

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Nira and Robert Eckstein	:	
	:	
v.	:	F-2017-2601990
	:	
PECO Energy Company	:	

**INITIAL DECISION**

Before  
Darlene D. Heep  
Administrative Law Judge

**INTRODUCTION**

Mr. and Mrs. Eckstein contend that when they refused installation of a smart meter due to concerns about adverse health effects on their child, PECO threatened to shut off their service. They also contend that the law does not require installation of a smart meter, that requiring them to get a smart meter is in violation of their constitutional rights, and that they want to keep the meter currently installed at their home.

The claims of the Complainants are denied and dismissed. This decision finds that PECO's efforts to install a smart meter, including sending shut-off notices to the Complainants, were not in violation of the Public Utility Code, the Commission's regulations, or a Commission Order. This decision also finds that the preponderance of the evidence does not support a finding that installation of a smart meter would be a violation of the constitutional rights of the Complainants, that a smart meter would be harmful to the health of the Complainant's child, or that installation of a smart meter would constitute unreasonable or unsafe service under 66 Pa.C.S. § 1501.

## HISTORY OF THE PROCEEDING

On April 27, 2017, Nira and Robert Eckstein (Complainants) filed a formal Complaint against PECO Energy Company (PECO or Respondent) with the Pennsylvania Public Utility Commission (Commission). In the Complaint, the Ecksteins contend; 1) that they have been harassed by PECO threatening to shut off their service because they will not accept installation of an AMI<sup>1</sup> meter, also known as a smart meter; 2) that mandating smart meters is a violation of their constitutional rights; 3) that contrary to implementation regulations, Act 129 does not require installation of a smart meter but was intended as "opt in" legislation; and 4) that they have a child who will be negatively affected by electromagnetic frequencies (EFs) from the smart meter, particularly the ZigBee radio in the meter.

On May 22, 2017, PECO filed an Answer. In the Answer, PECO avers that the smart meters are being installed in accordance with Act 129 and the deployment plan approved by the Commission. The company also states that as part of compliance with the Act and the deployment Order, it is terminating the service of customers who do not allow installation of the smart meter.

On May 31, 2017, a Hearing Notice was issued setting an Initial Hearing for July 18, 2017. Given that this was a smart meter case and extensive discovery may have been required, the matter was rescheduled for November 7 and 8, 2017 by Hearing Notice dated and issued on June 5, 2017.

The Hearing Notice stated that the proceeding would begin at 9:00 a.m. on both days, November 7 and 8, 2017. A Pre-hearing Order issued on June 9, 2017 set forth discovery and exchange of information deadlines.

On November 7, 2017, PECO appeared for the hearing with witnesses and prepared to proceed. The Complainants did not appear. At 10:00 a.m., the Complainants had not

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<sup>1</sup> AMI is an acronym for "advanced metering infrastructure."

appeared or contacted the Commission and PECO moved that the matter be dismissed for failure to prosecute. The motion to dismiss was taken under advisement.

In an email sent after 4:00 p.m. on November 7, 2017, the Complainants stated that there was a miscommunication in that they believed that the November 7, 2017 day was cancelled and the hearing would be held the next day, on November 8, 2017 only. Given that PECO's experts had departed by the time the email was received and that the Complainants are acting *pro se*, the hearing was rescheduled for December 13, 2017.

A hearing was held on December 13, 2017. The Complainants appeared *pro se*. Three exhibits were admitted on behalf of the Complainants. They presented no witnesses.

PECO was represented by Ward Smith, Esquire, Shawane Lee, Esquire and Thomas Watson, Esquire. The Company presented four witnesses. Testifying on behalf of PECO were: Mr. Bryan Uber, PECO Supervisor for Customer Field Operations; Mr. Glenn Pritchard, PECO Principal Engineer for the AMI Deployment Project; Christopher Davis, Ph.D. in Physics; and Dr. Mark Israel, Physician. Thirty-six exhibits were admitted on behalf of PECO.<sup>2</sup>

The record closed upon receipt of the transcript on January 10, 2018. This matter is ready for a decision.

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<sup>2</sup> During the hearing, the Complainants requested that the medical records be marked and kept confidential. PECO agreed to maintain the confidentiality of such information. Accordingly, the request was granted. The court reporter was instructed to mark the medical records and any related testimony as confidential. No confidential information appears in this decision. Any medical descriptions herein are also stated in the publicly available Formal Complaint filed by the Complainants.

## FINDINGS OF FACT

1. The Complainants are Nira and Robert Eckstein who are PECO customers residing in Wynnewood, Pennsylvania.
2. Respondent is PECO Energy Company.
3. PECO owns the meters it installs. (Tr. 96, 131).
4. An AMR<sup>3</sup> meter was installed at the service address on December 6, 2000. (Tr. 76).
5. The Complainants moved to the service address in June of 2001. (Tr. 77).
6. The Complainants live in a twin, single family home and their PECO meter is located on an outside wall near their dining room. (Tr. 13).
7. The Complainants' child has autism and an autoimmune disorder. (Tr. 10; Complaint).
8. PECO began to install and utilize its AMI communications system in 2011. (Tr. 115).
9. PECO began its deployment of AMI meters in 2012. (Tr. 65).
10. PECO contracted with two vendors, one to replace electric meters with AMI electric meters and another to install smart communication modules on the existing gas meters. (Tr. 81).

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<sup>3</sup> AMR is an acronym for "automatic meter reading."

11. As part of the AMI meter deployment process, PECO sent customers letters notifying them that their meters would be changed within 45 days and within 21 days. (Tr. 66).

12. PECO also called customers in advance of installation when a meter was inaccessible. (Tr. 66).

13. Customers were also provided with a telephone number to contact PECO with questions or concerns and letters and a link to a website that provided additional information about the AMI meter. (Tr. 67-68; PECO Exhibits BU-2, BU-3, BU-4).

14. On September 4, 2013, PECO sent a letter to the Eckstein's informing them that PECO would soon replace their AMR meter with a smart meter. (Tr. 77; PECO Exhibit BU-1).

15. On March 25, 2014, PECO sent the Eckstein's a 45-day letter, stating that their meter would be changed within the next two months. (Tr. 77; PECO Exhibit BU-1; PECO Exhibit BU-2).

16. An electric meter installer contracted by PECO stopped by the service address on April 22, 2014, but was unable to access the electric meter. (Tr. 78).

17. On April 23, 2014, a 21-day letter was sent to the Complainants, which provided a telephone number and requested that the customer contact PECO if the meter is located indoors or in another location that required the customer to provide access. (Tr. 78; PECO Exhibit BU-3).

18. On May 9, 2014, the Complainants called PECO and stated that they wanted to opt out of AMI meter installation. (PECO Exhibit BU-1).

19. During the May 9, 2014, call, the Complainants were told by the PECO representative that no opt out of smart meter installation was available. (PECO Exhibit BU-1).

20. On October 2, 2014, PECO used an automated dialer to contact the Complainants to set up an appointment for installation of the electric AMI meter but there was no answer. (Tr. 79).

21. On October 8, 2014, PECO sent another letter to the Complainants requesting an appointment to install the electric AMI meter. (Tr. 79).

22. On October 13, 2014, PECO's installation contractor issued a notice to the Complainants that a smart module would be installed on the gas meter. (Tr. 79-80).

23. If a customer refuses installation of a smart meter, PECO issues 10-day, 72-hour, and 48-hour shut off notices. (Tr. 68; PECO Exhibits BU-5, BU-6).

24. On October 14, 2014, PECO issued a ten-day shut off notice to the Complainants for their failure to schedule installation of the electric AMI meter. (Tr. 80).

25. On October 20, 2014, a contractor was able to access the gas meter at the service address, at which time the contractor installed a smart module on the Complainants' gas meter. (Tr. 76; PECO Exhibit BU-1).

26. On October 21, 2014, a 72-hour service shut-off notice was left at the property with "You did not give us access to our meter" checked as the reason for the proposed termination. (PECO Exhibit BU-1; BU-6).

27. The Complainants' service was not terminated in 2014. (Tr. 82; PECO Exhibit BU-1).

28. Beginning in September of 2015, PECO restarted the AMI installation notice process with letters and several calls to the Complainants to set up an appointment for installation. (Tr. 82; PECO Exhibit BU-1).

29. On October 16, 2015, PECO customer service manager Brenda Eison sent Mrs. Eckstein a letter stating: that AMI meters had lower EF emissions than many household appliances; that communications from the PECO AMI meter were on a PECO-owned, private encrypted system to ensure privacy and security of user information; and that the meter met Underwriter Laboratory (UL) safety requirements for such meters. (PECO Exhibit BU-8).

30. The Complainants did not respond to the October 16, 2015, letter. (Tr. 87 88).

31. In September of 2016, PECO again attempted to engage the Complainants with calls and letters. (Tr. 88).

32. PECO issued a ten-day shut off notice to the Complainants on October 4, 2016. (Tr. 89).

33. On October 27, 2016, PECO called the Eckstein's and left a message regarding meter installation. (Tr. 89).

34. On October 27, 2016, Mrs. Eckstein called PECO and again stated that she did not want the AMI meter. (Tr. 89).

35. On November 4, 2016, the Complainants filed an informal complaint with the Commission. (Tr. 89).

36. PECO has installed 1.6 million electric smart meters and 500,000 smart gas modules. (Tr. 66).

37. The operation of the PECO AMR system ended in 2017 and was not operational at the time of the hearing. (Tr. 113; PECO Exhibit GP-2).
38. PECO AMR meters continue to send out signals although they do not communicate with a network. (Tr. 65).
39. Customers who still have AMR meters are receiving estimated bills from PECO. (Tr. 66).
40. The AMR system used radio frequency transmissions to communicate usage data to PECO. (Tr. 114-115).
41. The AMI system also uses radio frequency transmissions and is a two-way communications system, from the meters to communicate usage data to PECO, and from PECO to remotely configure and upgrade the meters. (Tr. 116).
42. PECO has Landis+Gyr AMI meters that have two radios - the FlexNet, to communicate total usage information to PECO, and the Zigbee, to communicate with any smart devices within the household. (Tr. 116-117).
43. The ZigBee radio communicates price and consumption data to smart appliances in the home. (Tr. 116).
44. PECO is currently installing Aclara AMI meters, which do not have a ZigBee radio. (Tr. 118-119).
45. The gas module is an attachment to the gas meter and is a battery-operated device that transmits usage information through radio frequency. (Tr. 119-120).
46. The AMI gas modules installed on the gas meters do not have a ZigBee radio and only collect aggregate usage information. (Tr. 119-120).

47. Mr. and Mrs. Eckstein each own and use a cell phone. (Tr. 51).

48. The smart meters used by PECO do not record conversations in the home but do communicate aggregate usage data and outage information to PECO. (Tr. 125, 226).

### 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. Service, as used in § 1501 is defined as follows:

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. § 102.

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. The 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. 45, 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 a 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 a respondent submits evidence of “co-equal” weight to counter a complainant’s evidence, the complainant has not satisfied the burden of proof unless additional evidence opposing the 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. 282, 443 A.2d 1373 (1982), *aff’d*. 501 Pa. 443, 461 A.2d 1234 (1983).

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

The Ecksteins allege; 1) that they have been harassed by PECO threatening to shut off their service because they will not accept installation of an AMI meter, also known as a smart meter; 2) that mandating smart meters is in violation of their constitutional rights; 3) that

contrary to implementation regulations, Act 129 does not require installation of a smart meter but was intended as "opt in" legislation; and 4) that they have a child whose health will be negatively affected by electromagnetic frequencies (EFs) from the smart meter and the ZigBee radio in the meter. To prevail, the Ecksteins must establish their claims by a preponderance of evidence.

### Threat to Shut off Service

The Ecksteins allege that they were harassed by PECO and threatened with termination of their service because they would not allow installation of a smart meter. Although PECO did send the Complainants several notices and made many efforts to contact them and install an AMI meter, PECO did not violate the Code, regulations or a Commission order. The record does not support a finding for the Complainants on this claim.

Act 129 of 2008 ("the Act" or "Act 129") directed 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. *Id.* § 2807(g).

The Commission ordered EDCs with greater than 100,000 customers to adhere to the guidelines established for smart meter technology procurement and installation on June 18, 2009. EDCs were required to file a Smart Meter technology procurement and installation plan.<sup>4</sup> The Commission approved the smart meter installation plan developed by PECO.<sup>5</sup> Under that plan, PECO is replacing AMR meters with AMI or “smart meters.”

As Bryan Uber, Senior Supervisor in PECO Customer Field Operations, testified, in an effort to comply with Act 129 and the Commission approved deployment Order, PECO sent several notices and letters to the Complainants regarding the meter change. Company representatives also tried to contact the Complainants by telephone to set up an appointment. (FOF 9-19). With such actions, PECO sought to comply with Act 129 and the Commission-approved Implementation Order.

In accordance with the Order, PECO has installed 1.6 million AMI electric meters and 500,000 AMI gas modules. (FOF 32). The usage data communications system that serviced the AMR meter currently installed at the Eckstein residence was terminated in April of 2017. (FOF 40, Tr. 115-116). Mr. Uber testified that customers that do not have AMI meters are receiving estimated bills and the tariff limits the number of estimated bills. (Tr. 66). PECO Tariff Section 14.8 requires that a meter reading be obtained at least every six months for residential customers.

Additionally, the PECO tariff allows for the shut-off notices that were sent to the Complainants. A public utility’s Commission-approved tariff is *prima facie* reasonable, has the

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<sup>4</sup> See *Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Implementation Order entered June 24, 2009) (*Smart Meter Procurement and Installation Order*).

<sup>5</sup> See *Petition of PECO Energy Company for Approval of its Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123944 (Smart Meter Plan).

full force of law, and is binding on the utility and the customer. 66 Pa.C.S. § 316; *Kossmann v. Pa. Pub. Util. Comm'n.*, 694 A.2d 1147 (Pa.Cmwlt. 1997); and *Stiteler v. Bell Telephone Co. of Pennsylvania*, 379 A.2d 339 (Pa.Cmwlt. 1977).

In particular, 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 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. Where access to the meter is refused, Section 18.3 provides that the Company may terminate on reasonable notice.

The Complainants refused PECO access to change its meter. Consequently, PECO attempted to contact the Complainants through letters and telephone calls, ultimately issuing shut-off notices in accordance with its tariff. The Complainants did not establish that the tariff is unreasonable. There were no violations here and the claim will be dismissed.

### Constitutional Rights and Privacy

The Complainants contend that installation of the smart meter is a form of surveillance in violation of the Fourth Amendment of the Constitution.<sup>6</sup> Mr. Eckstein testified that he and his wife are particularly concerned about the ZigBee radio in smart meters. (Tr. 58-59). Based on discussions with others and personal research, it was Complainants'

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<sup>6</sup> The Fourth Amendment of the United States Constitution provides the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized. U.S. Const., amend. IV

understanding that the ZigBee radio is a form of surveillance in that it can hear conversations within the home and can determine when electronic devices in the home are turned on and off. (Tr. 58-59).

The evidence does not support a finding that the smart meters utilized by PECO are surveillance devices and it appears that the Ecksteins were given misinformation. First, the meter that would likely be installed at the home of the Complainants is an Aclara meter, the meter now commercially available to PECO. (Tr. 53, 124). Aclara meters and the smart module placed on the gas meter do not have ZigBee radios, the radio of concern to the Complainants. (FOF 45, 46).

Second, there is no evidence to support the Complainants' contention that the Landis+Gyr meters, also used by PECO, are surveillance devices. As Glen Prichard, manager of advanced grid operations and technology for PECO, testified, the Landis+Gyr AMI meters have two radios – a FlexNet, to communicate general usage information for billing purposes to PECO, and the ZigBee, designed to communicate with smart household appliances and provide usage information to the consumer, not PECO. Mr. Prichard further testified that while the smart meters, including the ZigBee radio, do record aggregate household energy usage, the data gathered does not provide information about which devices are used and when. Also, PECO secures the data and information that it does obtain through the “best security available for smart meters.” (Tr. 124). Additionally, the PECO smart meter communication system has passed the annual review of its integrity and security by the U.S. Department of Energy. (Tr. 125).

The record supports a finding that the smart meters do not operate as surveillance devices and therefore a discussion of the constitutionality of PECO's smart meters is not required, and this claim will be dismissed.

### Fire Safety

After talking with an electrician, Mr. Eckstein became concerned that smart meters are a fire hazard. PECO Grid Operations Manager Mr. Prichard testified that the meter

installed at the Ecksteins' home would be likely be an Aclara meter, tested by Underwriters Laboratory (UL), which tests consumer products for safety and other standards. The Aclara meters have UL stickers, indicating that they have passed the safety tests for the UL standard 2735 for smart meters. (Tr. 122-123).

Mr. Pritchard also testified that the other meter utilized by PECO, the Landis+Gyr, was manufactured before the UL standard for smart meters was developed and does not have UL sticker. However, the Landis+Gyr meters were subsequently submitted for testing and passed the UL smart meter standards. (Tr. 123).

No evidence was introduced that would form a basis for finding that the meter proposed to be installed at the service address, or any other meter currently utilized by PECO, poses a fire safety risk.

#### Act 129

The Complainants contend that Act 129 does not require installation of smart meters and was intended as "opt in" legislation. Particularly noted by the Complainants is that the legislation states that smart meter technology is to be provided "upon request" and if the customer "agrees to pay." See 66 Pa.C.S. § 2807(f)(2)(i). That is the language of the statute.

However, the Commission determined in *Povacz v. PECO Energy Company*, Docket No. C-2012-2317176 (Order and Opinion entered January 24, 2013), that there is no provision in the Code, the Commission's Regulations or Orders that allows a PECO customer to "opt out" of smart installation. In *Povacz*, the Commission adopted the conclusion in the Initial Decision of ALJ Joel Cheskis that Section 2807(f)(2) of the Code "is controlling here, and the use of the word "shall" in the statute indicates the General Assembly's direction that all customers will receive a smart meter."

The Commission has determined that there is no opt out available and therefore Complainants cannot prevail here.

## Health Effects

The Ecksteins contend that a smart meter will have negative health effects on their child. Specifically, they have a child who has autism and an autoimmune disorder, and they are concerned that EFs emanating from the smart meter will adversely affect their child. For the Complainants to prevail, there must be sufficient evidence to support a finding that the Complainants' child will be adversely affected by the smart meter, or that PECO's use of a smart meter to measure the Complainants' usage will constitute unsafe or unreasonable service in violation of 66 Pa. C.S. § 1501. See *Kreider v. PECO Energy Company*, Docket No. P-2015-2495064 (Order entered September 3, 2015). The preponderance of the evidence does not support a finding that installation of a smart meter would be unreasonable, unsafe or adversely affect the health of the Ecksteins' child.

Both Mr. and Mrs. Eckstein testified that, in an effort to reduce EFs in their home, the Complainants have removed their microwave oven, removed a WI-FI alarm system and shut off their internet WI-FI at night. They have noticed a change in their child for the better when these items are turned off for a period of time. (Tr. 32-33). The Eckstein's are trying to safeguard their child who, they believe, may be more sensitive to environmental factors, such as EFs. (Tr. 49). Based on what they have read, the Eckstein's are also concerned about higher levels of EFs resulting from "dirty electricity" caused by pulses from AMI meters. (Tr. 16).

In response, Mr. Pritchard, who was recognized as an expert in the design, operations, and technology of advanced meter installations, testified that the smart meters that PECO is using are not considered to "pulse." (Tr. 134). He further testified that "dirty electricity" is a lay term used to describe harmonics, or disturbances or echoes in the electrical signal. (Tr. 121). According to Mr. Pritchard, harmonics are throughout the electrical system and are frequently generated by devices in the household consuming electricity, such as lighting and motors and the compressors in a refrigerator. (Tr. 121-122). Any harmonics generated by an AMI electric meter are "much, much less" than that of a refrigerator and is a factor of the amount of energy consumed. (Tr. 122).

Mr. Pritchard also noted that the gas module is not connected to the electrical grid and therefore produces no harmonics. (*Id.*) This testimony established that harmonics were not a basis upon which to find that installation of an AMI meter would be unreasonable or unsafe.

Dr. Christopher Davis testified on behalf of PECO as a recognized expert in Physics, Biophysics, Chemistry, Electrical Engineering, Electromagnetics, Bio-electromagnetics, Radiofrequency and Dosimetry. According to Dr. Davis, the PECO AMI meters comply with the maximum permissible EF exposure set by the Federal Communications Commission. (PECO Exhibit CD-3; Tr. 152). He noted that EF exposure of the ZigBee radio in the Landis+Gyr AMI electric meter is 164 million times smaller than the FCC maximum exposure limit and that EF exposure from the FlexNet radio contained in both the Landis+Gyr and Aclara AMI electric meters is 5.8 million times smaller than the FCC maximum exposure limits. (Tr. 155-156; PECO Exhibit CD-5). The FlexNet radio in the PECO gas AMI module is 7.8 million times smaller than the FCC limits. (Tr. 156-157). Dr. Davis further testified that the average combined exposure from the PECO AMI FlexNet radio is also 2.5 million times smaller than the maximum exposure standard set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the exposure from the ZigBee radio is 164 million times smaller than the ICNIRP standard. (Tr. 159; PECO Exhibit CD-9).

Dr. Davis also testified that compared to a PECO AMI meter, EF exposure from a 400-watt cell tower is 6.6 times larger, from a UHF (television) broadcast transmitter 20 miles away is 33 times larger, and from a cellphone used by someone 30 feet away is 102 times greater. (Tr. 161; PECO Exhibit CD-10). He also calculated and concluded that EF exposure from UHF transmitters within 50 miles of the Eckstein home is 1,450 times greater than that from PECO meters that would be installed at the home combined. (Tr. 162). He further testified that using a cellphone while holding it to your head exposes one to EFs 8.5 million times larger than exposure to a PECO AMI meter. (Tr. 161).

Dr. Davis also compared EF exposure from the AMR meter currently at the Complainants' home to the AMI meters PECO is seeking to install. He determined that installation of an AMI meter would reduce their EF exposure by 79 percent. (Tr. 162-163;

PECO Exhibit CD-12). Dr. Davis did not consider a cell phone a risk to a developing child and, based on this and his experience and expertise, it was his opinion that there was no reliable basis upon which to conclude that EFs from the electric AMI meters or the AMI gas module were capable of causing any adverse biological effects. (Tr. 166-167).

The opinion of Dr. Davis was supported by the testimony of PECO witness Dr. Mark Israel, M.D., who was recognized as an expert in medicine, medical research, radiofrequency, electromagnetic fields and health. Having begun his career in pediatrics, Dr. Israel found it "appropriate and proper for parents . . . to worry about . . . children's health." (Tr. 216). Based on his experience, medical evaluation and review of relevant studies, however, he was of the opinion that the Ecksteins need not be concerned that exposure to a smart meter would exacerbate their child's medical conditions.

Dr. Israel testified that there is no body of medical or scientific studies that as a whole establish that EFs cause, contribute to or exacerbate autism or autism spectrum disease or the autoimmune condition at issue. (Tr. 185- 186, 189, 205-206; PECO Exhibit MI-3).

Dr. Israel also looked at the symptoms in their child as identified by the Complainants and any relationship to EFs. While acknowledging that some studies showed inconsistent results, other studies reported no effects. Overall, he concluded, the studies did not support a finding that exposure to EFs from smart meters would have an adverse effect. He also explained that in reviewing the studies, he considered the quality of the study conducted. He found most informative and of higher quality studies involving exposure of animals to EFs over a long period of time or on more than a single preparation of cells. The studies that he considered reliable, including one that involved exposing laboratory animals to EFs for their entire lifetime, showed no effect. (Tr. 191-194). He concluded that there is not sufficient evidence to show that EFs disturbed the functions and biology at issue. (Tr. 194).

The Ecksteins stated that they had read and referenced documents and reports that suggest or contend that EFs from smart meters have adverse health effects. Dr. Israel responded that such articles and reports were advocacy or opinion pieces that were discredited by a number

of international bodies. (Tr. 210-215). Dr. Israel added that no level of exposure of EFs from any of the sources discussed at the hearings should be medically of concern to the Ecksteins for their child. (Tr. 217-222).

No evidence was presented to the contrary of the opinions of Dr. Davis and Dr. Israel. Based on the evidence in the record at this hearing, there is no basis upon which to find that EFs from PECO meters, or installation of such meters at the residence of the Complainants, would be a health risk, or would constitute unsafe or unreasonable service in violation of Section 1501.

### 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 party seeking relief from the Commission has the burden of proof. 66 Pa.C.S. § 332(a).

3. 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).

4. Any decision of the Commission must be supported by substantial evidence. 2 Pa.C.S. § 704.

5. “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).

6. 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.Cmwlt. 1995); *Respond Power, LLC v. Pennsylvania Electric Company*; *Respond Power LLC v. West Penn Power Company*, Docket Numbers C-2016-2576287; C-2016-2576292 (Order Entered July 13, 2017).

7. In 2013, the Commission concluded that there is no provision in the Code or 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. Utility companies are required to furnish and maintain adequate, efficient, safe, and reasonable service and facilities. 66 Pa.C.S. § 1501 and 52 Pa. Code § 57.194.

9. The Complainants have not established that installation of the smart meter would be violation of the Fourth Amendment of the Constitution.

10. The Complainant has not met her burden of proof of establishing an offense in 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.

11. There is not sufficient evidence to support a finding that the Complainant was adversely affected by the AMR meter or will be adversely affected by the AMI meter or that 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).

12. The Complainants have not established that installation of an AMI meter at the service address would be unsafe or unreasonable. 66 Pa.C.S. § 332(a).

ORDER

THEREFORE,

IT IS ORDERED:

1. That the Complaint of Nira and Robert Eckstein against PECO Energy Company at Docket Number F-2017-2601990 is denied and dismissed.
2. That the record at Docket at F-2017-2601990 be marked closed.

Date: March 26, 2018

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/s/  
Darlene Heep  
Administrative Law Judge