

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Chris Lawton	:	
	:	
v.	:	C-2018-3005582
	:	
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 his 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 otherwise violates any provision of the Public Utility Code, a Commission order or regulation or a Commission-approved tariff of the company.

HISTORY OF THE PROCEEDING

On October 23, 2018, Chris Lawton (Complainant) filed the instant Complaint with the Pennsylvania Public Utility Commission (Commission) against PPL Electric Utilities Corporation (PPL) averring he wishes to opt out of a smart meter installation at his residence, 2611 Hazelwood Road, Lancaster, Pennsylvania for health and safety reasons as well as privacy and cyber security issues.

The Complaint was served upon PPL on October 23, 2018. On October 29, 2018, Complainant filed additional information in support of his formal complaint. On November 13, 2018, Respondent filed an Answer. The Answer admitted that the Respondent provides electric service to the Complainant at the address shown on the Complaint. The Answer contends that the Respondent is required to install AMI, or smart meters, for all automatic meter reading (AMR) customers and that it has the right to terminate service for failure of the customer to permit access to the meter.

On November 15, 2018, a Hearing Notice was issued scheduling a telephonic hearing for May 23, 2019 and assigning the case to me as presiding officer. A Prehearing Order was issued on January 4, 2019. On January 16, 2019, I received a letter from Complainant requesting his case be converted to an in-person hearing and rescheduled to September 2019. On February 6, 2019, PPL filed a letter indicating it did not oppose Mr. Lawton's request to reschedule the hearing. A Hearing Cancellation/Reschedule Notice was issued rescheduling the hearing to September 26, 2019 and converting it to an in-person hearing. A Second Prehearing Order was issued on February 6, 2019. On August 26, 2019, PPL served copies of its written direct testimony and exhibits it planned to use at the hearing upon the presiding officer and Complainant. On August 27, 2019, PPL filed a Motion to Compel Responses to Discovery Requests. On September 2, 2019, Complainant requested the hearing be continued until a later date in 2020 due to medical reasons. On September 20, 2019, the hearing was rescheduled to December 6, 2019. On November 1, 2019, an Order Granting Motion to Compel was issued compelling full answers to discovery requests on or before November 15, 2019. On December 6, 2019, the hearing was held as scheduled.

At the hearing, Complainant appeared *pro se* with no exhibits. Devin Ryan, Esquire and Curtis Renner, Esquire, appeared representing Respondent with 15 exhibits and four witnesses: Kevin Durkin, Donald Vinciguerra, Christopher Davis, Ph.D., and Mark Israel, M.D. Respondent's statements and exhibits were admitted into the record.

A transcript consisting of 81 pages was filed on December 27, 2019, and the record closed the same day. This case is ripe for a decision.

FINDINGS OF FACT

1. The Complainant in this proceeding is Chris Lawton, who has resided at 2611 Hazelwood Road, Lancaster, Pennsylvania for three years. N.T. 9.
2. The Respondent in this proceeding is PPL Electric Utilities Corporation, an electric distribution company (EDC). N.T. 9-10.
3. Complainant resides at the service property (a 2000 square foot, two-story, four-bedroom home) with his wife and two children. N.T. 9-12.
4. Complainant's service property has no Wi-Fi, no remote phones, or deck phones. N.T. 12.
5. Complainant does not have an electrical engineering degree. N.T. 31.
6. Complainant does not have any medical degrees. N.T. 31.
7. Complainant has thirty years of experience working in information technology (IT). N.T. 12.
8. Complainant and his wife have two cell phones, two laptops, and an iPad. N.T. 31-32, 35.
9. When cell phones are in the service property, they are on airplane mode. N.T. 12.
10. Donald Vinciguerra is a TNS Supervisor with PPL Electric Utilities Corporation. N.T. 37-38.

11. 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 Statement No. 4 at 4.

12. 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 Statement No. 4 at 4.

13. The individual RF Mesh meters are used as relay points to transmit data back to PPL. PPL Electric Statement No. 4 at 5-6.

14. Under the Smart Meter Plan, the RF Mesh meters are to be deployed between 2017 and 2019 for all of PPL's 1.4 million customers. PPL Electric Statement No. 4 at 6.

15. PPL had deployed over one million RF Mesh meters as of the December 6, 2019 hearing and none of them have caused a fire. N.T. 39, PPL Electric Statement No. 4 at 10.

16. The RF Mesh meter to be installed for the Complainant's residential account is the Landis + Gyr E350 Focus AXR-SD meter. PPL Electric Statement No. 4 at 6.

17. The FCC ID for the new AMI meter is R7PEG1R1S2. PPL Electric Statement No. 4 at 6.

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

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 has had several outside agencies over the life of the AMI meter project test the cyber security controls of the RF system as well as the backend back office systems with acceptable results. N.T. 41.

21. Kevin Durkin is a Project Manager on PPL's Meter Replacement Project. N.T. 45-46, PPL Electric Statement No. 3 at 1.

22. PPL issued ten-day shut off notices to Complainant on October 8, 2018 and October 10, 2018, respectively. PPL Electric Exhibit KD-1 at 1, N.T. 46-47.

23. On October 15, 2018, PPL issued a three-day shut off notice. PPL Electric Exhibit KD-1 at 1, N.T. 46-47.

24. 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, N.T. 50-51.

25. 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.

26. 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.

27. 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.

28. 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 5-6, 12.

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 9-10.

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 9-10.

31. The levels of RF fields from the Landis + Gyr Focus AXR-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. PPL Electric Statement No. 1 at 7.

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

34. Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant's residence are 7.4 times higher than the RF signals from the AMI meter. N.T. 54, PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-5.

35. Complainant or his wife would have to sit very close to an AMI meter for about 164 years to receive the same radio frequency field exposure from their cell phones held at their ears during their average usage over six months. N.T. 54-56.

36. The RF exposure from a cell phone used at a person's head is 260,000 times higher than the average RF levels one meter away from the Company's new smart meter. PPL Electric Statement No. 1 at 14, PPL Electric Exhibit CD-4.

37. 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.

38. 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.

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

40. 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.

41. 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. N.T. 71-72, PPL Electric Statement No. 2 at 3.

42. 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.

43. There are no established medical criteria for the diagnosis or treatment of IEI. PPL Electric Statement No. 2.

44. IEI and the variety of symptoms attributed to it are not caused by exposure to RF fields. PPL Electric Statement No. 2 at 13-14.

45. 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.

46. Several U.S. state public health authorities 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.

47. 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. N.T. 74, PPL Electric Statement No. 2 at 16.

48. 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 16, N.T. 74.

49. PPL's new AMI meters are equipped with software and mechanisms that better alert the Company if there is an issue with overheating. PPL Electric Statement No. 4 at 10.

50. There is a heat alarm set within the meter software program, so when the temperature of the meter hits an established level, the Company is alerted to the issue. PPL Electric Statement No. 4 at 10.

51. PPL takes 15-minute interval temperature readings from the meter, so it can track the meter's temperature and identify any current issues or problematic trends. PPL Electric Statement No. 4 at 10.

52. If the Company detects an issue with the meter's temperature, PPL will dispatch a technician to investigate. PPL Electric Statement No. 4 at 10.

53. From the Company's research, "the root cause of the vast majority" of any fires involving new meters is the customer-owned meter bases wearing out and producing loose connections between the "blade" of the meter and the "jaw" of the meter base. PPL Electric Statement No. 4 at 9.

54. PPL has taken several steps to mitigate the risk of these worn out meter bases, including analyzing the materials utilized for meter bases, enhancing its inspection criteria so that its service technicians are better able to "identify loose jaws in the field," and ensuring the new AMI meters meet the ANSI requirements. PPL Electric Statement No. 4 at 9.

55. The new AMI meter to be installed by the Company is not a fire or safety hazard. PPL Electric Statement No. 4 at 9-10.

56. 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 Statement No. 4 at 6 -12.

57. PPL uses firewalls to prevent anyone from obtaining unauthorized access to the AMI network. PPL Electric Statement No. 4 at 7.

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

59. PPL's cybersecurity and data privacy policies are consistent with the national standards for the industry. PPL Electric Statement No. 4 at 6-12.

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).¹

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); *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”).

¹ 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.

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 at 23 (Opinion and Order entered January 28, 2016) (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 claims that he and his wife are health conscientious and that they selected the service property in part because it was located away from cell towers. N.T. 15. Complainant and his wife are concerned that the proposed meter is an RF transmitting meter to be located in the main living area on the first floor of the home, four feet from the room their children spend most of the day playing and eating in. N.T. 12-13. Complainant seeks an opt-out as he claims PPL's actions are negating the efforts that he and his wife have taken to reduce RF exposure to their children. Complainant cites as authority for his position an NTP Study and an article entitled, "*Assessment of Radio Frequency Microwave Radiation Emissions from Smart Meters*, by Sage Associates, Santa Barbara California", dated January 1, 2011. N.T. 13, 24-25. Complainant argues his children will suffer negative health effects from the AMI meter to be installed, which Complainant cannot shut off, unlike the cell phones, laptops and tablets that he can shut off or put on airplane mode in the home. N.T. 63. Complainant offered no exhibits to support his health claims.

Conversely, PPL contends Complainant admits he is not a medical expert. Complainant has failed to show that his children have a medical condition that is caused by or will be exacerbated by the AMI meters to be installed on their service property. PPL argues the author of the above-cited article, Ms. Sage, is an activist on EMF and RF issues in California with no background or expertise in exposure assessment of any type, is not an electrical engineer and is not recognized as having any capability to conduct testing measurements, calculations or anything of that sort related to smart meters. The articles associated with the hyperlinks provided by Complainant to PPL prior to the hearing are not independent, reliable or expert material. N.T. 25.

Disposition

Although Complainant has thirty years of experience in the IT field, by his own admission, he is neither an electrical engineer nor a medical professional. As such, I gave his testimony that radio frequency fields from an AMI meter would cause ill-effects to his children

little weight. No medical records or medical diagnosis was offered at the hearing to support the claim that an AMI meter would cause or contribute to deleterious health effects upon members of the service property household. Therefore, Complainant has failed to make a *prima facie* showing regarding this issue.

Even if I were to find *prima facie* evidence existed to support the claim, I am persuaded by the credible testimony of Dr. Israel, a physician who evaluated scientific research on RF fields and adverse health effects generally. He testified that he has been systematically examining this research over the past several decades and that many hundreds of studies have been published. PPL Electric Statement No. 2. He testified that three groups of controlled laboratory studies on animals “are particularly informative because they address fundamental biological functions that are very sensitive to any disruption: genetics, reproduction, and growth and development.” PPL Electric Statement No. 2 at 8. Dr. Israel described a number of the studies in these areas which he considered good examples of well-designed and well-conducted studies. These studies found no adverse effects on genetics, fertility, reproduction, growth or development in the animals exposed to RF fields. PPL Electric Statement No. 2 at 9. Dr. Israel also provided examples of well-conducted animal studies on RF fields and cancer. He testified that these studies, which involved animals with lifetime exposures to RF fields, did not find any increased incidence in cancer in the RF exposed animals compared to non-exposed animals. PPL Electric Statement No. 2 at 9-10.

Based on the body of scientific research showing no consistent and reproducible effects from RF fields on cancer and other adverse health effects, the World Health Organization (“WHO”) has concluded that “no adverse health effects have been established as being caused by mobile phone use.” PPL Electric Statement No. 2 at 10. A number of other public health authorities, including agencies in Canada, the U.K., Sweden, Norway, the Netherlands, and New Zealand, among others, have recently reached similar conclusions. PPL Electric Statement No. 2 at 10; PPL Electric Exhibit MI-1. In addition, several U.S. state public health authorities and Public Utility Commissions have investigated claims about health effects from smart meters. These include the Maine Center for Disease Control (2010), the Vermont Department of Health (2012), the Arizona Department of Health, Office of Environmental Health (2014), and the North

Carolina Department of Health and Human Services, Division of Public Health, Occupational and Environmental Epidemiology Branch (2015). These evaluations by State public health authorities and Public Utility Commissions conclude that RF fields from smart meters do not pose any public health risk. PPL Electric Statement No. 2; PPL Electric Exhibit MI-2.

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 16. There is no reliable medical basis to conclude that RF fields from the AMI meter being used by PPL would cause, contribute to, or exacerbate any of the symptoms claimed by the Complainant, including fibroids/cysts, or any other adverse health effects. PPL Electric Statement No. 2 at 16.

Additionally, on this issue, I find credible the expert testimony of PPL witness Dr. Christopher Davis who opined the Landis + Gyr AMI meter would not cause adverse health effects. Dr. Davis co-authored 255 articles published in peer-reviewed scientific journals, two books, twelve book chapters and 324 papers presented at scientific conferences. PPL Electric Statement No. 1 at 2. He 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 5-6, 12.

The FCC has determined safe public exposure levels for RF fields from devices that transmit RF signals, such as the AMI meters and recently reaffirmed those standards. N.T. 57-58, PPL Electric Statement No. 1 at 9-10. The FCC continually monitors the literature and decides whether to reevaluate its exposure standards to all human beings including pregnant women and children. N.T. 57-58. The FCC's 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 FDA and the EPA. PPL Electric Statement No. 1 at 9-10. The FCC recently issued an Order on December 4, 2019, re-promulgating the FCC's Radio Frequency emissions standards. *In the Matter of Targeted Changes to the Commission's rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields*, ET Docket No. 19-226, (Resolution of Notice of Inquiry, Second Report and Order, Notice of Proposed Rulemaking, and Memorandum Opinion and Order adopted November 27, 2019 and released December 4, 2019). The FCC held in pertinent part:

First, we resolve a *Notice of Inquiry* that sought public input on, among other issues, whether the Commission should amend its existing RF emission exposure limits. After reviewing the extensive record submitted in response to that inquiry, we find no appropriate basis for and thus decline to propose amendments to our existing limits at this time. We take to heart the findings of the Food & Drug Administration (FDA), an expert agency regarding the health impacts of consumer products, that “[t]he weight of scientific evidence has not linked cell phones with any health problems.” Despite requests from some to increase and others to decrease the existing limits, we believe they reflect the best available information concerning safe levels of RF exposure for workers and members of the general public, including inputs from our sister federal agencies charged with regulating safety and health and from well-established international standards.

Id. at 3. (footnotes excluded).

The levels of RF fields from the Landis + Gyr Focus AXR-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. 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.

Dr. Davis testified that Complainant would have to sit very close to an AMI meter for about 164 years to get the same radio frequency field exposure from the cell phone held at Complainant's ear during his average usage over six months. N.T. 54-56.

Additionally, there are six television broadcast towers within a 50-mile radius of Complainant's location in Lancaster, 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 7.4 times higher than the RF signals from the AMI meter. N.T. 54, PPL Electric Statement No. 1 at 15, PPL Electric Exhibit CD-5. The RF exposure from a cell phone used at a person's head is 260,000 times higher than the average RF levels one meter away from the Company's new smart meter. PPL Electric Statement No. 1 at 14. Thus, the amount of exposure Complainant and his household will likely experience from the installation of an AMI meter is negligible or de minimus in comparison to the radio frequency exposure the household will experience from other devices used in the home and the background RF fields from UHF broadcast towers. The exposure is well below the FCC standards. PPL Electric Exhibits CD-4 and CD-5. For all of these reasons, I find in favor of PPL on this issue.

Privacy Concerns

Complainant also has raised privacy issues with the new AMI meter. Mr. Lawton argues the data obtained from his AMI meter can be shared with other meters and is subject to hacking. Thus, it is unreasonable service under 66 Pa. C.S. § 1501, and discriminatory pursuant to 66 Pa. C.S. § 1502 that he is not able to opt-out of an AMI meter installation.

Conversely, PPL contends Complainant failed to establish a *prima facie* case that it has violated 66 Pa. C.S. §§ 1501 and 1502. Instead of discriminating against Complainant through the installation of an AMI meter, the Company argues it would be discriminatory and in violation of Section 1502 to allow for an opt-out for this one customer, when it has not given an opt-out to other similarly situated customers. Thus, an opt-out would be an unreasonable preference or advantage to Complainant when PPL has denied such a request to others. N.T. 76-78. 66 Pa. C.S. §§ 1501 and 1502.

Disposition

I agree with PPL that Complainant has failed to establish a *prima facie* case on this issue. Although he has 30 years' experience in the IT field, he is not an expert witness in the areas of cyber security, computer engineering, or electrical engineering. His layperson opinion testimony is unsupported by any corroborative evidence and is successfully refuted by PPL's witnesses Kevin Durkin and Donald Vinciguerra.

As 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 KD-3. Consistent with that policy, the Company will collect data on the total amount of electricity used at the premises as well as significant event information, such as outages, voltage, heat alarms, and meter tampering alerts. PPL Electric Exhibit KD-3, Section 1.2.

PPL uses firewalls to prevent anyone from obtaining unauthorized access to the AMI network. Customer data is encrypted to make the data only readable to Company personnel who can decode the encryption. PPL's cybersecurity policies and practices as proposed in PPL Electric's Smart Meter Plan (PPL Electric Exhibit DV-1) are consistent with national standards for the industry. PPL Electric Statement No. 4. Additionally, if Complainant is concerned about the AMI meter's connection to smart appliances in his home, he can decline to have the ZigBee radio activated.

Additionally, PPL 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.

Recently, the United States Court of Appeals for the Seventh Circuit issued an Opinion and Order in the case of *Naperville Smart Meter Awareness v. City of Naperville*, 900 F.3d 521 (7th Cir. 2018) (*Naperville*). 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, the 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.

Fire Hazard

Although Complainant raised in his complaint and testified that he has fire concerns, Mr. Lawton offered no evidence other than his testimony that the AMI meter was a fire hazard. The assertions of Complainant that the meter is a fire hazard are uncorroborated and these bald assertions do not constitute substantial evidence. *Brunner v. PPL Electric Utilities Corporation*, Docket No. C-2018-3006175 (Final Order entered on October 8, 2019); citing *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).

Opt-In versus Opt-Out Program

Complainant argues that 48 other states provide for an opt-out from smart meter installation and so should Pennsylvania. Complaint (additional letter). Complainant argues he previously resided in New Zealand and the European Union and was not forced to “take transmitting RF meters.” Complaint (additional letter). Complainant requests permission to opt-out of a smart meter installation.

Conversely, PPL contends its installation of an AMI Meter is required by Pennsylvania law and that it would not constitute unreasonable or unsafe service to install an AMI Meter on Complainant’s property. PPL argues Complainant has failed to demonstrate that any AMI meter causes, contributes to or exacerbates any adverse health effect. PPL denies the AMI meter causes fires or is a privacy risk.

Disposition

The Commission has ruled that there is no provision in the Code, the Commission’s Regulations or Orders that allows a PECO customer to “opt-out” of smart meter installation. 66 Pa.C.S. § 2807(f); See *Bervinchak v. PPL Electric Utilities Corporation*, C-2016-2572824 and C-2016-2577527 (Final Order October 2, 2018, Initial Decision dated August 16, 2018); *Povacz v. PECO Energy Company*, Docket No. C-2012-2317176 at 10 (Order and Opinion entered January 24, 2013); *Povacz v. PECO Energy Company*, Docket No. C-2015-2475023 (ALJ Heep Initial Decision dated January 26, 2018). Moreover, the Commonwealth Court has held that federal law does not preempt the Commission’s interpretation. See *Romeo v. Pa. Pub. Util. Comm’n*, 154 A.3d 422 (Pa. Cmwlth. 2017). The Commonwealth Court did not expressly address whether Mr. Romeo could opt-out of a smart meter installation. The Court held that Mr. Romeo’s claim that smart meters cause safety and fire hazards and have a negative health impact, is not legally insufficient pursuant to 66 Pa. C.S. § 1501, which requires utilities to maintain adequate, efficient, safe and reasonable service and facilities for their customers. *Id.*

It is reasonable to infer from the *Romeo* decision, that it is legally sufficient to plead the injunctive relief requested in the instant case and claim that smart meters are generally unsafe and unhealthy, and the installation of them is unreasonable service in violation of 66 Pa. C.S. § 1501. However, the Commonwealth Court did not expressly address the opt-in versus opt-out argument. Although Complainants similarly situated to Mr. Romeo are entitled to an evidentiary hearing, there is Commission precedent that there is no opt-out provision in the current law in Pennsylvania.

The Commission has consistently held there is no opt-out provision for similarly situated Complainants in the past. The instant case is more similar than distinguishable from prior decisions wherein the Commission has dismissed similar complaints. *Pennsylvania Trout v. Dep't of Env'tl. Prot.*, 863 A.2d 93 (Pa. Cmwlth. 2004).

On October 15, 2008, Governor Edward G. Rendell signed Act 129 of 2008 into law, which directed electric distribution companies with at least 100,000 customers to file, with the Commission, a smart meter deployment and installation plan. Thus, there is a statute requiring smart meter deployment by large electric distribution companies operating within the Commonwealth. 66 Pa. C.S. § 2807(f).

The implementation of the Respondent's Smart Meter Deployment Plan and the approval of the costs associated with its implementation have been found by the Commission to be in accordance with Act 129 of 2008, 66 Pa. C.S. § 2807(f). The Respondent is required by statute and Commission Order to implement a Smart Meter Program, to install smart meters throughout its service territory, and to charge a Smart Meter Technology Surcharge to all of its metered customers.

As the Commission stated in its April 21, 2016 Opinion and Order in the case of *Frompovich*:

In past cases involving smart meter installation, we have evaluated on an individual case-by-case basis the specific allegations presented in each complaint and reached a conclusion based on those particular circumstances. While PECO is correct that as adopted Act 129 does not

provide a general opt out provision, where a complainant's objection to installation of a smart meter was not based upon a general objection to smart meters *per se*, but rather upon facts specific to the individual complainant, we have denied preliminary relief and allowed the complaint to proceed to hearing. See *Kreider v. PECO Energy Company*, Docket No. P-2015-2495064 (Order on Material Question entered September 3, 2015; Order on Reconsideration entered January 28, 2016) (*Kreider*); *Paul v. PECO Energy Company*, Docket No. C-2015-2475355 (Order entered March 17, 2016). As we stated previously, "the law does not prohibit us from considering or holding a hearing on issues related to the safety of smart meters, consistent with our statutory authority in Section 1501 of the Code, when a legally sufficient claim is presented." *Kreider*, Order on Material Question at 17.

As in *Kreider* and *Paul*, Ms. Frompovich has alleged factual averments specific to her that, *if proven*, could implicate, under her particular circumstances, a violation of Section 1501 of the Code, a statute the Commission has jurisdiction to administer.

Frompovich, supra at 11-12 (Opinion and Order entered April 21, 2016) (emphasis added).

To the extent that Mr. Lawton desires the ability to opt out of the smart meter installation, he could advocate for such ability before the General Assembly, which is currently 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 yet law. The Commission has held that it does not have the authority, absent a directive in the form of legislation, to prohibit the Respondent from installing a smart meter where a customer does not want one. See *Povacz v. PECO Energy Company*, Docket No. C-2012-231716 (Opinion and Order entered January 24, 2013). The Commission held that similarly situated Respondents would be in violation of law if they did not install a smart meter at properties similarly situated to Complainant's residence and her daughter's residence. *Id., Frompovich* at 10. Thus, I find in favor of PPL on this 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 this smart meter constitutes unsafe or unreasonable service under 66 Pa. C.S. § 1501 or otherwise violates the Public Utility Code, a

Commission order or regulation or a Commission-approved tariff of the company. Although the Complainant is genuine in his 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 the 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 the 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 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 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 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 or is unsafe.

