

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Cynthia Randall and Paul Albrecht	:	
	:	
v.	:	C-2016-2537666
	:	
PECO Energy Company	:	

INITIAL DECISION
(NON-PROPRIETARY)

Before
Darlene D. Heep
Administrative Law Judge

INTRODUCTION

Mr. Paul Albrecht and Dr. Cynthia Randall filed a Complaint with the Commission seeking to prevent PECO Energy Company from replacing their AMR¹ electric meter at their home with an AMI² meter, also known as a smart meter. They contend that electromagnetic emissions (EFs)³ from the smart meters will have adverse health effects, particularly upon Dr. Randall because of her medical history, and therefore installation of a smart meter at their residence would be unsafe and unreasonable service under 66 Pa.C.S. §1501. They also contend that installation of a smart meter without their consent would violate the due

¹ AMR is an acronym for “automatic meter reading.”

² AMI is an acronym for “advanced metering infrastructure.”

³ Testimony during the hearing interchangeably used the terms electromagnetic fields, emissions, radio frequency fields and electromagnetic frequency to refer to the emissions of concern to the Complainants. They will be referred to herein as EFs.

process clause of the 14th Amendment of the Federal Constitution as well as the due process protections in Article 1, Section 11 of the Pennsylvania State Constitution.

This decision finds that the preponderance of the evidence does not support a finding that installation of a smart meter at the home of the Complainants would be unsafe and unreasonable service. The decision also finds that PECO's efforts to install the meter were not unreasonable and that there were no violations of the constitutions of the Commonwealth or the United States.

HISTORY OF THE PROCEEDING

On April 1, 2016, Dr. Cynthia Randall, Ph. D. and Paul Albrecht (Complainants), through counsel Edward G. Lanza, Esq., filed a formal Complaint against PECO Energy Company (PECO or respondent) with the Pennsylvania Public Utility Commission (Commission). The Complainants are requesting that the Commission: 1) compel PECO to comply with 66 Pa.C.S. § 1501; 2) compel PECO to cease attempting to install a smart meter on their property; 3) compel PECO to provide an accommodation for Dr. Randall and Mr. Albrecht based on their medical histories; 4) compel PECO to allow them to utilize an analog meter at their residence; and 4) order a permanent stay of any current or future termination on the part of PECO.

On April 21, 2016, PECO filed an Answer and New Matter and Preliminary Objection.

On May 2, 2016, Complainants filed an Answer to Preliminary Objection.

On June 14, 2016, the Preliminary Objection filed by PECO was sustained in part with respect to the request for relief seeking an "opt out" of smart meter installation. It was ordered that a hearing be scheduled to address whether installation of a smart meter at the Complainants' residence, in light of their health concerns, constitutes unsafe and unreasonable service in violation of 66 Pa.C.S. § 1501.

On August 8, 2016, Stephen G. Harvey, Esq. filed an entry of Appearance as co-counsel for the Complainants.

On August 16, 2016, PECO Energy Company filed with the Commission a Joint Motion For An Omnibus Schedule Revision in the following proceedings:

Povacz v. PECO Energy Company, Docket No. C-2015-2475023
Randall and Albrecht v. PECO Energy Company, Docket No. C-2016-2537666
Van Schoyk v. PECO Energy Company, Docket No. C-2015-2478239
Murphy v. PECO Energy Company, Docket No. C-2015-2475726

All Complainants engaged the same counsel and shared experts. PECO intended to present the same experts in each matter. The Complainants and PECO offered that it is their joint belief that the proposed omnibus schedule would save substantial time and resources (as many as nine hearing days) for the Commission and the parties if there was not duplicative expert testimony.

The Motion for Omnibus Schedule was granted, and a revised Pre-Hearing Order was issued on August 26, 2017. Unless there is reference to a specific complainant, expert testimony is considered common testimony between and among all Complainants and admitted in accordance with 52 Pa. Code § 5.407.

On August 25, 2016, Complainants Murphy and Povacz each filed a Motion for Reasonable Accommodation of Disability under the Americans with Disabilities Act (ADA). The parties sought to move the hearing to Harrisburg due to their concerns about exposure to electromagnetic fields in the courtroom in Philadelphia. On September 9, 2016, the Motion was denied in part and granted in part and an Order issued allowing the Complainants Murphy and Povacz to participate by telephone or videoconference.

Omnibus Hearings were held September 14-16, 2016, December 5-8, 2016, and January 25, 2017.

On October 17, 2016, Stephen and Diane Van Schoyck (Docket No. C-2015-2478239) filed a Petition to Withdraw, stating that they were removing their home from the electric grid. The Van Schoycks did not participate in the Omnibus hearings.

To accommodate the averred health issues of Complainant Murphy, further Omnibus hearings were delayed and held December 5-8, 2016, and January 25, 2017.

The final Omnibus transcript was received on February 14, 2017.

In March of 2017, the Commission was notified that the Van Schoycks had completely removed their home from PECO service and the power grid and installed solar power and a generator and their Petition to Withdraw was granted on March 13, 2017.

On February 22, 2017, a Briefing Order was issued instructing the parties to file and serve main briefs on April 21, 2017 and reply briefs on May 19, 2017.

On March 24, 2017, a Judge Change Order was issued assigning this matter to Administrative Law Judge Darlene Heep, solely. The parties requested an extension of time to file briefs and an Order requiring Reply briefs by June 19, 2017, was issued on March 28, 2017.

Due to unforeseen circumstances and medical reasons, the Complainants requested further extensions of time. PECO did not object to the extensions. The final Reply Brief was filed on November 13, 2017.

The record closed on November 13, 2017, upon receipt of the final Reply Brief. The matter is ready for a decision.

FINDINGS OF FACT

1. The Complainants in this case are Dr. Cynthia Randall and Mr. Paul Albrecht.

2. The Respondent in this case is PECO Energy Company.

3. Dr. Cynthia Randall, Ph. D. and Mr. Paul Albrecht are married and live at 700 Shawmont Avenue, Philadelphia, Pennsylvania, 19128. ("service address") *Testimony of Paul Albrecht, September 27, 2016, Hearing Transcript, at 75:5-9 (JA000952)*⁴.

4. Dr. Cynthia Randall has a Ph.D. in physical chemistry from the University of Michigan. *Testimony of Cynthia Randall, September 27, 2016, Hearing Transcript, at 48:9-10 (JA000925)*.

5. An AMR meter was installed on the Randall-Albrecht property in 2002, and has remained installed since that time. *Id.* at 49:13-19 (JA000926).

6. On May 14, 2013, Dr. Randall received a letter from PECO informing her that PECO wanted to change her AMR meter to an AMI smart meter (hereafter "smart meter"). *Id.* at 49:20-50:8 (JA000926-000927).

7. The Complainants objected to the installation of the AMI meter, contacting PECO through an attorney to demand that the company not change her meter. *Id.* at 50:9-13 (JA000927; JA007492-007498).

8. At the time that they contacted PECO, the Complainants believed that they had an analog meter rather than the AMR meter installed at their home. *Id.*

9. Dr. Randall and Mr. Albrecht attempted to minimize their EF exposure by not having a microwave, not having a cordless phone, and only using their computers when they are hardwired to the internet. *Direct Testimony of Cynthia Randall, September 27, 2016, Hearing Transcript at 59:24-60:4 (JA000936-000937)*.

⁴ The JA numbers are references to briefing outlines, testimony and exhibits contained in a Joint Appendix for the Omnibus cases agreed to by the parties and filed in *Murphy v. PECO Energy Company*, Docket No. C-2015-2475726

10. Dr. Randall owns a cell phone but uses it as little as possible and when she is not using her cell phone, she keeps it turned off and away from her body and does not carry it on her person. *Id.* at 60:11-14 (JA000937).

11. Mr. Albrecht has never had a cell phone and does not own or use any wireless devices. *Id.* at 102:1-7. (JA000979).

12. Dr. Randall has a medical history **[Begin Confidential]**

[End

Confidential]

13. Dr. Ann Honebrink currently is and has been Dr. Randall's physician since at least 1989. *Id.* at 52:12-13 (JA000929).

14. Dr. Honebrink has **[Begin Confidential]**

[End Confidential]

15. In April 2016, Dr. Honebrink wrote a letter on Dr. Randall's behalf, opining that it would be prudent for Dr. Randall to avoid any unnecessary radiation exposure. *Id.* at 16:6-13 (JA000893).

16. Glenn Pritchard is an expert in design, operation, and technology of advanced grid installations. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 3:14-16; (JA004257); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 3:14-16; (JA002810).

17. The system that utilized the AMR meters utilized radio frequency communications to transmit meter information from each customer's meter to a network of "cell masters." *Murphy Rebuttal Testimony of Glenn Pritchard*, at 4:8-16; (JA004258); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 4:13-22; (JA002811).

18. The information was then sent to PECO from the “cell masters” over a fiber optic system and phone lines. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 4:8-16; (JA004258); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 4:13-22. (JA002811).

19. The AMR meters send information via radio frequency transmissions from the meter assembly to the utility once every five minutes for a 20-millisecond duration. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 4:18-21; (JA004258); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:1-2; (JA002812).

20. This transmission utilizes a maximum of one watt of power. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 4:18-21; (JA004258); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:2-3; (JA002812).

21. The new AMI smart meter system also utilizes radio frequency communication. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:6-14; (JA004259); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:11-19; (JA002812).

22. With the AMI smart meter system, the wireless communications from the smart meters are received by technology known as “tower gateway base stations.” *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:6-14; (JA004259); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:11-19; (JA002812).

23. The “tower gateway base stations” then transfer the information to PECO via a fiber optic network or over phone lines. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:6-14; (JA004259); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:11-19; (JA002812).

24. The AMI meters also include a second transmitter called a “ZigBee Radio.” *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:15-17; (JA004259); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:20-22; (JA002812).

25. The ZigBee radio utilizes radio frequency transmissions to communicate with devices within the home. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:15-17; (JA004259); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 5:20-22; (JA002812).

26. The new smart meters utilize two-way wireless EF transmissions, allowing communication from the smart meter to the tower gateway base stations, and from the tower gateway base stations to the smart meter. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:19-20; (JA004259); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 6:1-2; (JA002813).

27. Initially, the smart meters are programmed to transmit information once every ninety minutes for a 70-millisecond duration at a maximum two watts of power. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:20-6:1; (JA004259-JA004260); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 6:2-6; (JA002813).

28. After installation, PECO readjusts the transmission frequency to the lowest number of transmissions that still allows the smart meter to effectively communicate with the PECO system. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 5:20-6:1; (JA004259-JA004260); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 6:2-6; (JA002813).

29. The ZigBee radio component of the smart meter is initially programmed to transmit every 30 seconds until it acquires a connection with a device within the home, and then its transmission frequency is decreased to a level that allows the meter to effectively communicate with the device. *Testimony of Glenn Pritchard, December 6, 2016 Hearing Transcript*, at 942:6-14; (JA001201).

30. The ZigBee radio transmits at approximately 1/10th of a watt, and each transmission is less than one microsecond. *Murphy Rebuttal Testimony of Glenn Pritchard*, at 6:6-8; (JA004260); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 6:11-12; (JA002813).

31. PECO's smart meters communicate on reserved, private frequency bands, allowing the meters to communicate with PECO without using a "mesh" system. *Murphy*

Rebuttal Testimony of Glenn Pritchard, at 6:11-7:6; (JA004260); *see also Povacz Rebuttal Testimony of Glenn Pritchard*, at 6:16-7:11; (JA002813).

32. The International Agency for Research on Cancer (“IARC”), which is part of the World Health Organization (“WHO”), classified EF exposure as a “possible carcinogen.” *Direct Testimony of Dr. Andrew Marino, September 15, 2016, Hearing Transcript*, at 662:11-16; (JA000662).

33. PECO did not perform any tests on humans to evaluate the safety of smart meters. *Cross Examination of Glenn Pritchard, December 6, 2016, Hearing*, at 1031:25-1032:20; (JA001290-001291).

34. PECO ensured that the smart meters were compliant with the rules and regulations of the Federal Communications Commission (FCC). *Cross Examination of Glenn Pritchard, December 6, 2016 Hearing*, at 1031:25-1032:20; (JA001290-001291).

35. The electric AMI meter will emit 83% less in radiofrequency fields than does the existing electric AMR meter at the service address. *Murphy Rebuttal Testimony of Christopher Davis Hearing Transcript* at 18; *Povacz Rebuttal Testimony of Christopher Davis Hearing Transcript* at 18-19; PECO Exh. CD-8.

DISCUSSION

The Pennsylvania Public Utility Code requires each public utility to provide the following:

Every public utility shall furnish and maintain adequate, efficient, safe, and reasonable service and facilities, . . . Such service and facilities shall be in conformity with the regulations and orders of the commission.

66 Pa.C.S. § 1501.

The statutory definition of “service” is to be broadly construed. *Country Place Waste Treatment Co., Inc. v. Pa. Pub. Util. Comm'n*, 654 A.2d 72 (Pa.Cmwlth. 1995).

“Service, used in its broadest and most inclusive sense, includes any and all acts done, rendered, or performed, and any and all things furnished or supplied, and any and all facilities used, furnished, or supplied by public utilities, or contract carriers by motor vehicle, in the performance of their duties under this part to their patrons, employees, other public utilities, and the public, as well as the interchange of facilities between two or more of them.”

66 Pa.C.S.A. § 102.

The Complainants are seeking to prevent installation of a smart meter at their home. It is their position that to do so would constitute unsafe and unreasonable service under 66. Ps. C.S. Section 1501, particularly given the medical condition of Dr. Randall and the EFs that are emitted from smart meters.

Section 332(a) of the Public Utility Code, 66 Pa.C.S. § 332(a), provides that the party seeking relief from the Commission has the burden of proof. Complainants seek relief from the Commission, and, therefore, have the burden of proof in this proceeding.

“Burden of proof” means a duty to establish a fact by a preponderance of the evidence, or evidence more convincing, by even the smallest degree, than the evidence presented by the other party. *Se-Ling Hosiery v. Margulies*, 364 Pa. 54, 70 A.2d 854 (1950).

If a complainant establishes a *prima facie* case, the burden of going forward with the evidence shifts to the utility. If a utility does not rebut that evidence, a complainant will prevail. If the utility rebuts complainant’s evidence, the burden of going forward with the evidence shifts back to a complainant, who must rebut the utility’s evidence by a preponderance of the evidence. The burden of going forward with the evidence may shift from one party to another, but the burden of proof never shifts; it always remains on a complainant. *Replogle v. Pennsylvania Electric Company*, 54 Pa. PUC 528 (1980), and *Waldron v. Philadelphia Electric Company*, 54 Pa. PUC 98 (1980).

If Respondent submits evidence of “co-equal” weight to counter Complainant’s evidence, Complainant has not satisfied the burden of proof unless additional evidence opposing Respondent’s evidence is presented. *Morrissey v. PA Dept. of Highways*, 424 Pa. 87, 225 A.2d 895 (1967), and *Burleson v. Pa. Pub. Util. Comm’n*. 66 Pa.Cmwlt. Ct. 282, 443 A.2d 1373 (1982), *aff’d*. 501 Pa. 443, 461 A.2d 1234.

The parties offered differing views regarding the standard of proof applicable to this issue. The Complainant contends:

PECO proceeds from the absolutely incorrect premise that in order to prevail in these proceedings, the Complainants must prove medical causation, *i.e.*, that PECO’s AMR or AMI smart meter caused health conditions for them or will interfere with their health. To be sure, as the Commission recognized in the *Kreider* case, Complainants bear the burden of proving “by a preponderance of the evidence, that PECO is responsible or accountable for the problem described in the complaint,” and this includes proof “that the complainant was adversely affected by the smart meter” and that PECO’s use of a smart meter “will constitute unsafe or unreasonable services in violation of Section 1501 under the circumstances in this case.” *Susan Kreider v. PECO Energy Company*, No. P-2015-2495064, Opinion and Order (September 3, 2015) (JA007462-7481).

See Randall-Albrecht Main Brief, p. 71.

PECO contends that *Letter of Notification of Philadelphia Electric Company 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 Counties*, 1992 Pa. PUC Lexis 160, controls, arguing as follows:

Woodbourne-Heaton thus provides a dispositive framework for the burden and standard of proof in the instant proceeding: If the Complainants prove that there is a body of conflicting and inconclusive science, or that the science is “undecided,” then the Complainants have failed to meet their burden of proof, and cannot prevail. And that is what the Complainants claim to have demonstrated. Moving on from the implications of *Woodbourne-Heaton*, the *Kreider Order* provides a separate, independent basis for concluding that, in order to prevail, the Complainants must prove that PECO’s AMI meters will cause, contribute to, or exacerbate their adverse health conditions. The *Kreider Order* states (emphasis added) that the Complainants “will have the burden of proof during the

proceeding to demonstrate, by a preponderance of the evidence, that PECO is responsible or accountable *for the problem described in the Complaint*” – and each of these Complainants alleged in their respective Complaint that PECO’s AMI would cause, contribute to, or exacerbate their specific health conditions.

PECO Main Brief at 18.

The burden of the Complainant is clear. As the Commission held, in smart meter matters, “[t]he ALJ’s role in the proceedings 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 PECO’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 Company*, Docket No. P-2015-2495064 (Opinion and Order, January 28, 2016) at 23. While the Commission also stated that a complainant “may” be required to present evidence in the form of medical documentation and/or expert testimony, such evidence is not the sole means. As the Commonwealth Court has recognized, a customer may establish a *prima facie* case with circumstantial evidence. See *Milkie v. Pa. Pub. Util. Comm’n*, 768 A.2d 1217 (Pa. Cmwlth. 2001).

Under 66 Pa.C.S. § 1501 and 52 Pa. Code § 57.194, PECO must provide adequate, efficient, safe and reasonable service and facilities. The Complainant contends that installing AMR and AMI meters is unsafe and unreasonable. As the Commonwealth Court held in *Romeo v. Pa. PUC*, 154 A.3d 422, 430 (2017), a Complainant can make out his or her claim through the testimony of others as well as other evidence that goes to the issue of safety and reasonableness. To prevail, the Complainant must prove this by a preponderance of the evidence.

Any decision of the Commission must be supported by substantial evidence. See, e.g., Section 704 of the Administrative Agency Law, 2 Pa.C.S. § 704. “Substantial evidence” is such relevant evidence that a reasonable mind might accept as adequate to support a conclusion. More is required than a mere trace of evidence or a suspicion of the existence of a fact sought to be established. *Norfolk & Western Ry. Co. v. Pa. Pub. Util. Comm’n.*, 489 Pa. 109, 413 A.2d 1037 (1980); *Erie Resistor Corp. v. Unemployment Comp. Bd. of Review*, 194 Pa. Superior Ct.

278, 166 A.2d 96 (1961); and *Murphy v. Comm., Dept. of Public Welfare, White Haven Center*, 85 Pa. Commonwealth Ct. 23, 480 A.2d 382 (1984).

Due Process

Complainants contend that a government actor does not have the authority to expose a person to electromagnetic energy against their wishes and against the recommendation of their physician and to do so would violate the due process clause of the 14th Amendment of the Federal Constitution as well as the due process protections in Article 1, Section 11 of the Pennsylvania State Constitution. There is no due process violation here.

"The due process requirements of the Pennsylvania Constitution are indistinguishable from the Fourteenth Amendment and, therefore, the same analysis applies to both provisions." *Caba v. Weaknecht*, 64 A.3d 39 (2013) citing *Turk v. Dep't of Transp.*, 983 A.2d 805, 818 (Pa. Cmwlth. 2009). The U.S. Constitution requires administrative agencies, like the Public Utility Commission, to provide due process to the parties appearing before them. This requirement is satisfied when the parties are afforded notice and the opportunity to appear and be heard. *Schneider v. Pa. Pub. Util. Comm'n.*, 479 A.2d 10 (Pa.Cmwlth. 1984).

The Commission has specifically recognized the right of customers to be heard regarding smart meters. In *Kreider v. PECO Energy Company*, Docket No. P-2015-2495064 (Order entered September 3, 2015), the Commission held that customers " should have the opportunity to be heard on [] averments regarding the "deleterious health symptoms" related to the smart meter." *Id.* at 18.

A review of the history in this matter shows that the Complainants have had the opportunity to be heard during several weeks of administrative hearings over many months. That opportunity continued with briefs submitted on their behalf and the instant review. There is no violation of due process rights here.

Installation of an Analog Meter

The Complainants ask the Commission to order PECO to cease efforts to install a smart meter, to allow them to utilize an analog meter and to issue a permanent order to prevent PECO from termination of their service. The Complainants cannot prevail here.

Act 129 of 2008 (“the Act” or “Act 129”) required electric distribution companies (“EDCs”) to file Smart Meter technology procurement and installation plans with the Commission for approval. The Act provided:

(f) *Smart Meter technology and time of use rates.*

(1) Within nine months after the effective date of this paragraph, electric distribution companies shall file a Smart Meter technology procurement and installation plan with the commission for approval. The plan shall describe the Smart Meter technologies the electric distribution company proposes to install in accordance with paragraph (2).

(2) Electric distribution companies shall furnish Smart Meter technology as follows:

- (i) Upon request from a customer that agrees to pay the cost of the Smart Meter at the time of the request.
- (ii) In new building construction.
- (iii) In accordance with a depreciation schedule not to exceed 15 years.

66 Pa.C.S. § 2807(f). The Act requires that any smart meter technology utilized have bidirectional or two-way communication technology. § 2807(g).

On June 18, 2009, the Commission ordered EDCs with greater than 100,000 customers to adhere to the guidelines established for smart meter technology procurement and installation. The Commission also ordered EDCs to file a Smart Meter technology procurement

and installation plan.⁵ PECO developed a smart meter installation plan that was approved by the Commission.⁶ Under that plan, PECO is replacing AMR meters with AMI or “mart meters.”

Complainants are essentially contending that they can opt out of smart meter installation, and a plain reading of § 2807(f)(2) suggests an “opt in” or “opt out.” In 2013, however, the Commission concluded that there is no provision in the Code, the Commission’s Regulations or Orders that allows a PECO customer to “opt out” of smart meter installation *See Maria Povacz v. PECO Energy Company*, Docket No. C-2012-2317176 (Order and Opinion entered January 24, 2013). By seeking to install a smart meter at the service address, PECO was trying to comply with Act 129 and the orders of the Commission. As a result, there was no violation: PECO was acting consistent with applicable statutes and Commission orders.

Also, given the refusal of the Complainants to allow access for the changing of their meter, the PECO tariff provides that the company can shut off their service. A public utility’s Commission-approved tariff is *prima facie* reasonable, has the full force of law and is binding on the utility and the customer. *66 Pa.C.S. § 316, Kossman v. Pa. Pub. Util. Comm’n*, 694 A.2d 1147 (Pa.Cmwlth. 1997); and *Stiteler v. Bell Telephone Co. of Pennsylvania*, 32 Pa. Commw.319, 379 A.2d 339 (Pa.Cmwlth. 1977).

PECO Tariff Electric Section 6.4 provides that the company owns and maintains the meters. Section 14.5 provides that the company will select the type and make of the metering equipment to be used for meters supplied by the company and may from time to time change or alter the equipment.

Section 10.1 of PECO's Commission-approved tariff provides that the Company shall keep in repair and maintain its own property installed on the premises of the customer. Section 10.5 states that PECO employees shall have access to the premises of the customer at all

⁵ *See Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Implementation Order entered June 24, 2009) (*Smart Meter Procurement and Installation Order*).

⁶ *See Petition of PECO Energy Company for Approval of its Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123944 (Order entered May 6, 2010) (*PECO Smart Meter Plan Order*).

reasonable times for the purpose of reading meters, and for installing, testing, inspecting, repairing, removing or changing any or all equipment belonging to the Company.

Section 18.3 provides that the Company may terminate on reasonable notice if entry to the meter is refused, or if access to the meter is obstructed or hazardous. Specifically, PECO's tariff provides:

The Company may terminate on reasonable notice if entry to the meter or meters is refused or if access thereto is obstructed or hazardous; or if utility service is taken without the knowledge or approval of the Company; or for other violation of these Rules and Regulations and/or applicable Commission rules, including those found at Pennsylvania Public Utility Code or the Commission's regulations.⁷

It is undisputed that PECO issued notices to the Complainants that the company was installing smart meters. The notices issued by PECO were not in violation of any law, regulation or Commission order and the PECO tariff provides that the company may terminate upon reasonable notice where access to the meter is refused or obstructed. Complainants refused access to the meter. PECO acted in accordance with its tariff. Therefore, the Complainants cannot prevail here.

Safe and reasonable service

Complainants contend that they are concerned about their health and have a right to be free from forced EF exposure. They are asking the Commission "to decide this issue in favor of [their] personal autonomy and avoidance of potential risk in matters affecting health and well-being." (Complainant's Main Brief at 18).

In support of their position, the Complainants presented the testimony of Dr. Anne Honebrink, M.D **[Begin Confidential]**

⁷ PECO Supplement No. 61 to Tariff Electric Pa.P.U.C. No. 4, Fifth Revised Page No. 25.

[End Confidential] it would be prudent
to avoid any unnecessary radiation exposure. " *Direct Testimony of Dr. Anne Honebrink,*
September 27, 2016, Hearing Transcript, at 16:6-13. Mr. Albrecht also testified that he has
[Begin Confidential]

[End Confidential]

The Complainants also point to the testimony of Dr. Hanock Talmor, M.D., who testified during these proceedings that exposure to a smart meter could be harmful and should be avoided. *Direct Testimony of Dr. Hanoch Talmor, M.D.,* at 5:10-13; (JA002656). This advice is premised on the Complainants' assertion that EF emissions from the smart meter would result in unsafe radiation exposure. In support of that assertion, the Complainants urge the Commission to adopt the testimony of its expert witness, Andrew Marino, Ph.D.

Dr. Marino was a professor at the Louisiana State University Medical School for approximately 33 years. At the time of the hearing, he was retired from the medical school and worked developing software intended to diagnose neurological and neuropsychiatric diseases. During his career, he focused on the biological effects of electromagnetic energy and the electrical properties of tissue as they are influenced by that energy. His Ph.D. is in biophysics. *Direct Testimony of Dr. Andrew Marino, September 15, 2016 Hearing Transcript,* at 565-575).

The Complainants emphasize two opinions of Dr. Marino. They are: (1) that there is a basis in established science to conclude that the Complainants could be exposed to harm from the radiation emitted by PECO AMI or AMR smart meters, *Direct Testimony of Dr. Andrew Marino Hearing Transcript, September 15, 2016,* at 578:13-16; (JA000578); and (2) because the PECO smart meters have not been proved safe, it is unreasonable to force the Complainants to accept the exposure to the radiation emitted by the smart meters on their residences. *Id.* at 578:23-579:1; (JA000578-000579).

Dr. Marino's opinions are based on a premise that the Complainants otherwise live in an electromagnetically quiet household. This he derived from their testimony that they are reducing and eliminating EFs from their home by not having a microwave oven, using one cell phone on a limited basis and using a hard-wired computer. Given this environment, Dr. Marino concludes that the introduction of the EFs from a smart meter will cause the Complainants harm. *Direct Testimony of Dr. Andrew Marino, September 15, 2016 Hearing Transcript*, at 662:11-16.

Dr. Marino's conclusion that such EFs could be harmful is based on his 15 years of documenting the existence of health effects from EFs and his own scientific study of EFs. *Id.* at 609:8-9. He also testified that pulsed EFs are released from the AMR meter at one watt of energy each time it emits and from the AMI meter at two watts of energy each time it emits. Marino Direct 1. *Id.* at 584:10-14. *Rebuttal Testimony of Dr. Andrew Marino, January 25, 2017, Hearing Transcript*, at 1874:25-1875:15. It is asserted that this would be a material addition of RFs to Complainants' environment and could be harmful. *Direct Testimony of Dr. Andrew Marino, September 15, 2016, Hearing Transcript*, at 639:21-640:6. A *prima facie* case was established by the Complainants. Also in support of his conclusion, Dr. Marino referenced a May 2016 Report of the National Toxicology Program (NTP) which he contends showed that rats developed tumors when exposed to EFs. The NTP is a government agency that studies toxicological effects in the general public due to environmental factors. *Rebuttal Testimony of Dr. Andrew Marino, January 25, 2017, Hearing Transcript*, at 1854:4-8 (JA002179).

In rebuttal, PECO presented the testimony of Dr. Mark Israel, M.D. Dr. Israel attended the Albert Einstein College of Medicine, had an internship and residency at Harvard Medical School, has worked at the National Institutes of Health and has been a professor of medicine and medical research at numerous medical schools. He has studied radiofrequency fields and health effects. Dr. Israel began to examine the research on electromagnetic fields, including radiofrequency fields, and health effects during his tenure at the National Cancer Institute more than 25 years ago. He has continued to follow the research literature on this subject since that time. *Murphy Rebuttal Testimony of Mark Israel Hearing Transcript* at 3-6; *Povacz Rebuttal Testimony of Mark Israel Hearing Transcript* at 3-6.

It is the expert opinion of Dr. Israel that to a reasonable degree of scientific certainty, there is no reliable scientific basis to conclude that exposure to radio frequency fields from PECO's AMI meters is capable of causing any adverse biological effects in people, including the Complainants. *Murphy Rebuttal Testimony of Mark Israel Hearing Transcript* at 3-5; *Povacz Rebuttal Testimony of Mark Israel Hearing Transcript* at 3-5.

Dr. Israel did not give much weight to Dr. Marino noting that the World Health Organization (WHO) classifies EFs as "possible" carcinogens. He finds the classification particularly unhelpful in the treatment of patients. Dr. Israel noted that "anything is possible" and that as a practitioner and expert in this area, the term "possible carcinogen" is misleading to the population. According to Dr. Israel, the classification means that there "just isn't evidence to identify this as even a probable carcinogen." December 9, 2016 *Cross Examination of Dr. Mark Israel, December 9, 2016 Hearing Transcript*, at 1630 - 1631; (JA001955-JA001956).

Dr. Israel conducted an evaluation of whether exposure to radiofrequency fields from PECO's AMI meters can cause, contribute to or exacerbate the conditions described by the Complainants. In that evaluation, he used the same methodology that he uses in the usual course of his medical work, which included searching medical and scientific databases, analyzing studies identified through that research, evaluating as a whole all of the studies that he determined were relevant to the claimed symptoms, including both studies that showed an effect and studies that did not show an effect. He also reviewed findings of public health agencies and organizations to see if they provided any insights he may have missed and to see if their conclusions were inconsistent with his initial determinations. He then made his final medical evaluation. *Murphy Rebuttal Testimony of Mark Israel* at 7; *Povacz Rebuttal Testimony of Mark Israel* at 6-7.

Dr. Israel conducted the above-described evaluation for each of the symptoms or conditions identified by the Complainants and concluded, for each such symptom, that there is no reliable medical basis to conclude that radiofrequency fields from PECO's electric AMI meters caused, contributed to, or exacerbated, or will cause, contribute to, or exacerbate, any of the symptoms identified by Complainants. *Murphy Rebuttal Testimony of Mark Israel* at 11-31;

Povacz Rebuttal Testimony of Mark Israel at 11-26; December 8, 2016, Povacz Transcript at 1470-1516. Dr. Israel, **[Begin Confidential]** **[End Confidential]** specifically considered testimony regarding Dr. Randall's history **[Begin Confidential]**

[End Confidential] including as it pertains to Dr. Randall. *Rebuttal Testimony of Mark Israel Hearing Transcript* at 11-26; December 8, 2016, at Tr. 1477- 1500; (JA001802-JA001825).

It is Dr. Israel's overall medical opinion that exposure to electromagnetic fields from PECO's smart meters has not been and will not be harmful to Complainants' health. He holds both his symptom-specific and overall medical opinions to a reasonable degree of medical certainty. *Murphy Rebuttal Testimony of Mark Israel* at 31-32; *Povacz Rebuttal Testimony of Mark Israel* at 26.

Mr. Glenn Pritchard, PECO Engineer in the design and operation of AMI meter systems, testified that while PECO itself did not perform any tests on humans to evaluate the safety of smart meters, PECO ensured that the smart meters were FCC compliant. *Cross Examination of Glenn Pritchard, December 6, 2016, Hearing*, at 1031:25-1032:20; (JA001290-001291).

Dr. Christopher Davis, Ph.D. also testified on behalf of PECO. Dr. Christopher Davis is a professor of electrical and computer engineering at the University of Maryland in College Park who studies, researches, teaches, and serves on national and international panels related to physics, biophysics, electrical engineering, electromagnetics, radiofrequency exposure and dosimetry. *Murphy Rebuttal Testimony of Christopher Davis* at 1-7; *Povacz Rebuttal Testimony of Christopher Davis* at 1-7.

Dr. Davis noted that the FCC has promulgated limits for the maximum permissible exposure to radiofrequency fields emitted by a Smart Meter as 0.6 mW/cm^2 , calculated as an average exposure over time. *Murphy Rebuttal Testimony of Christopher Davis*

at 13; *Povacz Rebuttal Testimony of Christopher Davis* at 13-14. According to Dr. Davis, the average exposure from PECO's electric AMI meters is millions of times less than the FCC maximum permissible exposure levels. *Murphy Rebuttal Testimony of Christopher Davis* at 15-16; *Povacz Rebuttal Testimony of Christopher Davis* at 16; PECO Exh. CD-2. He also testified that the peak exposure from PECO's electric AMI meters is approximately 40 times smaller than the FCC limit for 30-minute average exposure. *Murphy Rebuttal Testimony of Christopher Davis* at 16; *Povacz Rebuttal Testimony of Christopher Davis* at 17. PECO Exh. CD-3. He added that the exposure from PECO's electric AMI meters is also millions of times less than the guidelines published by the International Commission on Non-Ionizing Radiation Protection. *Murphy Rebuttal Testimony of Christopher Davis* at 16-17; *Povacz Rebuttal Testimony of Christopher Davis* at 17; PECO Exh. CD-4.

Dr. Davis also persuasively dismissed the NTP study referenced by Dr. Marino. He stated that the study was a non-peer-reviewed draft that may never be published. *Cross Examination of Dr. Christopher Davis, December 7, 2016, Hearing Transcript*, at 1274:14-1278:11; (JA001598-001602). He also did not find the study applicable to the EFs from smart meters because the study involved EFs at "a relatively high-power density that's not relevant." *Cross Examination of Dr. Christopher Davis, December 6, 2016, Hearing Transcript*, at 1090:22-24 (JA001349).

Dr. Davis also challenged the basis upon which Dr. Marino made his conclusions and questioned his calculations regarding EF exposure. Particularly, Dr. Davis did not find that the Complainants have an electromagnetically quiet home. He stated that in everyday life, people are exposed to radiofrequency field levels from many sources that are much higher than the radiofrequency fields associated with PECO's AMR or AMI meters. *Murphy Rebuttal Testimony of Christopher Davis* at 17; *Povacz Rebuttal Testimony of Christopher Davis* at 17-18; PECO Exh. CD-5.

As an example, he noted that background exposure from UHF broadcasting is hundreds of times higher than the exposure from PECO's AMI meters. *Murphy Rebuttal Testimony of Christopher Davis* at 17; *Povacz Rebuttal Testimony of Christopher Davis* at 18.

PECO Exh. CD-6; Testimony of Christopher Davis at 1078-1081; (JA001402-JA001406). He also testified that given even the limited cell phone use of the Complainants, their exposure to radiofrequency fields from cell phones is markedly greater than that from AMI meters. *Murphy Rebuttal Testimony of Christopher Davis at 18, Testimony of Dr. Randall at 70; Testimony of Christopher Davis at 1081-1082; (JA001405-JA001406).*

Further, at the time that the Complainants objected to smart meter installation, they believed that they had an analog meter, an older type of meter that the company replaced with AMR meters beginning in about the year 2000. *Testimony of Cynthia Randall, September 27, 2016, Complainant Exhibit A (JA007492).* An AMR meter was and is installed at the Complainants' home. *Id.* at 49:13-19 (JA000926). As far as whether the EFs from the AMI meter PECO seeks to install **[Begin Confidential]**

[End Confidential] by Dr. Randall, Dr. Davis testified that the electric AMI meter will emit 83% less radiofrequency fields than does the AMR meter currently at their residence. *Murphy Rebuttal Testimony of Christopher Davis at 18; Povacz Rebuttal Testimony of Christopher Davis at 18-19; PECO Exh. CD-8.* This is a reduction of risk, if any, to Dr. Randall. It was the expert opinion of Dr. Davis, however, that to a reasonable degree of scientific certainty, there is no reliable scientific basis to conclude that exposure to radio frequency fields from PECO's AMI meters is capable of causing any adverse biological effects. *Murphy Rebuttal Testimony of Christopher Davis at 24-25; Povacz Rebuttal Testimony of Christopher Davis at 24-25.*

Dr. Randall has a **[Begin Confidential]**

[End Confidential] *Direct Testimony of Cynthia Randall, September 27, 2016, Hearing Transcript 58:9-10; (JA000935),* the anxiety and concern of Dr. Randall and her husband, Mr. Albrecht, is rational and judicious. However, PECO's evidence was prevailing.

It was reasonable for PECO to install and seek to install smart meters that are in compliance with FCC and international standards for maximum exposure to EFs. The PECO meters in fact emit EFs at millions of times less than those maximums.

Dr. Marino was knowledgeable and appeared an expert in his field. However, while Dr. Marino stated that the meter could harm the health of Ms. Randall, he would not say definitively that it would. *Direct Testimony of Dr. Andrew Marino, September 15, 2016, Hearing Transcript*, at 644-645. Dr. Davis and Dr. Israel were more definitive that it would not. Dr. Marino's conclusions were based on information given to him about background EFs that the testimony of Dr. Davis brought into question.⁸

Additionally, the Complainants did not present any evidence to overcome the testimony of Dr. Israel and his certainty, based on his knowledge, experience with the study and treatment **[Begin Confidential]** **[End Confidential]** and review of the medical and scientific literature, that the EFs emitted from the AMI meter would not cause, contribute to, or exacerbate the conditions of concern to Dr. Randall.

The preponderance of the evidence was presented by PECO. Therefore, the Complainants cannot prevail here.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the parties and the subject matter of this proceeding. 66 Pa.C.S. § 701.

2. The Complainants must establish their case by a preponderance of the evidence. *Samuel J. Lansberry, Inc. v. Pa. Pub. Util. Comm'n*, 578 A.2d 600 (Pa.Cmwlth. 1990), alloc. den., 602 A.2d 863 (Pa. 1992).

3. A public utility's Commission-approved tariff is *prima facie* reasonable, has the full force of law and is binding on the utility and the customer. *Pennsylvania Electric Co. v. Pa. Pub. Util. Comm'n*, 663 A.2d 281 (Pa.Cmwlth. 1995); *Respond Power, LLC; v.*

⁸ Testimony that Mr. Albrecht developed insomnia and had pre-melanomas removed after the 2002 installation of the AMR meter at the service address was not persuasive. *Direct Testimony of Mr. Paul Albrecht Hearing Transcript* at 98.

Pennsylvania Electric Company; Respond Power LLC v. West Penn Power Company, Docket Numbers C-2016-2576287; C-2016-2576292 (Order Entered July 13, 2017).

4. Utility companies are required to furnish and maintain adequate, efficient, safe, and reasonable service and facilities. 66 Pa.C.S. § 1501.

5. The statutory definition of “service” is to be broadly construed. *Country Place Waste Treatment Co., Inc. v. Pa. Pub. Util. Comm'n*, 654 A.2d 72 (Pa.Cmwlth. 1995).

6. The U.S. Constitution requires administrative agencies, like the Public Utility Commission, to provide due process to the parties appearing before them, which is satisfied when the parties are afforded notice and the opportunity to appear and be heard. *Schneider v. Pa. Pub. Util. Comm'n.*, 479 A.2d 10 (Pa.Cmwlth. 1984).

7. In 2013, the Commission concluded that there is no provision in the Code, the Commission’s Regulations or Orders that allows a PECO customer to “opt out” of smart meter installation *See Maria Povacz v. PECO Energy Company*, Docket No. C-2012-2317176 (Order and Opinion entered January 24, 2013).

8. The Complainants have not met their burden of proof of establishing a violation of the Public Utility Code, the Commission’s regulations or an outstanding order of the Commission. 66 Pa.C.S. § 701; 66 Pa.C.S. § 1501.

ORDER

THEREFORE,

IT IS ORDERED:

1. That the formal Complaint filed by Cynthia Randall and Paul Albrecht versus PECO Energy Company at Docket No. C-2016-2537666 is denied and dismissed;

