

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Michelle Carbaugh

v.

PPL Electric Utilities Corporation

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C-2018-3001751

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 service address. 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 otherwise violates the Public Utility Code, a Commission order, regulation, or a Commission-approved tariff of the company.

HISTORY OF THE PROCEEDING

On April 26, 2018, Michelle Carbaugh (Complainant) filed the instant Complaint requesting that PPL Electric Utilities Corporation (PPL or Respondent) be precluded from installing a radio frequency (RF) meter on her residence at 167 North Second St., Souderton, Montgomery County, Pennsylvania, 18964 for health reasons. Complaint at 3.

The Complaint was served upon PPL on May 9, 2018.¹ On May 29, 2018, Respondent filed an Answer. The Answer admits that the Respondent provided electric service to the Complainant at the service address and notified Complainant that it would be installing a new AMI meter. Respondent contends that it is required to install AMI, or smart meters, for all automatic meter reading (AMR) customers.

On June 19, 2018, a Notice was issued scheduling a telephonic hearing on September 28, 2018, and assigning me as presiding officer. On July 31, 2018 a Prehearing Order was issued. On September 25, 2018, PPL requested a continuance of the hearing to negotiate a settlement. A Cancellation Notice was issued on September 28, 2018. On November 26, 2018, PPL sent me a status update stating that the parties were unable to reach a settlement and requesting a hearing be scheduled in June 2019. On November 29, 2018, a Telephone Hearing Notice was issued rescheduling the hearing to June 20, 2019. On June 12, 2019, PPL filed a Motion to Compel discovery responses.

The hearing was held as scheduled on June 20, 2019. Complainant appeared *pro se* in person with no exhibits. 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. 3-4.² A transcript consisting of 51 pages was filed and the record closed on July 18, 2019. This case is ripe for a decision.

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 May 9, 2018. Thus, PPL's Answer filed on May 29, 2018 is deemed timely filed.

² All transcript citations reference the hearing transcript dated June 20, 2019.

FINDINGS OF FACT

1. The Complainant in this proceeding is Michelle Carbaugh, who resides at 167 North Second Street, Souderton, Pennsylvania 18964 (service address). Tr. 7.

2. Complainant is the landlord for an apartment in a garage opposite the driveway from the service property where there is a separate meter at 167 Apartment A, North Second Street, Souderton, Pennsylvania. Tr. 25.

3. Only the service property's and not the apartment's account number is listed in the Complaint. Tr. 25.

4. Although Complainant verbally complained to a service technician on her property attempting to switch meters at the apartment, Complainant never amended her original complaint to include a complaint regarding the second metered account of her tenant. Tr. 25-27.

5. The Respondent in this proceeding is PPL Electric Utilities Corporation, an electric distribution company (EDC). Tr. 8.

6. Complainant currently has a powerline carrier (PLC) meter at 167 North Second Street. Tr. 8.

7. There are six individuals (including four minor children) residing at the service location. Tr. 11.

8. There are two other individuals residing in an apartment across a driveway from the service location. Tr. 11.

9. Complainant has a child who has a speech disability and some sensory processing issues. Tr. 11.

10. Complainant has a college degree in Business Administration. Tr. 11.
11. Complainant is a stay-at-home mother who home-schools her children. Tr. 11.
12. The apartment across the driveway at 167 Apartment A, North Second Street, has a new AMI meter already installed. Tr. 12-14.
13. Complainant is neither a medical doctor nor an engineer. Tr. 16.
14. Complainant has two cell phones. Tr. 16.
15. Complainant has one desktop and one chrome book connected to the internet which she uses to home-school her children. Tr. 17-19.
16. The Wi-Fi Router is on during the hours of 7:00 a.m. – 9:00 p.m. in the service property. Tr. 17-19.
17. On June 30, 2014, PPL filed its new Smart Meter Plan intended to comply with all the requirements of Act 129 of 2008 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.
18. PPL selected 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.
19. 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. 3.

20. Under the Smart Meter Plan, the RF Mesh meters are to be deployed by the end of 2019. PPL Electric Statement No. 4.

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

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

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

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

25. PPL Witness 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.

26. 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.

27. 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.

28. 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.

29. 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 5-7, 12.

30. “Dirty electricity” is a non-scientific term that sometimes is used to refer to electrical characteristics (harmonics and transients) that can be found on household wiring. PPL Electric Statement No. 1 at 8.

31. The AMI meter in question exposes an individual to thousands of times less RF fields than a typical Wi-Fi router. Tr. 37.

32. 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 9-10.

33. 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 9-10.

34. 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 CD2.

35. The level of RF fields from the Landis + Gyr Focus AX-SD AMI meter is $0.0000061 \text{ mW/cm}^2$ at a distance of one meter. PPL Electric Exhibit CD-2.

36. The FCC RF maximum limit standard is 0.6 mW/cm^2 at one meter distance. 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, PPL Electric Exhibits CD-2 and CD-3.

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. 39, PPL Electric Statement No. 1 at 14, PPL Electric Exhibit CD4.

39. There are 17 television broadcast towers within a 50-mile radius of Complainant's service address. PPL Electric Statement No. 1 at 15.

40. Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant's residence are 33.8 times higher than the RF signals from the AMI meter. PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-5.

41. 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.

42. PPL Witness 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.

43. 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.

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

45. 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.

46. 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.

47. Claimed symptoms related to Electromagnetic Hypersensitivity (EHS) are more accurately described as “Idiopathic Environmental Intolerance” (“IEI”), in which “idiopathic” means “cause unknown,” rather than electromagnetic hypersensitivity. PPL Electric Statement No. 2 at 12-13.

48. There are no established medical criteria for the diagnosis or treatment of IEI. PPL Electric Statement No. 2 at 15-16.

49. IEI and the variety of symptoms attributed to it are not caused by exposure to RF fields. PPL Electric Statement No. 2 at 15-16.

50. 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.

51. 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.

52. There is no medical basis or reliable scientific basis to conclude that greater use of wireless phones or higher levels of RF fields in a home will cause insomnia. PPL Electric Statement No. 2 at 15-16.

53. There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL would cause, contribute to, or exacerbate any of the symptoms claimed by the Complainant, or any other adverse health effects. PPL Electric Statement No. 2 at 17.

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).³

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”).

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.”

³ 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).

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 v. Opt-in

Complainant wishes to opt-out of a smart meter installation. Conversely, PPL argues there is no opt-out provision in Act 129 of 2008.

Disposition

Act 129 amended Chapter 28 of the Public Utility Code (Code), 66 Pa. C.S. §§ 2801-2815, and required 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 it did not install a smart meter at similarly situated residences. *Id.* 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 v. PPL Electric Utilities Corporation*,

C-2018-2644957 (Opinion and Order entered May 23, 2019) at 43-44. There is no legal requirement that PPL be required to wait until legislation is passed allowing customers to opt out of a smart meter installation. 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 service property for the health of her children. Complainant claims that one son was having quality of sleep issues while a Wi-Fi router was on in his bedroom. When the Wi-Fi router was placed on a timer turning it off automatically from 9:00 p.m. – 7:00 a.m., then her son’s sleep improved. Complainant offered no medical exhibits or other evidence to corroborate her claim.

Conversely, PPL argues that all of Ms. Carbaugh’s health concerns for her children have been rebutted by the credible expert testimonies of Dr. Israel and Dr. Davis who testified there is no reliable scientific or medical basis to conclude that the AMI meter will cause, contribute or exacerbate adverse health effects. Tr. 47.

Disposition

Even if I were to find Complainant’s son suffers from insomnia when a Wi-Fi router is turned on in his bedroom, there is no evidence the sleep disorder is caused by radio frequency fields exposure. Dr. Israel has opined that insomnia is not caused by radio frequency waves. I am not convinced EHS has a scientific basis as it appears to be based entirely upon self-reporting of adverse reactions to electromagnetic fields at intensities well below the maximum levels permitted by the FCC’s radiation safety standards. The symptoms of EHS seem to vary widely and there is a psychological component to EHS. In giving his opinion, Dr. Israel relied on reports, “It is the IEI-EMF individuals’ belief that exposure to RF EMFs will cause harm, rather than actual exposure itself, that results in the presence of symptoms in IEI-EMF individuals.” PPL Electric Statement No. 2.

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 5-7, 12.

"Dirty electricity" is a non-scientific term that sometimes is used to refer to electrical characteristics (harmonics and transients) that can be found on household wiring. PPL Electric Statement No. 1 at 8. AMI meters do not generate electricity, do not generate harmonics and transients that are significant compared to the harmonics and transients already present on the 60 Hz power coming into the home and do not interfere with the operation of household wiring.

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 9-10. 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 9-10.

Dr. Davis opined that 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 CD2. 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 CD4. Complainant has two cell phones in her house. She home-schools her four children using desktop and Chrome computers that are connected to the internet. There is a Wi-Fi router on in her house between the hours of 7:00 a.m. and 9:00 p.m.

Additionally, there are 17 television broadcast towers within a 50-mile radius of Complainant's location in Souderton, 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 33 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 supra.*; *Sunstein Murphy v. PECO Energy Company*, C-2015-2475726 (Opinion and Order entered May 9, 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).

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 her or her minor children to experience adverse health effects. Although Complainant has college training in Business Administration, she is not an expert witness in the fields of electrical engineering, physics, biophysics or medicine. The assertions of Complainant that her son will have insomnia as an AMI meter cannot be turned off is a bald assertion from a layperson, which does not constitute evidence sufficient to offset the evidence presented by PPL. *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).

No corroborative medical evidence was proffered to support Complainant's testimony. There is insufficient evidence to show that an AMI meter will cause her or her son to suffer deleterious health effects, even insomnia.

Complainant's 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.

Claimed symptoms related to EHS are more accurately described as “Idiopathic Environmental Intolerance” (“IEI”), in which “idiopathic” means “cause unknown,” rather than electromagnetic hypersensitivity. PPL Electric Statement No. 2 at 13. There are no established medical criteria for the diagnosis or treatment of IEI. PPL Electric Statement No. 2, p. 16, lines 8-9. IEI and the variety of symptoms attributed to it are not caused by exposure to RF fields. PPL Electric Statement No. 2 at 15.

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 10-15, 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. There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL would cause, contribute to, or exacerbate any of the symptoms claimed by the Complainant, or any other adverse health effects. PPL Electric Statement No. 2 at 14-15.

AMI Meter Installation at Apartment A

Complainant argues PPL should have flagged the Apartment A account when she complained verbally to an agent attempting to switch the analog meter with an AMI meter. Complainant argues she did not know she should have amended her Complaint to include a complaint regarding the second metered account for which she is a landlord.

Conversely, PPL contends that there is no Commission Order in place precluding the Company from installing AMI meters in PPL's service territory. Although the Company has an internal procedure in place whereby during the pendency of a formal complaint proceeding regarding the installation of an AMI meter, PPL voluntarily has not switched meters and has ceased termination and other notices regarding the consumers' accounts, it is under no legal obligation to do so. Tr. 48. PPL contends it did not err and violated no regulation, statute or Commission order in the installation of an AMI meter at Apartment A.

Disposition

Complainant only mentions the service property account number and address in her Complaint. She never amended her Complaint to include a second metered property at Apartment A. If she had done so in a timely manner, PPL would have flagged that account also and stayed installation pending the outcome of the instant Complaint proceeding. Even though there is a dispute pending regarding the service property, there is no formal dispute pending regarding a separate metered account at Apartment A. I find in favor of PPL on this issue as there is no violation of any regulation, statute or Commission order in the installation of the AMI meter at Apartment A.

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 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 his 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 of 2008 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 Michelle Carbaugh against PPL Electric Utilities Corporation at Docket No. C-2018-3001751 is denied and dismissed.
2. That PPL Electric Utilities' Corporation's Motion to Compel filed on June 12, 2019 is denied as moot.
3. That the docket in this proceeding be marked closed.

Date: July 31, 2019

_____/s/
Elizabeth H. Barnes
Administrative Law Judge