

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Debra Cantel	:	
	:	
v.	:	C-2018-3005105
	:	
PPL Electric Utilities Corporation	:	

INITIAL DECISION

Before
Elizabeth H. Barnes
Administrative Law Judge

INTRODUCTION

A residential customer filed a complaint seeking to prevent an electric distribution company (EDC) from installing a smart meter a/k/a “Advanced Metering Infrastructure (AMI) meter” or “Radio Frequency (RF) meter” on her residence. The Complaint will be dismissed for failure to prove by a preponderance of evidence that the installation of the smart meter constitutes unsafe or unreasonable service under 66 Pa. C.S. § 1501 or that it is a violation of any other statute, Commission regulation or order.

HISTORY OF THE PROCEEDING

On September 28, 2018, Debra Cantel (Complainant) filed the instant Complaint requesting that PPL Electric Utilities Corporation (PPL or Respondent) be directed to maintain electric service with her analog meter. Complainant alleged that the utility was threatening to shut off her electric service because she was refusing to allow them to replace her analog meter with a smart meter. As relief, the Complainant requested that she be allowed to maintain her analog meter.

The Complaint was served upon PPL on October 2, 2018.¹ On October 22, 2018, Respondent filed an Answer. The Answer admits that the Respondent provides electric service to the Complainant and that it plans to install a new AMI, or smart meter, at the Complainant's residence. The Respondent denies that it has issued a notice of service termination or has shut off the Complainant's service.

On October 23, 2018, a Telephone Hearing Notice was issued scheduling a hearing for May 9, 2019 and assigning the case to me. At the hearing on May 9, 2019, Complainant appeared *pro se* and testified in support of the Complaint. Complainant presented no exhibits for the record. Respondent appeared represented by Devin Ryan, Esquire and Curtis Renner, Esquire with four written statements, 15 exhibits and four witnesses: Kevin Durkin, Donald Vinciguerra, Christopher Davis, Ph.D., and Mark Israel, M.D. Respondent's Statements 1-4 and Exhibits CD-1 – CD-5; MI-1 – MI-3; KD-1 – KD-6 and DV-1 were admitted into the record. Tr. 3. A transcript consisting of 57 pages was filed and the record closed on May 23, 2019. This case is ripe for a decision.

FINDINGS OF FACT

1. The Complainant in this proceeding is Debora Cantel, who resides at 6094 Rt. 191, Cresco, Pennsylvania 18326 (service address). Tr. 9.
2. The Respondent in this proceeding is PPL Electric Utilities Corporation, an electric distribution company (EDC). Tr. 9.
3. The service address spreads over 23 acres and includes the Complainant's residence as well as a separate garage or shop. Tr. 9.

¹ PPL signed a waiver of the Section 702 requirement for registered or certified mail service of formal complaints, 66 Pa. C.S. § 702, and agreed to electronic service under the Commission's waiver of 702 program. *See In Re: Electronic Service of Formal Complaints*, Secretarial Letter Dated December 22, 2014, at Docket Nos. M-2013-2398153 *et al.* Service is listed in the electronic Audit History of the case as entered by the Secretary's Bureau as having been effective on October 2, 2018. Thus, PPL's Answer filed on October 22, 2018 is deemed timely filed.

4. The Complainant's residence and the garage/shop are separately metered by PPL. Tr. 9.

5. The garage/shop is located approximately 60 feet away from the Complainant's residence. Tr. 9

6. An AMI meter has already been installed on the garage/shop. Tr. 9.

7. The electric meter currently serving Ms. Cantel's residence is located close to an area where she spends a lot of her time. Tr. 10.

8. Ms. Cantel is a chiropractor and acupuncturist. Tr. 11.

9. Ms. Cantel uses a 3G slide phone mainly for texting purposes. Tr. 12.

10. Ms. Cantel's son and daughter own and use two smart phones. Tr. 36.

11. Powerline carrier (PLC) meters do not emit radio frequency (RF) fields and are often referred to by customers as analog meters. PPL Electric Statement No. 4 at 5.

12. A PLC meter uses the power lines as a means of communication with pulses encoded on the 60 Hertz line frequency so that PPL can record the data to the proper account. PPL Electric Statement No. 4 at 5.

13. The Complainant's residence is served by a PLC meter. PPL Electric Statement No. 4 at 10.

14. On June 30, 2014, PPL filed its new Smart Meter Plan intended to comply with all the requirements of Act 129 and the Commission's Smart Meter Implementation Order.

PPL Electric Exhibit No. DV-1, *PPL Smart Meter Technology Procurement and Installation Plan*, June 30, 2014.

15. PPL 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. PPL Electric Exhibit No. DV-1.

16. The RF Mesh system allows the Company to receive data from the customer’s meter wirelessly, unlike PPL’s previous PLC system that used the customer’s actual wires. PPL Statement No. 4 at 5.

17. Under its Commission-approved Smart Meter Plan, PPL is scheduled to complete its deployment of the RF Mesh meters in 2019. PPL Electric Statement No. 4 at 6.

18. PPL intends to install a Landis + Gyr E350 FOCUS AXR-SD meter at Complainant’s service property. PPL Electric Statement No. 4 at 5-6, PPL Exhibit No. DV-1.

19. The Federal Communications Commission (FCC) identification number for the new AMI meter is R7PEG1R1S2. PPL Electric Statement No. 4 at 6.

20. The Landis + Gyr Focus AXR-SD meter is certified by the Underwriters Laboratories at UL 2735. PPL Statement No. 4 at 8.

21. The Landis + Gyr Focus AXR-SD meter is compliant with the American National Standards Institute (ANSI) C12.10. PPL Statement No. 4 at 8.

22. Through the Company’s testing, PPL has concluded that the root cause of the vast majority of overheating issues was a loose or broken connection within the customer-owned meter base. Tr. 26-27; PPL Statement No. 4 at 9.

23. Electric meters have metal blades that are inserted into spring loaded jaws within the customer-owned meter base in order to connect the meter to the base. Tr. 26-27; PPL Statement No. 4 at 9.

24. Over time, the jaws within the customer's meter base may become bent or broken, creating air gaps that in turn may lead to elevation of temperature and micro-arcing. Tr. 26-27; PPL Statement No. 4 at 9.

25. In order to reduce the chances of overheating or fire, PPL has expanded its inspection criteria by training its installers to: (1) check for signs of wear or detachment on the customer's facility; (2) remove the meter carefully ensuring facility hardware is intact; (3) inspect the removed meter for signs of pitting or discoloration; (4) inspect the meter base's jaws for signs of pitting, discoloration or separation; (5) inspect the meter and meter base generally for loose and broken parts and tightness. PPL Statement No. 4 at 10; Tr. 28.

26. PPL's Landis + Gyr Focus AXR-SD meters send temperature reports to the Company in 15-minute intervals. PPL Statement No. 4 at 10.

27. PPL's Landis + Gyr Focus AXR-SD meter is equipped with heat alarm which alerts the company if the temperature of the meter hits a set level of 85 degrees Celsius allowing the Company to dispatch personnel to investigate the issue. PPL Statement No. 4 at 10; Tr. 27.

28. PPL has deployed over 1 million of the Landis + Gyr Focus AXR-SD meters in its service territory and there have been no verifiable reports of them being the cause of fires. PPL Statement No. 4 at 11.

29. PPL witness Christopher C. Davis has a Ph.D. in Physics and is a fulltime 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 at 1-5.

30. 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 at 1-5.

31. Dr. Davis has conducted a substantial amount of research on RF fields of the type produced by the AMI meters being used by PPL. PPL Electric Statement No. 1 at 3.

32. 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 at 5-6.

33. 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 at 6, 14.

34. 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 at 9.

35. 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 at 9.

36. The levels of RF fields from the Landis + Gyr Focus AX-SD AMI meters are 98,000 times lower than the RF exposure safety limits established by the FCC. PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-2.

37. 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 at 7.

38. The RF field exposure 30 feet from a person using a cell phone are three times larger than the RF fields from the AMI meter. Tr. 36; PPL Electric Statement No. 1 at 14, PPL Electric Exhibit CD-4.

39. RF fields from using cell phones near the head can be over 260,000 times higher than the RF fields from the AMI meter. *Id.*

40. There are at least 13 television broadcast towers within a 50-mile radius of Complainant's location in Cresco, Pennsylvania. PPL Electric Statement No. 1 at 15.

41. Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant's residence are 9.23 times higher than the RF signals from the AMI meter. PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-5.

42. The level of RF fields from AMI meters being used by PPL is far too low to cause a thermal or heating effect. PPL Electric Statement No. 1 at 13-14.

43. PPL witness Mark A. 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 at 1.

44. Dr. Israel is a 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 at 1.

45. Dr. Israel is board certified and licensed to practice medicine. PPL Electric Statement No. 2 at 3.

46. 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 at 3-4.

47. Dr. Israel also has taught medicine and science for more than 30 years to medical students, graduate students, interns, residents, and practicing physicians 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 at 3.

48. 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's smart meters, has not shown that RF fields cause adverse health effects. PPL Electric Statement No. 2 at 10-16, PPL Electric Exhibit MI-1.

49. Several state public health authorities in the United States have also 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 at 11, PPL Electric Exhibit MI-2.

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

51. As a part of its Smart Meter Plan proceeding, PPL filed a detailed AMI Customer Privacy Policy, which sets forth the data PPL will collect through the new smart meter,

the steps the Company will take to protect the data, and the ways in which PPL will use the data. PPL Electric Exhibit No. DV-1.

52. PPL uses firewalls to prevent anyone from obtaining unauthorized access to the AMI network. PPL Statement No. 4 at 7-8.

53. Customer data is encrypted to make the data readable to only PPL personnel who can decode the encryption. PPL Statement No. 4 at 7-8.

54. PPL's cybersecurity and data privacy policies are consistent with the national standards for the industry. PPL Statement No. 4 at 7-8.

DISCUSSION

Legal Standards

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. Pub. Util. Comm’n*, 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 County, Pa.*, Docket No. A-212285F0148, 2008 Pa. PUC LEXIS 874 (Order entered Oct. 29, 2008).²

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 Counties*, 1992 Pa. PUC Lexis 160, at *210-11 (June 29, 1992) (Initial Decision) (“Woodbourne-Heaton”). Rather, the person must demonstrate by a preponderance of the evidence that such exposure actually causes adverse health effects. *Id.* at *211. Specifically, in AMI meter-related matters, the Commission has held that “[t]he Complainant will have the burden of proof during the proceeding to demonstrate, by a preponderance of the evidence, that [the utility] is responsible or accountable for the problem described in the Complaint.” *Kreider v. PECO Energy Co.*, Docket No. P-2015-2495064, p. 18 (Order entered Sept. 3, 2015) (*Kreider*); *see also Romeo v. Pa. Pub. Util. Comm'n*, 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”).

² 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. Pub. Util. Comm'n*, 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).

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.

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). 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. . .

66 Pa. C.S. § 1501.

Section 57.28(a)(1) of the Commission’s Regulations provides:

An electric utility shall use reasonable effort to properly warn and protect the public from danger, and shall exercise reasonable care to reduce the hazards to which employees, customers, the public and others may be subjected to by reason of its provision of electric utility service and its associated equipment and facilities.

52 Pa. Code § 57.28(a)(1).

When presented with a challenge to an AMI meter installation, the Commission has pronounced that “[t]he ALJ’s [Administrative Law Judge’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* (citing *Woodbourne-Heaton*, 1992 Pa. PUC Lexis 160, at *12-13). *Frompovich v. PECO Energy Co.*, Docket No. C-2015-2474602 at 10 (Opinion and Order entered May 3, 2018).

Opt Out Request

Complainant seeks an opt-out accommodation under Act 129 of 2008. Conversely, PPL argues there is no provision in Pennsylvania law to allow a customer to opt out from the installation of an AMI meter.

Disposition

Act 129 amended Chapter 28 of the Public Utility Code (Code), 66 Pa. C.S. §§ 2801-2815, and required electric distribution companies (EDCs) with more than 100,000 customers to file smart meter technology procurement and installation plans for Commission approval and to furnish smart meter technology within its service territory in accordance with the provisions of the Act. While Act 129 does not provide customers a general “opt-out” right from smart meter installation at a customer’s residence, a customer’s formal complaint that raises a claim under Section 1501 of the Code, 66 Pa. C.S. § 1501, related to the safety of a utility’s installation and use of a smart meter at the customer’s residence is legally sufficient to proceed to an evidentiary hearing before an ALJ. *See Povacz v. PECO Energy Company*, Docket No. C-2012-2317176 (Order entered January 24, 2013) (*January 2013 Povacz Order*); *see also, Kreider*.

To the extent that the Complainant desires the ability to “opt out” of the smart meter installation, she could advocate for such ability before the General Assembly, which is

considering amending Section 2807(f) in some pending bills including: PA House Bill Nos. 1564 and 1565; and Senate Bill No. 443. These bills are not law. The Commission has held that it has no authority, absent directive in the form of legislation, to prohibit an EDC from installing a smart meter where a customer does not want one. *See January 2013 Povacz Order*. PPL would be in violation of the law if they did not install a smart meter at similarly situated residences. *Id.*; *Frompovich* at 10. The Commission has held that there is no provision in Pennsylvania law to allow a customer to opt out from the installation of an AMI meter, and thus, this requested relief is outside of the Commission's jurisdiction and authority. *Hoffman-Lorah* at 43-44. Accordingly, I find in favor of Respondent on this issue.

Health and Safety Concerns

Complainant requests PPL be precluded from installing an AMI meter on her residence and be directed to continue electric service with her current meter for health and safety reasons. Specifically, she wishes to limit the amount of radiation she is exposed to but does not allege that she suffers from any medical conditions. Tr. 8-12.

Conversely, Respondent contends that Complainant has failed to meet her burden of proving there is a conclusive causal connection between low-level RF fields from a PPL smart meter and any adverse health effects.

Disposition

The Complainant resides at 6094 Rt. 191, Cresco, Pennsylvania 18326. Tr. 9. The service address spreads over 23 acres and includes the Complainant's residence as well as a separate garage or shop. Tr. 9. The residence and the garage/shop are separately metered by PPL. Tr. 9. The garage/shop is located approximately 60 feet away from the Complainant's residence and already has an AMI meter installed in it. Tr. 9.

The Complainant's residence is served by a PLC meter a/k/a analog meter. PPL Electric Statement No. 4 at 10. The electric meter currently serving Ms. Cantel's residence is

located close to an area where she spends a lot of her time. Tr. 10. Complainant requests PPL be precluded from installing an AMI meter at her residence and continue electric service with her current PLC meter. Tr. 8-11. Although Complainant does not aver that she is medically ill, Complainant takes precautionary steps to reduce radiation exposure to herself. Tr. 13.

Recently, in *Povacz v. PECO*, C-2015-2475023 (Opinion and Order entered March 28, 2019), the Commission held Ms. Povacz failed to prove she suffered from electromagnetic hypersensitivity syndrome as she had self-diagnosed the illness. *Id.* at 59-60. Without independent diagnostic evidence to corroborate a Complainant's self-diagnosis, Complainant failed to prove that she was electromagnetically hypersensitive. *Id.* at 60. Specifically, the Commission held:

Based on the foregoing analysis and discussion, we believe the Complainant's evidence is not sufficient to establish a *prima facie* case under 66 Pa. C.S. § 332(a) in demonstrating that the RF exposure levels from a PECO smart meter will cause adverse health effects for the Complainant.

Id. at 60.

Similarly, in the instant case, I find Complainant has not established a *prima facie* case to show that any RF exposure levels from a Landis + Gyr Focus AXR-SD meter will cause adverse health effects to Complainant. The assertions of Complainant that her health will deteriorate because of radiofrequency fields emitted by an AMI meter are bald assertions, which do not constitute evidence. *Bervinchak v. PPL Electric Utilities Corporation*, Docket No. C-2016-2572824 (Final Order entered on October 2, 2018). *See also, Pa. Bureau of Corrections v. City of Pittsburgh*, 532 A.2d. 12 (Pa. 1987).

Ms. Cantel testified that she is a chiropractor and acupuncturist but failed to provide any corroborative medical evidence to support her claims concerning the safety of the AMI meters. Tr. 11. Her testimony as to the deleterious health effects of an AMI smart meter was refuted by the credible testimony of PPL's expert witness Mark Israel, a 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 at 1. Dr. Israel is board certified and licensed to practice medicine. PPL Electric Statement No. 2 at 3. 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 at 3-4. Dr. Israel also has taught medicine and science for more than 30 years to medical students, graduate students, interns, residents, and practicing physicians 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 at 3.

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 exposure from PPL's smart meters, has not shown that RF fields cause adverse health effects. PPL Electric Statement No. 2 at 10-15, PPL Electric Exhibit MI-1.

Several state public health authorities in the United States 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 at 11, PPL Electric Exhibit MI-2. There is no reliable medical basis to conclude that RF fields from the AMI meters intended for installation by PPL will cause or contribute to the development of illness or disease. PPL Electric Statement No. 2 at 17.

Complainant's testimony was also refuted by PPL's expert witness Dr. Davis, who has a Ph.D. in Physics and is a fulltime 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 at 1-5. 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 at 1-5.

Dr. Davis conducted a substantial amount of research on RF fields of the type produced by the AMI meters being used by PPL. PPL Electric Statement No. 1 at 3. 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 at 5-6. 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 at 6, 14.

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

The levels of RF fields from the Landis + Gyr Focus AX-SD AMI meters are 98,000 times lower than the RF exposure safety limits established by the FCC. PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-2. 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 at 7.

The RF field exposure 30 feet from a person using a cell phone are three times larger than the RF fields from the AMI meter. PPL Electric Statement No. 1 at 14, PPL Electric Exhibit CD-4. RF fields from using cell phones near the head can be over 260,000 times higher than the RF fields from the AMI meter. PPL Electric Exhibit CD-4. Complainant has three wireless telephones in her household. Tr. 12, 36.

Additionally, there are at least 13 television broadcast towers within a 50-mile radius of Complainant's location in Cresco, Pennsylvania. PPL Electric Statement No. 1 at 15. Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant's residence are 9.23 times higher than the RF signals from the AMI meter. PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-5. Thus, given the background RF exposure to the service property compared to the minimal RF exposure from the AMI meter, I am not persuaded to conclude the AMI meter will cause a deleterious health effect to Complainant. This holding is consistent with recent caselaw precedent including: *Hoffman-Lorah v. PPL Electric Utilities Corporation*, C-2018-2644957 (Opinion and Order entered May 23, 2019); *Benhayon v. PPL Electric Utilities Corporation*, C-2018-3003491 (Final Order entered April 29, 2019, adopting Initial Decision issued March 25, 2019) and *Lesniewski v. PPL Electric Utilities Corporation*, C-2018-3004594 (Final Order entered April 29, 2019, adopting Initial Decision issued March 25, 2019). Accordingly, I find in favor of Respondent on this issue.

Fire Safety

At the evidentiary hearing, Ms. Cantel questioned PPL witness Donald Vinciguerra concerning the fire safety aspect of the Respondent's new AMI meters. Tr. 24-26. In response, Mr. Vinciguerra explained that the Landis + Gyr Focus AXR-SD meter used by PPL is compliant with the American National Standards Institute (ANSI) C12.10. PPL Statement No. 4 at 8. Through testing, PPL has concluded that the root cause of the vast majority of overheating issues was a loose or broken connection within the customer-owned meter base. Tr. 26-27; PPL Statement No. 4 at 9. Mr. Vinciguerra explained that meters have metal blades which are inserted into spring loaded jaws within the customer-owned meter base in order to connect the meter to the base. Tr. 26-27; PPL Statement No. 4 at 9. Over time, the jaws within the customer's meter base may become bent or broken, creating air gaps that in turn may lead to elevation of temperature and micro-arcing. Tr. 26-27; PPL Statement No. 4 at 9. Mr. Vinciguerra testified that PPL is addressing this problem by expanding its inspection criteria. PPL Statement No. 4 at 10; Tr. 28. The Company is now training its installers to: (1) check for signs of wear or detachment on the customer's facility; (2) remove the meter carefully ensuring

facility hardware is intact; (3) inspect the removed meter for signs of pitting or discoloration; (4) inspect the meter base's jaws for signs of pitting, discoloration or separation; (5) inspect the meter and meter base generally for loose and broken parts and tightness. *Id.*

Mr. Vinciguerra further explained that PPL's AMI meters send temperature reports to the Company in 15-minute intervals. PPL Statement No. 4 at 10. In addition, the meters are equipped with heat alarm which alert the Company if the temperature of the meter hits a set level of 85 degrees Celsius, allowing the Company to dispatch personnel to investigate the issue. PPL Statement No. 4 at 10; Tr. 27.

Disposition

Ms. Cantel's uncorroborated testimony that PPL AMI meters are a fire hazard was successfully refuted by the testimony of PPL's Project Manager Donald Vinciguerra. Mr. Vinciguerra's testimony that when meter fires occur, the culprit is usually the customer-owned meter base is credible. PPL and/or its agent(s) perform a multitude of safety checks involving the customer's meter base during installation of the new meters. Additionally, PPL has already deployed over 1 million of the AMI meters in its service territory, without receiving any reports of them being the cause of fires. PPL Statement No. 4 at 11. In view of the above, I find that Ms. Cantel has failed to carry her burden of proving by a preponderance of the evidence that PPL's AMI meter presents a fire hazard to her property and household. Ms. Cantel has failed to prove that PPL's installation of the AMI meter at her residence would constitute unsafe or unreasonable service in violation of 66 Pa. C.S. § 1501. Complainant's uncorroborated hearsay cannot form the basis of any findings of fact upon which a decision may be based. Her testimony is refuted by the testimonies of PPL witnesses Dr. Davis and Dr. Israel. Tr. 50-51.

Data Privacy

Complainant contends that the new AMI meter invades her privacy because the meter is able to check how often she uses electricity and which appliances are being used. Tr.

20-24. Complainant argues that mandatory installation of a smart meter violates her Fourth Amendment Rights against unreasonable search and seizure. Tr. 11.

Conversely, PPL argues that any claim that the installation of the meter would violate the Fourth Amendment is incorrect. Tr. 51-52. To support its position, PPL cites the caselaw decision in *Naperville Smart Meter Awareness v. City of Naperville*, 900 F.3d 521 (7th Cir. 2018) (*Naperville*) and contends that unlike the City of Naperville, PPL is not a state actor involved in the installation of smart meters. Tr. 52.

Disposition

As a part of its Smart Meter Plan proceeding, PPL filed a detailed AMI Customer Privacy Policy, which sets forth the data PPL will collect through the new smart meter, the steps the Company will take to protect the data, and the ways in which PPL will use the data. PPL Electric Exhibit No. DV-1. PPL uses firewalls to prevent anyone from obtaining unauthorized access to the AMI network. PPL Statement No. 4 at 7-8. Customer data is encrypted to make the data readable to only PPL personnel who can decode the encryption. PPL Statement No. 4 at 7-8. PPL's cybersecurity and data privacy policies are consistent with the national standards for the industry. PPL Statement No. 4 at 7-8. Additionally, if Complainant is concerned about the AMI meter's connection to smart appliances in her home, she can decline to have the ZigBee radio activated. *See Lesniewski, Id.* at 24, wherein the Commission found in favor of PPL regarding the same data privacy issue. Specifically, the Commission held that Ms. Lesniewski had an option to decline activation of the ZigBee radio device located within the AMI meter.

Regarding Complainant's argument that a mandatory smart meter would violate her Fourth Amendment rights of freedom from unreasonable searches and seizures, I agree with PPL that it is not a "state actor" in that it is not a sovereign governmental entity also responsible for law enforcement. Rather, it is a private, regulated utility company not constrained by the Fourth Amendment. *See Jackson v. Metropolitan Edison Company*, 419 U.S. 345 (1974). Further, there is no evidence in the instant case that PPL is making its data easily accessible to law enforcement or other third parties.

In *Naperville*, the Seventh Circuit found the City of Naperville owned and operated a public utility that provides electricity to its residents. Naperville began replacing its residential customers’ analog energy meters with digital smart meters. *Naperville*, 900 F.3d at 524. Naperville’s Electric Utility collects residents’ energy-consumption data at fifteen-minute intervals, storing it for up to three years. The Seventh Circuit concluded that the use of smart meters intruded upon reasonable expectations of privacy, thus constituting a search subject to Fourth Amendment constraints, but that such searches were “reasonable,” and thus constitutionally permissible and consistent with the Fourth Amendment. In finding that the Naperville Electric Utility’s use of the smart meters constituted a search, the court relied heavily on *Kyllo v. United States*, 533 U.S. 27, 31–32 (2001). The Court referenced the administrative search doctrine to find that the presumption had been overcome. *Naperville*, 900 F.3d at 528-29 (citing *Camara v. Municipal Court*, 387 U.S. 523 (1967)). In particular, City of Naperville had “no prosecutorial intent;” “public utility [e]mployees —not law enforcement officials—collect and review the data.” *Id.* Thus, the Electric Utility’s intrusion was more innocuous than that found to violate the Fourth Amendment in *Camara*. For these reasons, I find in favor of Respondent on this data privacy issue.

CONCLUSION

For all of these aforementioned reasons, the Complaint will be dismissed for failure to prove by a preponderance of evidence that the installation of a smart meter constitutes unsafe or unreasonable service under 66 Pa. C.S. § 1501 or is otherwise a violation of the Public Utility Code, a Commission order or regulation or a Commission-approved tariff of the company. Although the Complainant is genuine in her concerns, the Commission’s decisions cited above are controlling.

CONCLUSIONS OF LAW

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

2. PPL Electric Utilities Corporation's smart meter procurement and installation plan, which was approved by Commission Order in the case of *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) does not contain a provision for customers to opt out of smart meter installation.

3. 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. Pub. Util. Comm'n*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990).

4. 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 more likely than its nonexistence. *Brown v. Commonwealth*, 940 A.2d 610, 614 n.14 (Pa. Cmwlth. 2008) (citation omitted).

5. 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 Counties*, 1992 Pa. PUC Lexis 160, at *210-11 (June 29, 1992) (Initial Decision).

6. 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).

7. 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.

8. Complainant has failed to sustain her burden of proof that Respondent violated Section 1501 of the Public Utility Code. 66 Pa. C.S. § 1501.

9. 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).

10. 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).

11. Complainant has failed to sustain her 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 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).

13. Nothing in Act 129 of 2008 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 of 2008 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).

15. Under the Company’s Commission-approved Smart Meter Plan, PPL 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 of 2008 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).

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

ORDER

THEREFORE,

IT IS ORDERED:

1. That the Formal Complaint filed by Debora Cantel against PPL Electric Utilities Corporation at Docket No. C-2018-3005105 is denied and dismissed.

2. That the docket in this proceeding be marked closed.

Date: June 13, 2019

/s/
Elizabeth H. Barnes
Administrative Law Judge