without reading about the standard. The standard is exposure over a period of time.

...

Q. So you don't recall what the standard is that you object to?

A. The standard is based on the effect of heating with the - .

Q. I understand that. I'm just asking you what is the standard and whether you can recall it?

A. The standard is - . I'm not an engineer, but I know that that standard is based on relations of some sort.

Q. Okay. But as you said, you don't know the number - ?

A. Correct. (Tr. 111-12)

In addition to his lack of knowledge about RF fields and the relevant public exposure standards, Dr. Carpenter's testimony was incomplete and unbalanced. He selectively provided information that he interpreted as supporting his views and withheld information that contradicted his positions. For example, Dr. Carpenter began his testimony by talking about the findings of the "Bolkow" [Volkow] study, which he said was very important to him. (Tr. 104) He testified that he was "very familiar" with that study (Tr. 66) and that it demonstrates that RF fields from cell phones "change the metabolic activity of the brain." (Tr. 69) On cross examination, however, he had to admit that on the very first page of the Volkow study, the authors emphasize that the finding in their study "is of unknown clinical significance." (Tr. 105)

Dr. Carpenter, despite being “very familiar” with the study, chose to conceal that vital information from the Court until he was confronted with it. This attempt to exaggerate the significance of the Volkow study does not reflect a balanced approach to evaluating the science. Moreover, Dr. Davis, who is an expert in RF Bioelectromagnetics and exposure assessment, testified that the effect reported in the Volkow study most likely was due to heating from the cell phones used in the study. (Tr. 230-31)

Similarly, in order to disclose his opinions in this case, Dr. Carpenter provided a document that he wrote in 2009 and published in 2010. (Tr. 125; Complainant’s Exhibit 27) He testified that this 2010 paper remains an accurate reflection of his opinions. (Tr. 126) The title of the document states “President’s Cancer Panel, January 27, 2009.” Dr. Carpenter explained that this paper documented testimony he provided to the President’s Cancer Panel in 2009. (Tr. 126-27) In the paper (and his testimony to the President’s Cancer Panel), Dr. Carpenter states his opinions about cancer risks from RF fields, as well as power frequency electric and magnetic fields (EMF). (Tr. 129-30) The paper also states Dr. Carpenter’s views about a need for changes to exposure standards for both EMF and RF fields. (Tr. 130) The significant information that Dr. Carpenter knew but chose to not provide to the Court was that the President’s Cancer Panel issued a report in 2009 that strongly refuted Dr. Carpenter’s opinions. Thus, the President’s Cancer Panel found there was a “lack of association” between EMF and cancer, and for RF fields “there is no evidence to support a link between cell phone use and cancer.” (Tr. 131; PPL Electric Statement No. 2, p. 23, lines 11-22) Dr. Carpenter admitted that he knew the President’s Cancer Panel had issued these findings that reject his interpretation of the science. He chose not to present those findings to the Court, even though he offered his 2010 paper under the

imprimatur of the President's Panel. This is the approach of an advocate, not a balanced and reliable scientist.

In this same paper published in 2010, Dr. Carpenter noted that there was an important upcoming study on cell phones and brain cancer, known as the "Interphone" study. (Tr. 135) Dr. Carpenter knew this was a major research effort coordinated through the World Health Organization and involved research from 13 different countries. (Tr. 135-36) The Interphone study was published in 2010. (Tr. 136) The researchers who conducted the Interphone study concluded that "overall no increase in risk of either glioma or meningioma was observed in association with use of mobile phones." (Tr. 139) Dr. Carpenter knew about this finding and when confronted with it on cross examination, his response was to argue that all the authors of the Interphone study (dozens of researchers from the 13 different country studies) must have misinterpreted their own data. (Tr. 139-40) When confronted with another conclusion from the Interphone study that "there was an overall reduced risk of brain cancer among cell phone users," Dr. Carpenter claimed there must have been "some flaw" in the study. (Tr. 140) In his 2010 paper, Dr. Carpenter identified the Interphone study as an important upcoming study. In his 2018 testimony, however, he did not disclose the results of the Interphone study until confronted under cross examination. He then tried to hedge and discount the results, which directly contradict his views. This is not the approach of a reliable or credible scientific expert.

Dr. Israel, who has conducted research on cancer, evaluated Dr. Carpenter's 2010 paper and found that it "presents a limited and selective view of the research on RF fields." (PPL Electric Statement No. 2, p. 24, lines 10-11) In particular, Dr. Carpenter's approach is to report "selective results" (i.e., those with which he agrees) from some studies and to ignore the "inconsistent findings" from other studies. (PPL Electric Statement No. 2, p. 24, lines 11-12)

Dr. Carpenter will report “selective data” from a study and ignore “data from the same study that does not support his arguments.” (PPL Electric Statement No. 2, p. 24, lines 12-18) Dr. Israel also pointed out that Dr. Carpenter “largely ignores” the large body of laboratory research, “which shows no consistent evidence of RF fields causing or contributing to the development of cancer in animals.” (PPL Electric Statement No. 2, p. 24, lines 18-20) Dr. Carpenter “cherry picks” the studies and data that suit him, and ignores the rest. As a result, Dr. Carpenter’s testimony is not a balanced assessment of the scientific research, and his views – as Dr. Israel pointed out – are “strongly at variance with the conclusions of the comprehensive reviews conducted by scientific panels and public health authorities. (PPL Electric Statement No. 2, p. 24, lines 20-22; PPL Electric Exhibits MI-1 and MI-2)

Dr. Carpenter’s unbalanced approach to the scientific evidence is amply illustrated by his selective and misleading testimony about the review of research on RF fields conducted by the International Agency for Research on Cancer (IARC). On direct examination, Dr. Carpenter testified about IARC’s findings about RF fields from cell phones. (Tr. 88) When he testified, he knew that IARC also had issued findings related to RF exposures from Smart Meters, but he chose not to provide that information. Under cross examination, Dr. Carpenter had to admit that he knew IARC had found in 2011 that for RF from Smart Meters there was “inadequate evidence” of any cancer risk. (Tr. 142-44) He just did not mention it, because “[he] didn’t agree with it.” (Tr. 146)

Dr. Carpenter’s advocacy approach is best shown by his involvement in the BioInitiative Report. (Complainant’s Exhibit 3) This report has been strongly criticized as unbalanced and unreliable by public health organizations and expert groups. (PPL Electric Statement No. 2, p. 14, line 16 to p. 15, line 9) For instance, the Health Council of the Netherlands concluded that

“the BioInitiative report is not an objective and balanced reflection of the current state of scientific knowledge.” (PPL Electric Statement No. 2, p. 14, line 22 to p. 15, line 3; *see also* PPL Electric Exhibit MI-4) Dr. Carpenter was an editor of the report and helped to bring it into being. (Tr. 155) He admitted that the BioInitiative Report “wasn’t a group consensus evaluation of the science.” (Tr. 159) Rather, the report’s authors were selected “to help support the goal of arguing for new standards.” (Tr. 159) Indeed, instead of providing a balanced assessment of the science, the report’s purpose was advocacy:

Q. ... [T]he purpose of the report was to convince some audience out there that there was a need to change standards. Correct?

A. That’s correct.

Q. That was the goal going in?

A. Yes. (Tr. 157)

Dr. Carpenter’s approach as an advocate rather than a balanced scientist has been recognized in many other cases in which his testimony was either excluded or given little to no weight. In 2010, in an electric transmission line siting case before this Commission, Dr. Carpenter’s opinions about the scientific research showing adverse health effects from EMF were rejected in their entirety by the Commission. *See Application of PPL Elec. Utils. Corp. Filed Pursuant to 52 Pa. Code Chapter 57, Subchapter G, for Approval of the Siting and Constr. Of the Pa. Portion of the Proposed Susquehanna-Roseland 500 kV Transmission Line in Portions of Lackawanna, Luzerne, Monroe, Pike and Wayne Cntys., Pa., Docket Nos. A-2009-2082652, et al., 2010 Pa. PUC LEXIS 434, at *172-73 (Order entered Feb. 12, 2010).* The Administrative Law Judge Susan D. Colwell (“ALJ Colwell”) rejected Dr. Carpenter’s testimony, finding that it was “unsubstantiated” and that his opinions were “flawed”, “extreme” and “not based on a reliable and objective review of the scientific research.” *Id.* at *176-77.

ALJ Colwell concluded that “there is no good basis to give any weight to Dr. Carpenter’s extreme views.” *Id.* at *177.

The Commission agreed with ALJ Colwell’s findings that:

- “The record shows that **Dr. Carpenter’s opinions were flawed and were not based on a reliable and objective review** of the scientific research.” *Id.* at *177 (emphasis added).
- “When the record is viewed in its entirety it is clear that **Dr. Carpenter’s testimony is largely unsubstantiated** (albeit heartfelt) opinion. *Id.* at *180 (emphasis added).
- “In light of this overwhelming evidence, **there is no good basis to give any weight to Dr. Carpenter’s extreme views.**” *Id.* at *177 (emphasis added).

In 2012, Dr. Carpenter sought again to present his opinions about EMF and health in a trial court in Washington State. The trial court held an evidentiary hearing to determine if Dr. Carpenter could present his opinions about EMF and alleged health effects. *Lakey v. Puget Sound Energy, Inc.*, 296 P.3d 860, 863-66 (Wash. 2013) (en banc) (“*Lakey*”). At the conclusion of that hearing, the trial court ruled that his testimony was inadmissible because his “theories lacked general acceptance in the scientific community and that he failed to follow proper epidemiological methodology, rendering his conclusions unreliable.” *Id.*

The trial court also emphasized that:

- “Dr. Carpenter’s methodology for arriving at his opinion is incomplete at best.”
- “Dr. Carpenter, who is not an epidemiologist, disregards and dismisses the majority of studies that find no evidence or insufficient evidence to conclude that EMFs, at the level found on Plaintiff’s property, cause diseases such as leukemia. The failure to address the majority of studies that do not find reliable evidence of adverse effects from EMF exposure is inconsistent with how epidemiological research is evaluated.”
- “... Dr. Carpenter is not able to state to a reasonable degree of medical certainty that EMF at any level *causes* leukemia, Alzheimer’s disease, or ALS. At most, he was able to state that he believed there was a statistically significant association or correlation between EMF and the diseases mentioned despite there being no

animal studies to support the conclusion or no single mechanism that explains how EMF causes such diseases.”

- “...Dr. Carpenter did not include all of the relevant studies in his review study. In particular, he did not include three studies that [Dr. Nancy Lee] considers to be “the closing studies” in the area of EMF and adverse health effects. These studies demonstrated that there is no link between EMF and the adverse effects alleged by Plaintiff.”
- “...Dr. Carpenter’s reliance upon a statistically significant association between EMF and leukemia and other diseases is misplaced as epidemiologists do not and should not equate a statistically significant association to causation.”

Lakey v. Puget Sound Energy Inc., No. 10-2-32386-4 SEA, pp. 3-4 (Wash. Super. Ct. 2011).¹¹

The Supreme Court of Washington affirmed the trial court’s decision, finding that “Carpenter failed to follow proper methodology, rendering his conclusions unreliable and therefore inadmissible.” *Lakey* at 866. The Supreme Court also found that:

Carpenter did not consider all relevant data, as basic epidemiology required. Carpenter discounted entire epidemiological and toxicological studies, especially the newer epidemiological studies. Carpenter failed to consider the later, better studies about the links between EMF and health harms, seriously tainting his conclusions because epidemiology is an iterative science relying on later studies to refine earlier studies in order to reach better and more accurate conclusions. Carpenter refused to account for the data from the toxicological studies, which epidemiological methodology requires unless the evidence for the link between exposure and disease is unequivocal and strong, which is not the case here. Carpenter also selectively sampled data within one of the studies he used, taking data indicating an EMF-illness link and ignoring the larger pool of data within the study that showed no such link. **Carpenter's treatment of this data created an improper false impression about what the study actually showed.**

Id. (emphasis added).

In 2015, the Kentucky Public Service Commission rejected Dr. Carpenter’s opinions about EMF and health, noting that were they “more akin to advocacy” concerning the alleged

¹¹ A true and correct copy of this decision was attached to PPL Electric’s Motion in Limine as Attachment A.

dangers of low-level EMFs. See *Barker v. East Kentucky Power Cooperative, Inc.*, Case No. 2013-00291, 2015 Ky. PUC LEXIS 609, at *21 (Ky. Pub. Serv. Comm'n Jul. 6, 2015).

Specifically, the Kentucky Public Service Commission stated:

Complainants were unable to cite to any definitive study establishing a causal link between EMF exposure and verified health risks. Complainants' expert witness, Dr. Carpenter, testified to his belief that EMF levels far below those at Complainants' property are more than likely carcinogenic and otherwise harmful. **However, Dr. Carpenter's testimony has been roundly criticized and rejected by many other tribunals in which he has appeared as a witness.** Dr. Carpenter has never personal[ly] conducted any studies regarding EMF exposure. Tribunals including the Pennsylvania and Minnesota Commissions, Washington Supreme Court and U.S. District Court for the Southern District of Indiana have found that his testimony is more akin to advocacy.

Id. at *21 (emphasis added).

Dr. Carpenter's opinions about alleged health effects of RF fields from Smart Meter have similarly been rejected in two utility regulatory cases in Canada. In 2012, the Quebec Energy Board rejected Dr. Carpenter's claims about RF health effects on the grounds that his opinions were biased and he did not present an objective opinion. *Décision, Régie de L'Énergie, Québec*, D-2012-127, p. 97 (Oct. 5, 2012).¹² In 2013, in another Smart Meter case, the British Columbia Utilities Commission held that it would give "little weight" to Dr. Carpenter's testimony, because he "summarizes the references he cites in a manner consistent with his own beliefs, rather than accurately reporting their findings... [and] ...adopted a less than objective and fully informed approach." *In the Matter of FortisBC Inc.*, Decision on Certificate of Public

¹² A true and correct copy of the pertinent pages from this decision was attached to PPL Electric's Motion in Limine as Attachment B.

Convenience and Necessity for the Advanced Metering Infrastructure Project, p. 22 (British Columbia Utilities Commission, July 23, 2013).¹³

For all of these reasons, Dr. Carpenter's testimony is flawed and unreliable. Therefore, consistent with the decisions of this Commission and other courts and regulatory commissions, Dr. Carpenter's testimony should be given no weight in this case.

iv. The Complainant's Exhibits Cannot Support Any Findings of Fact

In support his allegations that the new AMI meters cause, contribute to, or exacerbate any illnesses, the Complainant submitted and relies on a number of exhibits, such as various documents, reports, articles, excerpts of articles, lists of studies, press releases, and letters. None of these documents can support any findings of fact because they are hearsay, lack scientific and evidentiary merit, or both.

First, several of the Complainant's exhibits should not be relied upon by the ALJ because they contain hearsay that is not subject to a hearsay exception. Specifically, the Complainant has presented exhibits that contain statements that were not written by him or Dr. Carpenter and were offered to prove the truth of the matter asserted. (*See* Complainant's Exhibits 3-6, 8-10, 12-26; PPL Electric Motion in Limine ¶¶ 17, 28-36) In turn, the Complainant relies on many of these out-of-court statements in his written direct testimony. (Complainant's Direct Testimony, p. 3, line 15 to p. 15, line 16; p. 17, line 10 to p. 18, line 20) None of the authors of these statements were presented as witnesses to authenticate the veracity of their contents. Therefore, the statements are hearsay.

¹³ A true and correct copy of the pertinent pages from this decision was attached to PPL Electric's Motion in Limine as Attachment C.

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).¹⁴

Here, PPL Electric objected to these documents because they contain hearsay and are not subject to a hearsay exception. (*See* PPL Electric Motion in Limine ¶¶ 17, 28-36; Tr. 14-49). Although these exhibits were admitted into the record,¹⁵ the exhibits should not be used to support any findings of fact. (Tr. 101-03) 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.

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 previously, the testimony of Dr. Carpenter was flawed, unreliable, and akin to advocacy, not an objective, scientific opinion.¹⁶ Furthermore, as explained in more detail below,

¹⁴ 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).

¹⁵ PPL Electric continues to maintain that these exhibits should not have been admitted into the record because they contain hearsay statements that are not subject to a hearsay exception, and even if they were relied upon by an expert witness, the substance of those statements are not permitted to be entered into the record to prove the truth of the matter asserted. *See* note 16, *infra*.

¹⁶ 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

the Complainant's 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 hearsay documents cannot support a finding of fact that the new AMI meters cause, contribute to, or exacerbate any illnesses.

Second, the Complainant's exhibits completely lack scientific and evidentiary merit and should be afforded no weight. Specifically, the exhibits contain the following flaws and mischaracterizations¹⁷:

- Exhibit 3 – A document titled “BioInitiative 2012 Report”
 - The exhibit is irrelevant because it does not address the radiofrequency (“RF”) fields from the AMI meters being used by PPL Electric, and addresses health conditions other than those alleged by Complainant. (PPL Electric Motion in Limine ¶ 17) Further, the exhibit is inherently unreliable. As explained by Dr. Israel, the BioInitiative Report is an advocacy document and not a scientific study, and has been widely criticized for its lack of scientific objectivity and reliability. (PPL Electric Statement No. 2, p. 14, line 21 to p. 15, line 9; PPL Electric Exhibit MI-4)
- Exhibit 4 – A document titled “Bibliography of Reported Biological Phenomena (‘Effects’) and Clinical Manifestations Attributed to Microwave and Radio-frequency Radiation” by the Naval Medical Research Institute, dated October 4, 1971.

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 his expert witness, Dr. Carpenter, did not rely on most of these materials in forming his opinion. In his direct testimony, Dr. Carpenter only identified Exhibits 3, 5, 8, 23, 27, and 28 as the exhibits he was sponsoring as a part of his testimony. (See Complainant's Exhibit 1) Of those, Exhibit 27 was the only one written exclusively by Dr. Carpenter. 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).

¹⁷ PPL Electric notes that Complainant's Exhibit 7, 11, and 28 were not admitted into the record. See note 7, *supra*.

- The exhibit is irrelevant because it does not address RF fields from AMI meters used by PPL Electric. Moreover, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Furthermore, the document is not a scientific study published in a peer-reviewed scientific journal; rather, it is merely a bibliography of various studies. (PPL Electric Statement No. 2, p. 15, lines 17-19) Such a document “does not provide a reliable scientific basis for reaching a conclusion about the RF fields from the AMI meters being used by PPL Electric.” (PPL Electric Statement No. 2, p. 16, lines 5-6) In addition, as Dr. Israel explained, the document states that any “effects are listed without comment or endorsement since the literature abounds with conflicting reports. In some cases the basis for reporting an ‘effect’ was a single or a non-statistical observation which may have been drawn from a poorly conceived (and poorly executed) experiment.” (Complainant’s Exhibit 4, p. 7); (PPL Electric Statement No. 2, p. 15, line 21 to p. 16, line 2) Finally, the document clarifies that “[t]he comments upon and criticisms of the literature made in this report, and the recommendations and inferences suggested, are those of the author, and do not necessarily reflect the views of the Navy Department or of the Naval Service.” (Complainant’s Exhibit 4, p. 2)
- Exhibit 5 – “List of 155 Reviews of Non-thermal Effects of Microwave/Intermediate Frequency EMFs” written by Martin Pall.
 - The exhibit is irrelevant because there was no showing that it addresses RF fields from AMI meters used by PPL Electric. The document also lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document. Moreover, as Dr. Israel explained, the exhibit is not a scientific study published in a peer-reviewed scientific journal. (PPL Electric Statement No. 2, p. 16, lines 7-10) It is presented as a list of “reviews” of non-thermal effects from RF fields, but even that title is misleading “because most of the documents listed are not ‘reviews’ of the scientific literature, but individual studies or other documents,” many of which were not published in peer-reviewed scientific journals (PPL Electric Statement No. 2, p. 16, lines 14-17) “Most importantly,” Dr. Israel observed, “this list of documents does not include any information about the design of the individual studies, the data produced in the studies, the analyses of the data, any qualitative evaluation of the individual studies and the data in the studies, or any showing that any critical or balanced criteria were used to identify and evaluate the scientific research.” (PPL Electric Statement No. 2, p. 16, lines 18-23)
- Exhibit 6 – Letter written by Dr. Martha R. Herbert and an enclosed document titled “Autism and EMF? Plausibility of a pathophysiological link Part I and Part II.”
 - The document is irrelevant because it does not address RF fields from AMI meters. (PPL Electric Statement No. 2, p. 18, lines 1-3) Moreover, the exhibit lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document. Furthermore, “the Herbert paper does not conclude that RF fields cause [Autism Spectrum Conditions].” (PPL Electric Statement No. 2, p. 17, line 17) In fact, on the first page of the paper, Dr. Herbert states that her review of the similarities between her view of biology underlying Autism Spectrum Conditions and her

interpretation of research on EMF and RF “does not prove that these parallels imply causality.” (PPL Electric Statement No. 2, p. 17, lines 17-22)

- Exhibit 8 – A document titled “The implications of non-linear biological oscillations on human electrophysiology for electrohypersensitivity (EHS) and multiple chemical sensitivity (MCS)” by Cindy Sage.
 - The exhibit lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document. Moreover, the exhibit does not provide any data to show that exposure to RF fields can cause multiple chemical sensitivity (“MCS”). (PPL Electric Statement No. 2, p. 18, lines 10-14. As explained by Dr. Israel, this exhibit “is an opinion piece written by Cindy Sage,” which “makes the statement that IEI can be linked to MCS, but does not provide any data to support the statement.” (PPL Electric Statement No. 2, p. 18, lines 14-16) In fact, that statement is simply “a hypothesis being put forth by Ms. Sage[,] and she does not identify scientific studies that show there is a causal relationship.” (PPL Electric Statement No. 2, p. 18, lines 16-18)
- Exhibit 9 – June 17, 1999 Letter sent by W. Gregory Lotz, Ph.D. on behalf of the Radiofrequency Interagency Work Group (RFAIWG) to Mr. Richard Tell, Chair, IEEE SCC28 (SC4), Risk Assessment Work Group, Richard Tell Associates, Inc.
 - The exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Moreover, the document merely sets forth a series of questions to be asked and comments to be considered when developing RF exposure guidelines. (Complainant’s Exhibit 9) Further, the first page explicitly states that “[t]he views expressed in this correspondence are those of the members of the Radiofrequency Interagency Work Group and do not represent the official policy or position of the respective agencies.” (Complainant’s Exhibit 9, p. 1)
- Exhibit 10 – Abstract of the 2014 Disease Models & Mechanisms (volume 7) article written by Natalie Matosin, Elisabeth Frank, Martin Engel, Jeremy S. Lum, and Kelly A. Newell, entitled “Negativity Towards Negative Results: A Discussion of the Disconnect Between Scientific Worth and Scientific Culture”.
 - The exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. The document is inherently unreliable because it only contains the abstract and not the complete document. (Tr. 24)
- Exhibit 12 – A February 7, 2014 letter and enclosed document sent by Willie R. Taylor from the Office of Secretary, United States Department of the Interior, to Eli Veenendaal at the U.S. Department of Commerce about the impact of communication towers on migratory birds.
 - The document is irrelevant because it does not concern the RF fields being emitted by the new AMI meter. It is a letter about the impact of communication towers on migratory birds. Furthermore, the exhibit lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document.

- Exhibit 13 – Letters from Frank Marcinowski and Norbert Hankin of the United States Environmental Protection Agency’s (“EPA”) Radiation Protection Division sent to Janet Newton of The EMR Network in 2002.
 - The July 6, 2002 letter merely contains a single EPA staffer’s purported opinion about the basis of the FCC’s RF exposure standard. The letter even notes that although the EPA had some reservations with the standard, the EPA ultimately recommended the FCC adopt the standard. (Complainant’s Exhibit 13, p. 2) The documents also lack authenticity because their authors were not presented to authenticate the accuracy of the statements in the documents.

- Exhibit 14 – August 29, 2013 Letter sent by the American Academy of Pediatrics to the Federal Communications Commission and the U.S. Food and Drug Administration.
 - The document is irrelevant because it addresses RF fields from cell phones, not RF fields from the AMI meters being used by PPL Electric. The exhibit also lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.

- Exhibit 15 – A document titled “Wireless Smart Meter Case Studies” by the American Academy of Environmental Medicine.
 - The exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Moreover, the document is inherently unreliable because it was prepared by a special interest activist group. (PPL Electric Motion in Limine ¶ 17) Further, the document is not a scientific study published in a peer-reviewed scientific journal. (PPL Electric Statement No. 2, p. 20, lines 3-7) It is a statement “based on a ‘case series’ paper from Australia by Lamech.” (PPL Electric Statement No. 2, p. 20, lines 8-11) As explained by Dr. Israel, “[t]he Lamech paper is an unverified report of conditions from a small, self-selected group of people who listed symptoms they believed were caused by smart meters. Because of these significant limitations, the Lamech paper does not provide scientifically reliable or useful data that can be used to make a determination about smart meters and the causation of any symptom or condition.” (PPL Electric Statement No. 2, p. 21, lines 5-9)

- Exhibit 16 – A document titled “Electromagnetic and Radiofrequency Fields Effect on Human Health” by the American Academy of Environmental Medicine.
 - The exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Furthermore, the document is inherently unreliable because it comes from a special interest activist group. (PPL Electric Motion in Limine ¶ 17)

- Exhibit 17 – A document titled “Wifi Radiation in Schools in Maryland Final Report” by the Maryland Children’s Environmental Health and Protection Advisory Council, dated December 13, 2016.

- The document is irrelevant because it addresses RF fields from Wi-Fi networks, not the AMI meters being used by PPL Electric. Moreover, the exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.
- Exhibit 18 – December 2017 publication by the California Department of Public Health entitled, “How to Reduce Exposure to Radiofrequency Energy from Cell Phones”.
 - The document is irrelevant because it addresses RF fields from cell phones, not the AMI meters being used by PPL Electric. Further, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.
- Exhibit 19 – A document titled “You can limit exposure to Radio-frequency (RF) Energy from your cell phone” prepared by the City and County of San Francisco.
 - The exhibit is irrelevant because it addresses RF fields from cell phones, not the AMI meters being used by PPL Electric. The document also lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. More importantly, the document is inherently unreliable, as it appears to be a proposed posting that was invalidated by the U.S. District Court in San Francisco. (Tr. 35)
- Exhibit 20 – Resolution No. 3362 passed by the City of Pembroke Pines, Florida on November 20, 2012.
 - The exhibit is irrelevant because it addresses RF fields from cell phones, not the AMI meters being used by PPL Electric. The document also lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.
- Exhibit 21 – A Declaration by the Town of Jackson proclaiming October cell phone safety awareness month.
 - The exhibit is irrelevant because it addresses RF fields from cell phones, not the AMI meters being used by PPL Electric. Further, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Moreover, the declaration is unsigned, and there is no evidence that the Town of Jackson ever actually adopted it.
- Exhibit 22 – A webpage titled “Worldwide Precautionary Action” by Parents for Safe Technology.
 - The exhibit is irrelevant because it does not address RF fields from the AMI meters being used by PPL Electric. The document also lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Moreover, the

document is inherently unreliable because it was prepared by a special interest activist group. (Tr. 38-39)

- Exhibit 23 – A document titled “International Appeal: Scientists Call for Protection from Non-ionizing Electromagnetic Field Exposure.”
 - The exhibit is irrelevant because it does not address RF fields from the AMI meters being used by PPL Electric. The document also lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Further, the document is inherently unreliable. It is not a scientific study published in a peer-reviewed scientific journal. (PPL Electric Statement No. 2, p. 22, lines 1-4) The document is a petition that represents opinions by anti-EMF/RF advocates, not scientific information. (PPL Electric Statement No. 2, p. 22, lines 4-8; Tr. 41-42) As Dr. Israel concluded, “This is not a scientific document and it does not provide scientific data that can be used to reach a reliable conclusion about RF fields and health.” (PPL Electric Statement No. 2, p. 22, lines 6-8)
- Exhibit 24 – A publication entitled “Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates,” by Norm Alster.
 - The exhibit concerns lobbying efforts, criticism of the FCC, and campaign contributions to Congressional lawmakers that oversee the FCC and, therefore, is irrelevant to the issues in this proceeding. Moreover, the document lacks authenticity because its author was not presented to authenticate the accuracy of the factual statements in the document.
- Exhibit 25 – January 2011 Seattle Magazine article written by Naomi Ishisaka, entitled “UW Scientist Henry Lai Makes Waves in the Cell Phone Industry”.
 - The exhibit is irrelevant because it concerns cell phones, not RF fields from PPL Electric’s AMI meters. Moreover, the document lacks authenticity because its author was not presented to authenticate the accuracy of the factual statements in the document. Further, the document is a media article, not a scientific document. (Tr. 44)
- Exhibit 26 – A webpage from Radiation.news entitled, “Non-industry Studies vs Industry Studies Show Vast Difference in the Harmful Effects of Microwave Radiation”.
 - The document lacks authenticity because its author was not presented to authenticate the accuracy of the factual statements in the document. Moreover, the exhibit is inherently unreliable because it is an online post from Radiation.news and contains no sources for the information presented.
- Exhibit 27 – A document titled “Electromagnetic Fields and Cancer: The Cost of Doing Nothing,” by Dr. David O. Carpenter.
 - As explained in Section VI.B.2.a.iii., *supra*, this paper and Dr. Carpenter’s testimony are flawed and unreliable and should be disregarded, as they have been in several other proceedings.

For these reasons, the Complainant's exhibits lack merit, should be afforded no weight, and cannot support any findings of fact in this proceeding.

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.

b. The Complainant Has Failed to Prove that the New AMI Meter Is Unsafe and Would Cause Fires

Another issue to be addressed in this proceeding is whether the new AMI meter is unsafe and would cause fires. (Tr. 8, 274) The Complainant never presented any evidence to support a claim that the new AMI meter is unsafe and causes fires. Moreover, as explained below, any allegations that the new AMI meter is unsafe and would cause fires lack merit.

First, the new AMI meters actually are equipped with software and mechanisms that better alert the Company if there is an issue with overheating. Specifically, there is a heat alarm, so when the temperature of the meter hits an established, "very conservative" level, the Company is alerted of the issue. (Tr. 221) Further, PPL Electric monitors the meter's temperature data, so it can track the meter's temperature and identify any current issues or problematic trends. (Tr. 221)

Second, PPL Electric has examined the issues with other meters and taken many steps to prevent fire incidents. PPL Electric witness Larson testified that a lot of those incidents were caused by faulty connections within the meter base and "the meter not being able to withstand the heat of the build-up" that resulted. (Tr. 220) However, PPL Electric set a stringent requirement that the new AMI meters it selected be able to withstand a "thermal index up to 160 degrees Celsius." (Tr. 220) The Company "tested every meter available on the market today," and the AMI meter selected by PPL Electric was "the only meter that met that requirement."

(Tr. 220) More importantly, PPL Electric has deployed approximately 720,000 new AMI meters in its service territory, and Mr. Larson is aware of no fires being caused by the E350 Focus AX-SD meter. (Tr. 221)

For these reasons, the Complainant has failed to prove that the new AMI meter is unsafe and would cause fires.

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. THE COMPLAINANT CANNOT CONTEST THE INSTALLATION OF THE AMI METERS FOR HIS TENANTS' ACCOUNTS WITHOUT VIOLATING THE TENANTS' DUE PROCESS RIGHTS

The Complainant has requested that the new AMI meters for his tenants' accounts be removed as well. (Tr. 179-80) For the reasons explained below, the Complainant cannot contest the installation of the new AMI meters for his tenants' accounts in this proceeding.

The tenants have rights and are entitled to due process before this Commission about decisions made that directly affect the meters for their accounts. *See Schneider v. Pa. PUC*, 479 A.2d 10, 15 (Pa. Cmwlth. 1984) (citation omitted). Due process is satisfied when a party is "afforded notice and the opportunity to appear and be heard." *Id.*

Here, these meters were installed for accounts in the tenants' names, not the Complainant's name. (PPL Electric Exhibit No. 11; Tr. 181, 209) Although the new AMI meters were installed on the Complainant's rental properties and, therefore, arguably afford him

standing to raise the issue,¹⁸ there are severe defects in how the Complainant presented his case. Nothing in the record indicates that any of these customers want the new AMI meters removed. In fact, the meter for 529 Poplar Street was installed after the Company and the customer made an appointment to replace the meter. (PPL Electric Exhibit No. 11) The Complainant also conceded that he is not authorized to represent any other customers' interests, such as his tenants. (Tr. 195) Therefore, it is clear that the tenants have not been afforded any notice or the opportunity to be heard on this matter. Thus, under these circumstances, the Complainant cannot request that the tenants' AMI meters be removed.

In addition, the new AMI meter provides several benefits to customers. The General Assembly and this Commission directed that the new AMI meters: (1) provide customers with direct access to and use of price and consumption information; (2) provide customers with information on their hourly consumption; (3) provide 15-minute or shorter interval data to customers; (4) monitor voltage at each meter and report data in a manner that allows an EDC to react to the information; and (5) communicate outages and restorations. *See* 66 Pa. C.S. § 2807(g); *Smart Meter Implementation Order*, p. 30. The Commission approved PPL Electric's selection of the RF Mesh technology because it possesses all of the required capabilities. *2015 Smart Meter Order*, p. 24. Moreover, PPL Electric witness Larson testified that the new smart meter is more heat resistant than any other meter tested on the market and contains heat alarms that will alert the Company if the meter's temperature exceeds a certain level. (Tr. 220-21) Therefore, if the tenants' new AMI meters were removed, all of these benefits would be taken away as well.

¹⁸ PPL Electric notes that the Complainant has a landlord account that allows him to be billed for electric service provided to the rental properties when the tenants move out and voluntarily discontinue service. (Tr. 81; Complainant's Exhibit 30)

For these reasons, the Complainant cannot contest the installation of the AMI meters for his tenants' accounts because, under these circumstances, it would violate the tenants' due process rights.

D. THE COMPLAINANT MISTAKENLY BELIEVES THAT PPL ELECTRIC WAS ENJOINED FROM INSTALLING THE NEW AMI METERS FOR HIS TENANTS' ACCOUNTS, EVEN THOUGH HE NEVER OBTAINED AN INJUNCTION

In his letter dated April 10, 2017, the Complainant avers that "PPL should not have installed smart meters on [his] 5 remaining rental properties after PPL was served [with his] Formal Complaint on August 22, 2017."¹⁹ (Complainant's April 10, 2017 Letter, p. 2) In essence, the Complainant believes that PPL Electric was enjoined from installing the new AMI meters for the Complainant's tenants' accounts as soon as the Company was served with the Complaint.

Filing the Complaint, however, did not automatically grant injunctive relief to the Complainant. In fact, to obtain injunctive relief during the pendency of a Commission proceeding, a party must generally file a separate pleading requesting that injunctive relief, such as a motion for preliminary injunction or a petition for interim emergency order.²⁰ *See, e.g.*, Pa. R. Civ. P. 1531 (concerning preliminary or special injunctions); 52 Pa. Code § 3.1 (defining "Interim emergency order" as "[a]n interlocutory order issued by a presiding officer which is immediately effective and grants or denies injunctive relief during the pendency of a

¹⁹ The dates that the new AMI meters were installed for the tenants' accounts are set forth in PPL Electric Exhibit No. 11.

²⁰ PPL Electric notes that filing a complaint has certain effects in termination of service cases. For example, under Section 56.92 of the Commission's regulations, "[a] public utility may not mail or deliver a notice of termination if a notice of initial inquiry, dispute, informal or formal complaint has been filed and is unresolved and if the subject matter of the dispute forms the grounds for the proposed termination." 52 Pa. Code § 56.92. However, when the grounds for termination are "unauthorized use of public utility service . . . or the customer's failure to pay undisputed bills," then the "public utility may terminate service after giving proper notice in accordance with § 56.91—56.98, whether or not a dispute is pending." *Id.* § 56.164.

proceeding”); 52 Pa. Code § 3.6 (regarding petitions for interim emergency orders); *Chervenitski v. PPL Elec. Utils. Corp.*, 2014 Pa. PUC LEXIS 430, at *17 (July 1, 2014) (Initial Decision) (“The appropriate action to prevent a future event from occurring is found in the Commission’s regulations regarding emergency relief, not in a formal complaint.”) (citations omitted), *became final*, Docket No. C-2014-2423862 (Order entered Aug. 1, 2014). These are both extraordinary remedies that can only be granted after a party meets several, mandatory prerequisites. *See Summit Towne Ctr., Inc. v. Shoe Show of Rocky Mt., Inc.*, 828 A.2d 995, 1001 (Pa. 2003) (citations omitted); *Golden Triangle News v. Corbett*, 689 A.2d 974, 978 (Pa. Cmwlth. 1997) (citation omitted); *Schwartz v. Delaware & Hudson Rwy. Co.*, 2011 Pa. PUC LEXIS 1715, at *11-13 (Order entered July 5, 2011) (citation omitted); 52 Pa. Code § 3.1 (defining “Emergency”).

For a preliminary injunction, the Pennsylvania Supreme Court has declared that a party must demonstrate that: (1) the injunction is necessary to prevent immediate and irreparable harm that cannot be adequately compensated by damages; (2) greater injury would result from refusing the injunction than from granting it, and, concomitantly, that issuance of an injunction will not substantially harm other interested parties in the proceeding; (3) the injunction will properly restore the parties to their status as it existed prior to the alleged wrongful conduct; (4) the party’s right to relief is clear, meaning that the party is likely to prevail on the merits; (5) the injunction is reasonably suited to abate the offending activity; and (6) the injunction will not adversely affect the public interest. *See Summit*, 828 A.2d at 1001 (citations omitted).

Similarly, for an interim emergency order, the Commission’s regulations state that the petitioner must establish that: (1) its right to relief is clear; (2) the need for relief is immediate; (3) the injury would be irreparable if relief is not granted; and (4) the relief requested is not

injurious to the public interest. 52 Pa. Code § 3.6(b); *see Schwartz*, 2011 Pa. PUC LEXIS at *12-13.²¹

Here, the Complainant never filed a motion for preliminary injunction or a petition for interim emergency order requesting that PPL Electric be enjoined from installing the new AMI meters for the tenants' accounts. He only filed his Complaint, which requested that his residence and other properties be permitted to opt-out from the new AMI meter installations. Therefore, the Company was never enjoined from installing the new AMI meters for the tenants' accounts.

In addition, even if the Complainant filed a motion for preliminary injunction or a petition for interim emergency order, which he did not, the Complainant would have been unable to satisfy all of the prerequisites to obtain such injunctive relief. For example, the Complainant's right to relief was not clear, and he was not likely to prevail on the merits. As explained previously, Act 129 and the Commission's orders require PPL Electric to install the new AMI meters for all of the Company's customers.²² Moreover, there is absolutely no reliable scientific or medical basis to support the Complainant's claims that the RF fields from the new AMI meters cause adverse health effects.²³

Further, given the lack of any reliable scientific or medical basis to support his claims, the Complainant's allegations do not substantiate that installing the new AMI meters would cause any harm, let alone immediate and irreparable harm. Conversely, PPL Electric could be harmed because it must adhere to the deployment schedule set forth in its Commission-approved Smart Meter Plan and finish installing the new AMI meters by 2019. An injunction for the entire pendency of the proceeding, as well as any appeals, could stretch beyond that deadline. Also, as

²¹ The Commission's regulations also require the presiding officer to hold a hearing on the merits of the petition within 10 days of when the petition is filed, before an interim emergency order can be issued. 52 Pa. Code § 3.6a.

²² *See* Section VI.B.1., *supra*.

²³ *See* Section VI.B.2.a.i-ii., *supra*.

explained in Section VI.C., *supra*, the tenants derive several benefits from the new AMI meters, such as fire safety improvements and additional information about their electric usage. Therefore, the tenants would have been harmed if the new meters were never installed.

Finally, delaying the deployment of these AMI meters unnecessarily would be injurious to the public interest. The Commission has recognized the efficiencies gained by system-wide deployment and the issues with piecemeal installations. *Smart Meter Implementation Order*, pp. 9, 14; *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) (citation omitted). Additionally, as explained previously, the General Assembly and the Commission have recognized the benefits of the new AMI meters. Indeed, the Commission encouraged PPL Electric to install the new AMI meters “sooner rather than later.” *2015 Smart Meter Order*, p. 36.

For these reasons, and contrary to the Complainant’s belief, PPL Electric was not enjoined from installing the new AMI meters for the tenants’ accounts after the Complaint was filed.

VII. CONCLUSION

WHEREFORE, PPL Electric Utilities Corporation respectfully requests that Administrative Law Judge Elizabeth H. Barnes recommend and the Pennsylvania Public Utility Commission issue an Order dismissing the Formal Complaint of Richard N. Myers with prejudice.

Respectfully submitted,



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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 No. 3)

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 No. 3, pp. 5-6, 20-22; Tr. 218-19)

3. 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. (Tr. 218)

4. The individual RF Mesh meters are used as relay points to transmit data back to PPL Electric. (Tr. 218-19)

5. Under the Smart Meter Plan, the RF Mesh meters are to be deployed between 2017 and 2019 for all of PPL Electric’s 1.4 million customers. (PPL Electric Exhibit No. 3, pp. 3, 32; Tr. 218)

6. The Company currently is in the process of deploying the RF Mesh meters for all of its 1.4 million customers pursuant to its Commission-approved Smart Meter Plan. (Tr. 218; PPL Electric Exhibit No. 3)

7. On July 20, 2017, PPL Electric sent Richard N. Myers (“Complainant”) a letter notifying him that it intended to install the new automated metering infrastructure (“AMI”)

meter, *i.e.*, the RF Mesh meter, on his premises located at 1123 Elm Avenue, Lancaster, Pennsylvania within approximately the next three weeks. (PPL Electric Exhibit No. 2)

8. Between July 20 and August 21, 2017, the Company also sent the Complainant's tenants letters notifying them that it intended to install the new AMI meters for their accounts within approximately the next three weeks. (PPL Electric Exhibit No. 11)

9. The addresses for the Complainant's 11 rental properties are 735 Bay Street, 521 Beaver Street, 523 Beaver Street, 525 Beaver Street, 551 Dauphin Street, 17 E. Filbert Street, 31 W. Frederick Street, 720 High Street, and 529 Poplar Street, Lancaster, Pennsylvania 17603 as well as 115 S. 3rd Street, Columbia, Pennsylvania 17512. (PPL Electric Exhibit No. 11; Complainant's Exhibit 29)

10. PPL Electric installed the new AMI meters for the tenants' accounts on the dates set forth in PPL Electric Exhibit No. 11. (*See* PPL Electric Exhibit No. 11)

11. The RF Mesh meter that the Company is installing on residential properties is the Landis+Gyr Focus AX-SD meter. (Tr. 217, 221)

12. The Complainant contests PPL Electric's planned installation of the new AMI meter at his property, 1123 Elm Avenue, Lancaster, Pennsylvania, as well as the installation of the new AMI meters for his tenants' accounts. (Complainant's Direct Testimony; Complainant's Exhibit 29)

13. The Complainant generally has alleged that the new AMI meter causes adverse health effects and causes fires. In support of his various claims, the Complainant personally testified and presented several written exhibits. (*See* Complainant's Direct Testimony; Complainant's Exhibits 1-6, 8-10, 12-27, 29-30; Tr. 171-200)

14. 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. (Complainant's Direct Testimony, pp. 2-15, 17-20)

15. The Complainant has submitted documents from anti-smart meter and anti-EMF websites, articles, and other documents attempting to prove a link between adverse health effects and RF fields. (*See, e.g.*, Complainant's Exhibits 3-6, 8-10, 12-27)

16. The Complainant also called one expert witness, Dr. David O. Carpenter, to testify on his behalf about the alleged health effects caused by low-level non-ionizing RF fields. (*See Tr.* 51-169)

17. Dr. Christopher Davis is a highly experienced scientific researcher and teacher in Physics, Electrical Engineering, Electromagnetics, and RF Electromagnetics. (PPL Electric Statement No. 1, p. 1, line 9 to p. 4, line 22)

18. 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, p. 1, line 9 to p. 2, line 8)

19. 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, lines 10-19)

20. 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, lines 5-6)

21. 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, p. 5, line 15 to p. 6, line 6; PPL Electric Exhibit CD-1)

22. There is nothing unusual about the RF fields from the AMI meters being deployed by the Company. (PPL Electric Statement No. 1, p. 14, lines 12-16)

23. 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 Wi-Fi networks. (PPL Electric Statement No. 1, p. 5, line 22 to p. 6, line 4; p. 14, lines 12-16; PPL Electric Exhibit CD-1)

24. 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. 8, line 18-20; Tr. 110-11)

25. 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, p. 8, line 20 to p. 9, line 8)

26. 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, lines 13-17; *see* PPL Electric Exhibit CD-2)

27. 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, lines 13-15)

28. 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, lines 21-23)

29. Dr. Davis 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, line 20 to p. 15, line 4)

30. 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, lines 22-23)

31. The Complainant reported that he used his cell phone for 16,222 minutes over a 12-month period. (PPL Electric Statement No. 1, p. 15, lines 5-12; PPL Electric Exhibit No. 10)

32. This is equivalent to 3,198 years of continuous RF exposure at approximate 3 feet from the AMI meter. (PPL Electric Statement No. 1, p. 15, lines 5-22)

33. Dr. Davis also testified that there are seven television broadcast towers with a 50 mile radius of Complainant’s location. (PPL Electric Statement No. 1, p. 16, lines 5-7)

34. Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant’s residence are 18.4 times higher than the RF signals from the AMI meter. (PPL Electric Statement No. 1, p. 16, lines 10-12; *see* PPL Electric Exhibit CD-5)

35. Dr. Davis also demonstrated that the existing background levels of RF fields at Complainant's rental properties are many times higher than the fields from the AMI meter. (PPL Electric Statement No. 1, p. 16, line 13 to p. 17, line 2)

36. As Dr. Davis explained, "The Lancaster rental properties are all within relatively close proximity to [the Complainant's] residence[,] and the background levels of RF fields from UHF TV broadcasting at the Lancaster rental properties are not substantially different from the background level at [the Complainant's] residence." (PPL Electric Statement No. 1, p. 16, lines 18-21)

37. Further, Dr. Davis made a separate calculation for the property located at 115 S. 3rd Street in Columbia, Pennsylvania, which showed that "the RF fields at 3 meters from the AMI meter being used by PPL Electric are 94 times smaller than the background RF exposure from UHF TV broadcasting at [the Complainant's] rental property in Columbia." (PPL Electric Statement No. 1, p. 16, line 21 to p. 17, line 2; PPL Electric Exhibit CD-7)

38. 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, line 20 to p. 18, line 6)

39. Dr. Mark Israel is an eminent physician and medical researcher. (PPL Electric Statement No. 2, p. 1, line 5 to p. 6, line 15)

40. 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, lines 16-20)

41. 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, lines 11-14)

42. Dr. Israel is board certified and licensed to practice medicine. (PPL Electric Statement No. 2, p. 3, lines 3-6)

43. 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 over 245 medical research studies in leading peer-reviewed scientific journals. (PPL Electric Statement No. 2, p. 3, line 9 to p. 4, line 2)

44. 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, p. 3, lines 14-17)

45. Dr. Israel evaluated scientific research on RF fields and adverse health effects generally and examined controlled animal laboratory studies, which “provide a reliable basis for determining whether RF fields have the capability to cause or contribute to adverse health effects in animals,” such as cancer or adverse effects on growth, development, or reproduction. (PPL Electric Statement No. 2, p. 6, lines 7-15; p. 8, lines 16-23)

46. These well-designed and well-conducted studies found no such adverse health effects. (PPL Electric Statement No. 2, p. 8, line 23 to p. 9, line 18)

47. Dr. Israel also noted that claimed symptoms related to electromagnetic hypersensitivity (“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. 11, line 20 to p. 12, line 10) (emphasis added)

48. Dr. Israel 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. 12, lines 13-15)

49. 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. 13, line 20 to p. 14, line 15; PPL Electric Exhibit MI-3)

50. The World Health Organization has found that “[t]here is little scientific evidence to support the idea of electromagnetic hypersensitivity.” (PPL Electric Statement No. 2, p. 14, lines 10-12)

51. 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, p. 10, line 12 to p. 11, line 5; PPL Electric Exhibit MI-1)

52. Several U.S. state public health authorities and public utility commissions 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, lines 6-16; PPL Electric Exhibit MI-2)

53. Dr. Israel also evaluated the exhibits that the Complainant downloaded from the internet, including the BioInitiative Report (Complainant's Exhibit 3), the 1971 bibliography from the National Technical Information Service (Complainant's Exhibit 4), the list of "155 reviews" (Complainant's Exhibit 5), and the "International Appeal" (Complainant's Exhibit 23), among others. (PPL Electric Statement No. 2, p. 14, line 16 to p. 22, line 8)

54. Dr. Israel testified that these exhibits are not scientific studies and demonstrated that they do not provide scientific data that can be used to reach a reliable conclusion about RF fields and health. (PPL Electric Statement No. 2, p. 14, line 16 to p. 22, line 8)

55. 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. 25, lines 12-15)

56. 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 of the symptoms claimed by the Complainant, or any other adverse health effects. (PPL Electric Statement No. 2, p. 25, lines 20-22)

57. The Complainant presented Dr. David Carpenter as an expert witness. Dr. Carpenter has a medical degree, but he has never been licensed to practice medicine, he is not Board certified in any area of medicine, and he does not diagnose or treat patients for any kind of condition or illness. (Tr. 105-06)

58. Dr. Carpenter did not offer any opinions about the Complainant's health or the levels of RF fields at the Complainant's home or any of his rental properties. (Tr. 107-08)

59. Dr. Carpenter did not know the type of RF fields used by the AMI meters being deployed by the Company, had never looked at the specifications for the meters, and did not even know the level of RF fields produced by the meters. (Tr. 109-10)

60. Dr. Carpenter based his opinion about health effects on his belief that smart meters create pulsed RF fields. (Tr. 93)

61. This claim was directly contradicted by Dr. Davis—who is an expert in physics and radio frequency exposure assessment and who testified that the AMI meter being used by the Company “produces sinusoidal RF fields, which are physically different from pulsed fields.” (PPL Electric Statement No. 1, p. 8, lines 12-14)

62. Dr. Carpenter nonetheless offered an opinion that the RF fields from the AMI meter complied with the RF exposure safety standard mandated by the FCC. (Tr. 110)

63. He disagrees with the FCC RF standard and has gone so far as to lobby the FCC to change the standards. (Tr. 110-11)

64. Although Dr. Carpenter felt strongly about the issue of needing to change the FCC standard, he could not actually identify what the standard was to which he objected. (Tr. 111-12)

65. Dr. Carpenter also talked about the findings of the “Bolkow” [Volkow] study, which he said was very important to him. (Tr. 104)

66. He testified that he was “very familiar” with that study (Tr. 66) and that it demonstrates that RF fields from cell phones “change the metabolic activity of the brain.” (Tr. 69)

67. On cross examination, Dr. Carpenter admitted that on the very first page of the Volkow study, the authors emphasize that the finding in their study “is of unknown clinical significance.” (Tr. 105)

68. Moreover, Dr. Davis, who is an expert in RF bioelectromagnetics and exposure assessment, testified that the effect reported in the study was due to heating from the cell phones used in the study. (Tr. 230-31)

69. Dr. Carpenter also provided a document that he wrote in 2009 and published in 2010, which he testified was an accurate reflection of his opinions. (Tr. 125-26; Complainant’s Exhibit 27)

70. The title of the document states “President’s Cancer Panel, January 27, 2009,” and Dr. Carpenter explained that this paper documented testimony he provided to the President’s Cancer Panel in 2009. (Tr. 126-27)

71. In the paper (and his testimony to the President’s Cancer Panel), Dr. Carpenter states his opinions about cancer risks from RF fields, as well as power frequency electric and magnetic fields (EMF). (Tr. 129-30)

72. The paper also states Dr. Carpenter’s views about a need for changes to exposure standards for both EMF and RF fields. (Tr. 130)

73. Dr. Carpenter did not disclose that the President's Cancer Panel issued a report in 2009 strongly refuting Dr. Carpenter's views, finding there was a "lack of association" between EMF and cancer, and for RF fields "there is no evidence to support a link between cell phone use and cancer." (Tr. 131)

74. In this same paper published in 2010, Dr. Carpenter noted that there was an important upcoming study on cell phones and brain cancer, known as the "Interphone" study. (Tr. 135)

75. Dr. Carpenter knew this was a major research effort coordinated through the World Health Organization and involved research from 13 different countries. (Tr. 135-36)

76. The researchers who conducted the Interphone study concluded that "overall no increase in risk of either glioma or meningioma was observed in association with use of mobile phones." (Tr. 139)

77. When confronted with another Interphone study conclusion that "there was an overall reduced risk of brain cancer among cell phone users," Dr. Carpenter claimed there must have been "some flaw" in the study. (Tr. 140)

78. Dr. Carpenter claimed that all of the authors of the Interphone study (a page of names of researchers from the 13 different country studies) must have misinterpreted their own data. (Tr. 139-40)

79. Dr. Israel, who has conducted research on cancer, evaluated Dr. Carpenter's 2010 paper and found that it "presents a limited and selective view of the research on RF fields." (PPL Electric Statement No. 2, p. 24, lines 10-11)

80. In particular, Dr. Carpenter's approach is to report "selective results" (i.e., those with which he agrees) from some studies and to ignore the "inconsistent findings" from other studies. (PPL Electric Statement No. 2, p. 24, lines 11-12)

81. Dr. Carpenter will report "selective data" from a study and ignore "data from the same study that does not support his arguments." (PPL Electric Statement No. 2, p. 24, lines 12-18)

82. Dr. Israel also pointed out that Dr. Carpenter "largely ignores" the large body of laboratory research, "which shows no consistent evidence of RF fields causing or contributing to the development of cancer in animals." (PPL Electric Statement No. 2, p. 24, lines 18-20)

83. As a result, Dr. Carpenter's testimony is not a balanced assessment of the scientific research, and his views are "strongly at variance with the conclusions of the comprehensive reviews conducted by scientific panels and public health authorities. (PPL Electric Statement No. 2, p. 24, lines 20-22; PPL Electric Exhibits MI-1 and MI-2)

84. Dr. Carpenter's advocacy is best shown by his involvement in the BioInitiative Report (Complainant's Exhibit 3).

85. This report has been strongly criticized as unbalanced and unreliable by public health organizations and expert groups. (PPL Electric Statement No. 2, p. 14, line 16 to p. 15, line 9; *see* PPL Electric Exhibit MI-4)

86. For instance, the Health Council of the Netherlands concluded that "the BioInitiative report is not an objective and balanced reflection of the current state of scientific knowledge." (PPL Electric Statement No. 2, p. 14, line 22 to p. 15, line 3; *see also* PPL Electric Exhibit MI-4)

87. Dr. Carpenter was an editor of the report and helped to bring it into being. (Tr. 155)

88. He admitted that the BioInitiative Report “wasn’t a group consensus evaluation of the science.” (Tr. 159)

89. Rather, the report’s authors were selected “to help support the goal of arguing for new standards.” (Tr. 159)

90. Indeed, instead of providing a balanced assessment of the science, the report’s purpose was advocacy. (Tr. 157)

91. The new AMI meter to be installed by the Company is not a fire or safety hazard. (Tr. 220-21)

92. The new AMI meters are equipped with software and mechanisms that better alert the Company if there is an issue with overheating. Specifically, there is a heat alarm, so when the temperature of the meter hits an established, “very conservative” level, the Company is alerted of the issue. (Tr. 221)

93. Further, PPL Electric monitors the meter’s temperature data, so it can track the meter’s temperature and identify any current issues or problematic trends. (Tr. 221)

94. PPL Electric has examined the issues with other meters and taken many steps to prevent fire incidents. (Tr. 220)

95. PPL Electric witness Larson testified that a lot of those incidents were caused by faulty connections within the meter base and “the meter not being able to withstand the heat of the build-up” that resulted. (Tr. 220)

96. However, PPL Electric set a stringent requirement that the new AMI meters it selected be able to withstand a “thermal index up to 160 degrees Celsius.” (Tr. 220)

97. The Company “tested every meter available on the market today,” and the AMI meter selected by PPL Electric was “the only meter that met that requirement.” (Tr. 220)

98. More importantly, PPL Electric has deployed approximately 720,000 new AMI meters in its service territory, and Mr. Larson is aware of no fires being caused by the E350 Focus AX-SD meter. (Tr. 221)

99. The Complainant has requested that the new AMI meters for his tenants’ accounts be removed as well. (Tr. 179-80)

100. These meters were installed for accounts in the tenants’ names, not the Complainant’s. (PPL Electric Exhibit No. 11; Tr. 181, 209)

101. Nothing in the record indicates that any of these customers want the new AMI meters removed. In fact, the meter for 529 Poplar Street was installed after the Company and the customer made an appointment to replace the meter. (PPL Electric Exhibit No. 11)

102. The Complainant also conceded that he is not authorized to represent any other customers’ interests, including his tenants. (Tr. 195)

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 Complainant's property 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 a smart meter installation. *See, e.g., Starr v. PECO Energy Co.*, Docket No. C-2015-2516061, p. 11 (Order Entered Sept. 1, 2016).

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 Complainant's residence 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 effect.

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. The Complainant's filing of the Complaint did not enjoin the Company from installing the new AMI meters for the tenants' accounts. See *Chervenitski v. PPL Elec. Utils. Corp.*, 2014 Pa. PUC LEXIS 430, at *17 (July 1, 2014) (Initial Decision), *became final*, Docket No. C-2014-2423862 (Order entered Aug. 1, 2014)

20. "The appropriate action to prevent a future event from occurring is found in the Commission's regulations regarding emergency relief, not in a formal complaint." *Id.* at *17 (citations omitted).

21. To obtain injunctive relief during the pendency of a Commission proceeding, a party must generally file a separate pleading requesting that injunctive relief, such as a motion

for preliminary injunction or a petition for interim emergency order. *See, e.g.*, Pa. R. Civ. P. 1531 (concerning preliminary or special injunctions); 52 Pa. Code § 3.6 (regarding petitions for interim emergency orders).

22. These are both extraordinary remedies that can only be granted after a party meets several, mandatory prerequisites. *See Summit Towne Ctr., Inc. v. Shoe Show of Rocky Mt., Inc.*, 828 A.2d 995, 1001 (Pa. 2003) (citations omitted); *Golden Triangle News v. Corbett*, 689 A.2d 974, 978 (Pa. Cmwlth. 1997) (citation omitted); *Schwartz v. Delaware & Hudson Rwy. Co.*, 2011 Pa. PUC LEXIS 1715, at *11-13 (Order entered July 5, 2011) (citation omitted); 52 Pa. Code § 3.1 (defining “Emergency”).

23. For a preliminary injunction, the Pennsylvania Supreme Court has declared that a party must demonstrate that: (1) the injunction is necessary to prevent immediate and irreparable harm that cannot be adequately compensated by damages; (2) greater injury would result from refusing the injunction than from granting it, and, concomitantly, that issuance of an injunction will not substantially harm other interested parties in the proceeding; (3) the injunction will properly restore the parties to their status as it existed prior to the alleged wrongful conduct; (4) the party’s right to relief is clear, meaning that the party is likely to prevail on the merits; (5) the injunction is reasonably suited to abate the offending activity; and (6) the injunction will not adversely affect the public interest. *See Summit*, 828 A.2d at 1001 (citations omitted).

24. For an interim emergency order, the Commission’s regulations state that the petitioner must establish that: (1) its right to relief is clear; (2) the need for relief is immediate; (3) the injury would be irreparable if relief is not granted; and (4) the relief requested is not injurious to the public interest. 52 Pa. Code § 3.6(b); *see Schwartz*, 2011 Pa. PUC LEXIS at *12-13.

25. The Complainant never filed a motion for preliminary injunction or a petition for interim emergency order, and even if he did, the Complainant would have been unable to satisfy all of the prerequisites to obtain such injunctive relief. *See Summit*, 828 A.2d at 1001 (citations omitted); 52 Pa. Code § 3.6(b); *see Schwartz*, 2011 Pa. PUC LEXIS at *12-13.

26. Persons are entitled to due process before the Commission. *See Schneider v. Pa. PUC*, 479 A.2d 10, 15 (Pa. Cmwlth. 1984) (citation omitted).

27. Due process is satisfied when a party is “afforded notice and the opportunity to appear and be heard.” *Id.*

28. The Complainant cannot contest the installation of the AMI meters for his tenants’ accounts without violating their due process rights because they have not been afforded any notice or the opportunity to be heard on this matter.

Appendix C

Appendix C – Proposed Ordering Paragraphs

1. That the Formal Complaint filed by Richard N. Myers against PPL Electric Utilities Corporation at Docket No. C-2017-2620710 is hereby dismissed in its entirety with prejudice.
2. That this matter is marked closed.