

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Donna Millan	:	
	:	
v.	:	C-2017-2623236
	:	
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 violates any other provision of the Public Utility Code, Commission order, regulation, or Commission-approved company tariff.

HISTORY OF THE PROCEEDING

On August 30, 2017, Donna Millan (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 289 Shirktown Road, Narvon, PA 17555 (account number ending in 602) for health and safety reasons. Complaint at 2-3.

The Complaint was served upon PPL on September 7, 2017.¹ On September 27, 2017, Respondent filed an Answer. The Answer admits that the Respondent provides electric service to the Complainant. Respondent contends that it is required to install AMI, or smart meters, for all automatic meter reading (AMR) customers and denies that the new AMI meter has caused, contributed to, or exacerbated any illnesses.

On October 25, 2017, a Call-In Telephonic Hearing Notice was issued scheduling a telephonic evidentiary hearing for February 2, 2018 and assigning me as presiding officer. On November 3, 2017, a Prehearing Order was issued. On November 27, 2017, PPL served Set I Interrogatories and Requests for Production of Documents on the Complainant (PPL Set I) via first class mail. Objections to PPL Set I were due on or before December 11, 2017, and responses were due on or before December 20, 2017. Complainant never served any objections or responses.

On December 18, 2017, PPL filed a Motion for Admission *Pro Hac Vice* of Curtis S. Renner, Esquire. On January 8, 2018, an Interim Order was issued, admitting Attorney Renner, *pro hac vice*. On January 11, 2018, PPL filed a Motion to Compel responses to PPL Set I. The Complainant did not file an Answer to the Motion to Compel. On January 19, 2018, an Order Granting Motion to Compel was issued compelling responses by January 26, 2018. No responses were served. On February 2, 2018, a hearing was held. At the hearing, the parties agreed to stay the proceedings for 90 days, during which time Complainant agreed to solicit a certified electrician to provide her with a written estimate for the make-ready work associated with preparing for the extension of the company's facilities to her garage and the exchange of her current meter at that location, all of which would be done at her cost per the company's tariff. The parties indicated a willingness to negotiate a settlement and Complainant stated that she would "do [her] best" to respond to the discovery. Tr. 13. On February 9, 2018, a transcript of the hearing was filed. Tr. 1-

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 effected on September 7, 2017. Thus, PPL's Answer filed on September 27, 2017 is deemed timely filed.

14. On February 15, 2018, a Second Interim Order was issued staying the proceedings for 90 days to give the parties time to negotiate a settlement.

On June 26, 2018, a further telephonic evidentiary hearing was scheduled for November 2, 2018. On October 16, 2018, PPL requested a continuance of the November 2, 2018 hearing. On October 18, 2018, a Third Interim Order was issued granting PPL's second request for a continuance of the hearing. The Third Interim Order directed: 1) Complainant serve copies of her exhibits and any written expert testimony by February 21, 2019 and 2) PPL serve its written testimony and exhibits by March 21, 2019. On October 19, 2018, a Call-In Telephonic Hearing Notice was issued scheduling a hearing on April 25, 2019. On March 21, 2019, PPL served written testimony and exhibits. On April 3, 2019, PPL sent Complainant a letter requesting she provide responses to PPL Set I no later than April 5, 2019. Complainant sent me a cover letter dated April 8, 2019 and an article entitled *The 3 Hidden Dangers of the Smart Grid*, which I received on April 15, 2019, and subsequently shared with counsel for PPL via e-mail on April 18, 2019, so as to avoid any *ex parte* communication. On April 19, 2019, PPL filed a Motion to Dismiss the Complaint.

At the hearing on April 25, 2019, Complainant appeared *pro se* with one exhibit, Complainant Exhibit No. 1, a report entitled, *The 3 Hidden Dangers of the Smart Grid*. Respondent appeared represented by Devin Ryan, Esquire, Michael Shafer, 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 SL-1 were admitted into the record.² Tr. 17. Prior to taking testimony, oral argument was heard regarding the Motion to Dismiss, which was denied as having been untimely filed. Tr. 22-28. A transcript consisting of 85 pages was filed and the record closed on May 7, 2019. This case is ripe for a decision.

² Donald Vinciguerra adopted the written testimony of Scott Larson and sponsored Exhibit SL-1. Tr. 54-57.

FINDINGS OF FACT

1. The Complainant in this proceeding is Donna Millan, who resides at 289 Shirktown Rd., Narvon, Pennsylvania (service address). Tr. 29-30.
2. The service address is a single family dwelling in a rural setting. Tr. 30.
3. Complainant requests PPL be precluded from installing an AMI meter on her service property and directed to continue electric service with her current meter. Tr. 30.
4. Complainant has privacy, security, health and safety concerns regarding the installation of a RF Meter at her service address. Tr. 30 – 37, 39, Complainant Exhibit No. 1.
5. Complainant is a low-income customer, living on disability and child support with three daughters and two grandchildren living in the household. Tr. 38, 41.
6. Complainant has a nursing degree and has additionally taken some pharmacology classes. Tr. 41-42, 44.
7. Complainant was employed as a nurse in a nursing home until she injured her spine while lifting a patient. Tr. 42.
8. Complainant has had multiple back surgeries and suffers from degenerative disc disease. Tr. 42.
9. The Respondent in this proceeding is PPL Electric Utilities Corporation, an electric distribution company (EDC). Tr. 30.
10. 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.

11. 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.

12. Complainant has a PLC meter on her service property. Tr. 52, PPL Electric Statement No. 3 at 4.

13. 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. SL-1, "PPL Smart Meter Technology Procurement and Installation Plan," June 30, 2014.

14. 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. SL-1.

15. 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 at 6-7.

16. Under the Smart Meter Plan, the RF Mesh meters are to be deployed by the end of 2019. PPL Electric Statement No. 4 at 6.

17. 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. SL-1.

18. The Landis + Gyr Focus AXR-SD meter is certified by the Underwriters Laboratories at UL 2735. PPL Electric Statement No. 4 at 8-11.

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

20. PPL's cybersecurity policies and practices are consistent with the national standard for the industry. PPL Electric Statement No. 4 at 8.

21. 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. Tr. 61-63, PPL Electric Statement No. 1 at 1-5.

22. Dr. Davis has been elected as a Fellow of the International Society for Optics and Photonics. Tr. 59.

23. 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.

24. 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 2-3.

25. 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 5-7.

26. 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.

27. “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. Tr. 75-76, PPL Electric Statement No. 1 at 8.

28. 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. Tr. 8-9.

29. The Federal Communications Commission (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 9-11.

30. 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 9-11.

31. 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 13, PPL Electric Exhibit CD2.

32. 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. Tr. 81-82, PPL Electric Statement No. 1 at 7.

33. 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.

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

35. There are 18 television broadcast towers within a 50-mile radius of Complainant's location in Narvon, Pennsylvania. PPL Electric Statement No. 1 at 15.

36. Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant's residence are 23.9 times higher than the RF signals from the AMI meter. Tr. 73-74, PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-5.

37. 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.

38. The exposure to RF fields from a cell phone depends upon the distance between the phone and the person holding the phone. Tr. 67.

39. Complainant generally uses voice to text and keeps her phone one arm's length from her. Tr. 67.

40. Complainant would receive approximately five times as much exposure from RF fields from her cell phone placed three feet away from her as would receive from an AMI meter installed at the service property. Tr. 65-66.

41. 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.

42. 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. Tr. 88, PPL Electric Statement No. 2 at 1.

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

44. 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. Tr. 88-89, PPL Electric Statement No. 2 at 3-4.

45. 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.

46. 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 13.

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

48. 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.

49. 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.

50. 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.

51. 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. Tr. 91, PPL Electric Statement No. 2 at 17-18.

52. 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 15-16.

53. 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. SL-1.

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

55. 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.

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

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

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) (*Romeo*) (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.” 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:

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).

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.

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* (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).

Health and Safety Concerns

Complainant requests PPL be precluded from installing an AMI meter on her service property for health and safety reasons and be directed to continue electric service with her current meter. Tr. 30-39, 96. Conversely, Respondent contends that Complainant has failed to prove that the installation of an RF Mesh meter at the service property is likely to cause or exacerbate any illness or to be unsafe. Tr. 96-97.

Disposition

Complainant resides at, 289 Shirktown Rd., Narvon, Pennsylvania (service address). Tr. 29-30. The service address is a single family dwelling in a rural area. Tr. 30. Complainant requests PPL be precluded from installing an AMI meter on her service property and continue electric service with an analog meter replacement. Tr. 30. To support her claim, Complainant submitted into evidence Complainant Exhibit No. 1, an article entitled, *The 3 Hidden Dangers of the Smart Grid*. Complainant has had multiple back surgeries and she suffers from degenerative disc disease. Tr. 42. Although Complainant uses a cell phone, she does not hold it to her ear. Rather she uses the phone at arm's length, with a "voice to text" phone feature. Tr. 42, 47. Complainant lives with her three daughters and two grandchildren at the service address and she is a low-income consumer. Tr. 38, 41. Complainant has a nursing degree and she took some pharmacology classes. Tr. 41-42, 44. Complainant is not an engineer.

At the hearing, PPL objected on the grounds of hearsay to the admission of Complainant's Exhibit No. 1 because the exhibit contained several statements not written by Ms. Millan, and because the document is an opinion piece authored by "Patriot Power Generator.com," an anti-smart grid group. Tr. 31, 33, 36, and 42.

Although I admitted Complainant Exhibit No. 1, I am giving it little or no weight as the author of the report was not present at the hearing. Also, the exhibit offers citations to multiple articles to support the existence of non-thermal health effects; however, the authors of these articles were not available for cross-examination. Under Pennsylvania's "Walker Rule," it is well-established that "[h]earsay evidence, properly objected to, is not competent evidence to support a finding." *Walker v. Unemployment Comp. Bd. of Review*, 367 A.2d 366, 370 (Pa. Cmwlth. 1976) (citations omitted). Even if hearsay evidence is "admitted without objection," the ALJ must give the evidence "its natural probative effect and may only support a finding . . . if it is corroborated by any competent evidence in the record;" as "a finding of fact based solely on hearsay will not stand." *Id.* at 370 (citations omitted). PPL was denied an opportunity to test the veracity of the authors' opinions or their qualifications to render such opinions and Ms. Millan was not an expert witness as she does not have a medical degree and is not an engineer. 66 Pa.

C.S. § 332(c). *Answerphone, Inc. & Elite Answering Serv. v. Bell Tele. Co. of Pa.*, 1993 Pa. PUC LEXIS 70, at *29-30 (Order entered April 1, 1993). Thus, the article and Ms. Millan's testimony regarding the ill health effects of RF Mesh meters is not persuasive.

I find credible PPL Witness 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. Dr. Davis has been elected as a Fellow of the International Society for Optics and Photonics. Tr. 59. 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.

Specifically, I am persuaded by the credible testimony of Dr. Davis, who explained that RF fields are part of the lower energy, non-ionizing portion of the electromagnetic spectrum which consists of lower frequency signals that do not have enough energy to break chemical bonds in cells or DNA. PPL Electric Statement No. 1 at 5-7. RF fields come from many sources in our everyday environments including AM/FM radio, television broadcast towers, 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.

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. Tr. 81, 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. 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 CD4.

Additionally, there are 18 television broadcast towers within a 50-mile radius of Complainant's location in Narvon, 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 23.9 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 PLC or AMI meter will cause a deleterious health effect to Complainant. This holding is consistent with recent caselaw precedent including: *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).

PPL did not refute that Complainant suffered from spine injuries and degenerative disc disease. 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 her complained of diagnosis of degenerative disc disease or any other illness is caused by or exacerbated by any RF exposure levels from a Landis + Gyr Focus AXR-SD meter or that the meter will cause adverse health effects to Complainant. No corroborative medical or widely accepted scientific evidence was proffered to support her testimony.

Complainant's testimony was refuted by the credible testimony of PPL's 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. IEI and the variety of symptoms attributed to it are not caused by exposure to RF fields. PPL Electric Statement No. 2 at 16.

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 at 17-18. 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 15-16. Accordingly, I find in favor of Respondent on this issue.

Data Privacy

Complainant contends it is unreasonable 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. Complainant is not comfortable with sharing that information. Tr. 30-37, 39, Complainant Exhibit No. 1. Conversely, PPL argues its meter complies with its AMI Customer Privacy Policy. PPL Electric Statement No. 4 at 6-8.

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. SL-1. PPL uses firewalls to prevent anyone from obtaining unauthorized access to the AMI network. PPL Statement No. 4 at 6-8. Customer data is encrypted to make the data readable to only PPL personnel who can decode the encryption. PPL Statement No. 4 at 6-8. PPL's cybersecurity and data privacy policies are consistent with the national standards for the industry. PPL Statement No. 4 at 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. For these reasons, I find in favor of PPL on the privacy issue.

CONCLUSION

For all of the 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 violates any other provision of the Public Utility Code, Commission order or regulation or Commission-approved company tariff. 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).

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. 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).

9. 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).

10. 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.

11. 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).

12. Nothing in Act 129 permits a customer to “opt-out” of a smart meter installation. See, e.g., *Starr v. PECO Energy Co.*, Docket No. C-2015-2516061, p. 11 (Order Entered Sept. 1, 2016).

13. The Commission previously determined that the Company’s existing PLC meters are not compliant with Act 129 and the Commission’s Smart Meter Implementation Order. See *Petition of PPL Electric Utilities Corporation for Approval of Smart Meter Technology Procurement and Installation Plan*, Docket No. M-2009-2123945, p. 24 (Order entered June 24, 2010).

14. 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 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).

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

16. The Complainant has failed to sustain her burden of proof that installing the new AMI meter would constitute unsafe or unreasonable service in violation of 66 Pa. C.S. § 1501.

