LM

COMMONWEALTH COURT OF PENNSYLVANIA

RICHARD N. MYERS	:	
Petitioner, (Pro Se)	:	1337 CD 2019
v.	:	Docket No: C-2017-2620710
PENNSYLVANIA PUBLIC UTILITIES COMMISSION	:	
Respondents	:	

PETITION FOR REVIEW
(Appellate Jurisdiction)

I. INTRODUCTION

1. Petitioner Richard N. Myers files this Petition for Review of the Pennsylvania Public Utilities Commission's Opinion and Order dated August 29, 2019 pursuant to Pa R. A. P. 1513(d). The Order denied Petitioner's Exceptions to the Initial Decision issued by Administrative Law Judge Elizabeth H. Barnes dated August 16, 2018 and dismissed in its entirety the Formal Complaint of Richard N. Myers against PPL Electric Utilities Corporation.
2. People across the state are being injured and made to suffer from exposure to smart meter radiofrequency (RF) radiation after smart meters were installed on their homes. In many cases lives are being ruined, some people are being made homeless, and others are forced to live in tents. This is not imagined but real. The evidence is undeniable. The Petitioner offers Exhibits (1) and (2) as examples of human suffering so the Honorable Court realizes the importance of their ruling.

3. Officials at the Pennsylvanian Utility Commission (PUC) have no authority to harm others and Legislators never intended to do so when they enacted ACT 129. Corporations must not be permitted to make customers sick in order to make money. I only have good intentions and take no satisfaction in causing difficulties for electric distribution companies. But if ever there was a need to appeal a lower Court Opinion and Order to a higher jurisdiction, in this case the Commonwealth Court of Pennsylvania, I respectfully submit that my Petition for Review is one such case.

II. STATEMENT OF JURISDICTION

4. This Court has appellate jurisdiction in this matter pursuant to Section 763 (a) (1) of the Judicial Code, 42, Pa. C.S. 763 (a) (1).

III. PARTY SEEKING RELIEF

5. Petitioner Richard N. Myers

IV. GOVERNMENT UNIT THAT MADE THE ORDER

6. Pennsylvania Public Utility Commission

V. ORDER TO BE REVIEWED

7. Richard N. Myers v. PPL Electric Utilities Corporation

VI. OBJECTIONS TO THE ORDER

8. The Petitioner objects to the Pennsylvania Public Utility Commission's Opinion and Order in this matter on the grounds that it violates the Constitutions of the United States and Pennsylvania.

9. The Petitioner further objects on the grounds that the PUC made serious errors in law and erroneous findings of fact.

10. The PUC erred in ruling that not one of the Petitioner's 26 exhibits may be used to support any Findings of Fact. The Petitioner's Exhibit 3 (Bionitiative 2012 Report), Exhibit 4 (the US Navy's Bibliography of RF radiation studies) and Exhibit 5 (Dr. Martin Pall's list of 155 studies) comprise nearly 1,600 pages and summarize, analyze, or provide abstracts on 4,266 scientific studies. These studies report over one-hundred biological and adverse health effects from RF radiation. These include cancer, cardiovascular disorders, DNA damage, attacks on the nervous system, free radical damage, leakage of the blood-brain barrier, immune suppression and infertility, to name a few. Each peer-reviewed study among these Exhibits is admissible under the U.S. Supreme Court Daubert Rule as relevant and reliable, for which reason PUC cannot lawfully refuse this evidence or determine it incapable of supporting any findings of fact, and must by law consider all of it.

11. The number of studies rejected in and of itself constitutes incontrovertible evidence of harm from Advanced Metering Infrastructure (AMI), also known as "smart" (known in some specialties as Secret Military Armaments as Residential Technology) utility meters. Pennsylvania Power and Light (PPL) provided only author names and respective years for ten papers, some secondary and even tertiary sources averring no adverse effects therein. Such papers were cited without adequate identification and several could not be located in PubMed or other on line search engines. No human studies were submitted by PPL. Studies that fail to show an effect cannot override studies that do show effects, simply because the design of the former may not have been identical or because of the

complexities and many variables in living organisms. Such examples include differences in cell membrane thickness or strength, different levels and intensities of prior RF radiation exposures, age and immune strength of the host.

12. By contrast, among the Petitioner's Exhibits' documents are scientific conclusions of immediate and short-term effects, including inability to concentrate, memory impairment, headaches, sleep disorders, fatigue, tinnitus, chest pains, heart palpitations, reduction in melatonin, slower motor function, spatial disorientation, dizziness, nausea, and inability to tolerate cell phones, Wi-Fi routers, and other wireless devices. These three Exhibits thoroughly disprove PPL's expert witness and PUC's opinion that (1) there is no reliable medical basis to conclude that RF fields from the AMI smart meters will cause or contribute to the development of illness or disease, and (2) there is no reliable medical basis to conclude that RF fields from the AMI smart meter would cause, contribute to or exacerbate any adverse health effects.
13. The Petitioner points out that in Frompovich v PECO (Docket No. C-2015-2474602), PUC also barred approximately 240 Daubert-admissible scientific studies from being entered into the record. Thus, PUC, as a pattern of behavior, presumes authority higher than that of the U.S. Supreme Court, refusing not only evidence that qualifies under the Daubert Rule but substantive evidence generally. By keeping such evidence from appearing in the record, PUC avoids being obligated to make evidence-based determinations, in particular any decision acknowledging RF radiation's many adverse health effects.
14. The PUC erred in rejecting the Petitioner's 38 published scientific studies which reported adverse health effects from vanishing low RF radiation intensities at the nanowatt

(billionth of a watt), picowatt (trillionth of a watt) and femtowatt (quadtrillionth of a watt) per centimeter squared levels. These 38 studies thoroughly-disprove PPL's false claim of there being no adverse health effects from RF radiation below FCC guidelines and the PUC's Findings of Fact 35, 38, 39, 41, 43, 40 and 42. These erroneous Findings of Fact are the sine qua non essential, most fundamental to PPL's claim that RF radiation from AMI smart meter would cause, contribute to or exacerbate any adverse health effects. The Petitioner will address this more fully in his APPEAL.

15. The PUC moreover violated 52 Pa. Code 5.406 when it refused to accept as evidence official government reports and public documents which the Petitioner submitted as substantive, evidentiary documents in Exhibits 9, 12, 13, 14, 17, 18, 19, 20 and 21.

16. Besides massive and overwhelming scientific evidence on the harmfulness of RF radiation, there is also compelling empirical evidence as well. Many Pennsylvanians have been harmed and injured from RF radiation after "smart" meters were installed on their homes. The numbers grow every month. Here are just a few of the many victims of smart meter RF radiation who filed Formal Complaints with the PUC:

    Albrecht v PECO, C-2015-2537666

    Bervinchak v PPL, C-2015-2537666

    Hicks v PPL, C-2017-2628778

    Hoffman-Lorah v PPL, C-2018-2644957

    Kreider v PECO, C-2015-246955, C-2015-2495064

    McDonald v Met Ed, C-2018-3003758

    McKnight v PECO, C-2017-2621057

    Ott v Med Ed, C-2018-3005829

Paul v PECO Energy, C-2015-2475355

Povacz v PECO, C-2015-2475023

Schmukler v PPL, C-2015-2621285

Sheehan v West Power, C-2017-2630406

Sunstein Murphy v PECO, C-2015-2475726

Van Schoyck v PECO, C-2015-2478239

17. Some Complainants became sick immediately, others in days, weeks or months after smart meters were installed. Accordingly, the Commonwealth Court must also consider the long term, cumulative effects of smart meters on 13 million Pennsylvanians.

18. PUC erred in assigning more credibility to PPL's expert witness Mark Israel, M.D. than to the Petitioner's expert witness David Carpenter, M.D. Dr. Israel blatantly ignored thousands of positive studies, facts and conclusions in his expert testimony. However, the Petitioner's expert witness presented over 1,600 pages of scientific studies showing harm caused by RF radiation in his Exhibits, and had the professional integrity to abundantly cite studies which did not. It defies credulity how one person, Dr. Israel, can possibly claim to know more than all the hundreds upon hundreds, if not thousands, of internationally recognized RF radiation researchers and peer-reviewing scientists spanning eight decades who discovered, assessed, and reported biological and adverse health effects from RF radiation. Is the Petitioner to conclude that everyone of these scientists got it wrong, and only an industry paid spokesperson got it right? Where are those AMI smart meter human safety studies?

19. PUC erred in assigning more weight to negative scientific studies which found no adverse effects rather than positive studies which did find adverse effects. This is illogical and

intellectually dishonest. The Petitioner offers this analogy: Farmer A says all chicken eggs are white; Farmer B shows his brown chicken eggs to Farmer A. Therefore, the weight of the evidence is that brown eggs do not exist. The Petitioner will address the weight and preponderance of evidence more fully in his Appeal.

20. At the Petitioner's hearing the PUC erred in not permitting the Petitioner to elicit oral testimony from his expert witness regarding the U.S Government's National Toxicology Program (NTP) study, research which Dr. Carpenter addresses in Bioinitiative 2012. The 10-year, $25million dollar study, the most carefully done toxicology study of its kind, found "clear evidence" that RF radiation was carcinogenic to rats. This finding was of the utmost importance because it validates the thousands of studies the Petitioner cited in his Testimony which reported adverse health effects from RF radiation. It also disproves PPL's and the PUC's claim that RF radiation does not cause or contribute to adverse health effects. The PUC erred yet again when it refused to allow the Petitioner to reopen the record to allow the carcinogenic finding to be entered as evidence. The ALJ and PUC erroneously claimed the finding was not new or novel even though the findings were announced in the month prior to the 2018 hearing.
21. ALJ and PCU further made the astonishing claim that entering carcinogenic evidence into the record does not serve the public interest. Such an obviously false determination proves bias.
22. PUC erred in requiring the Petitioner to prove "a conclusive causal connection" between the harm to human health and RF radiation from the AMI smart meter. This sets the bar so high that it is impossible for the Petitioner or anyone to seek relief under Section 1501. The Petitioner does not have an AMI smart meter installed on his home. Therefore, he

cannot claim his smart meter made him sick. He does not have the $25 million and ten years it took the U.S. government to complete the landmark NTP study. He does not have a hundred thousand dollars or more to hire skilled attorneys and expert witnesses to represent him before the PUC. And as we've seen in the aforementioned Dockets of customers being harmed by smart meters, PUC does not deem injury, suffering, and homelessness from smart meters sufficient reason for relief under Section 1501.

23. The "conclusive causal connection" is unreasonable and an off-ramp to nowhere that blocks the Petitioner's path to an honest and just ruling. There is no language in Section 1501 requiring a "conclusive causal connection" to have occurred or will occur to a petitioner. A legal definition of safety is "freedom from danger, risk or injury". (https://definitions.uslegal.com/safety/) Freedom from risk is a reasonable and proper level of proof and should be accepted under Section 1501.

24. The PUC erred in discrediting the Biointiative 2012 Report as an "advocacy document." Given that PUC considers a petitioner to have the burden of proof, even though PUC in truth has rather the burden of proof of safety, PUC requires the Petitioner to present evidence on his own behalf. The fact that PUC then discredits advocacy information rather than its substance is another example of bias. Bioinitiative 2012 documents both positive and negative findings and reports adverse health impacts from RF radiation at intensities thousands of times below FCC's guidelines. These inconvenient findings were being fact suppressed by industry thereby keeping government officials, health authorities, and consumers in the dark for years. Bioinitiative 2012 attempts to fill that information gap and provide balance.

25. The repeated statements of PPL and PUC that scientific proof of harm must be tied specifically to the "AMI smart meter" is disingenuous; from a scientific perspective, it is contrary to all the scientific community understands about the functioning of science for policy. And from a legal perspective, it is not merely wrong but beyond PUC's legal authority to do so (ultra vires). RF radiation is tested both in labs (toxicology) and real-life situations (epidemiology) in a wide variety of ways precisely so that scientists may know biological outcomes without the use of a branded device or infrastructure. Since PPL and PUC deny the validity of the standard that public health scientists hold as valid for policy decision-making, PUC denigrates a general consensus of the scientific world. When the U.S. Surgeon General announced that smoking cigarettes was linked to lung cancer it applied to tobacco in general. Phillip Morris and R. J. Reynolds could not duck the finding by claiming the research was not conducted on their tobacco crops.
26. There is no compelling reason for the PUC not to relax its unnecessary, erroneous and over-reach interpretation of Legislator's intent and ACT 129 language so as to allow smart meter victims to have analog meters on their homes and workplaces. The same relief should apply to the Petitioner and others who want to avoid injury. Approximately 40 states do not make smart meters mandatory. No other state to the Petitioner's knowledge cuts off electrical service to their customers if they do not accept a smart meter.
27. The PUC also erred in rejecting two other requests in the Petitioner's Formal Complaint: 1) that the PUC establish a tracking program and data base to monitor the numbers and locations of people injured by smart meters, and 2) that the PUC call for a public education campaign by appropriate state agencies to raise public awareness of the dangers of RF radiation from wireless devices. This is especially important for parents of

developing infants with their thinner skulls and school children who would face a life time of exposure from smart meter RF radiation and other wireless devices.

28. The PUC's hard line approach reflects a pro-industry/anti-consumer bias. PUC dismissed every Formal Complaint by victims who report being injured and suffering after smart meters have been installed on their homes. The numbers of formal and informal complaints grow with each passing month. Also, the PUC disregarded every physician testimony that Complainants' health was being harmed by smart meter RF radiation. However, PUC does not claim to have medical expertise.

29. The PUC's hard line approach suggests a conflict of interest. PUC obtains its operating revenue in part from earnings of electric utility companies which the Treasury allocates to the PUC. If electric utility companies suffer financial loss because the smart meter program is terminated, the PUC would have to find and compete for other sources of revenue.

VII. RELIEF SOUGHT

30. That the Honorable Court reverse the PUC decision against the Petitioner on the grounds that PPL's use of AMI smart meters does not provide safe and reasonable electric service in violation of 66 Pa.C.S. § 1501 and basic human rights provided for under the Pennsylvania and U.S. Constitutions.

31. That the Honorable Court order an emergency stay as necessary that allows the Petitioner to retain his analog meter or any other meter that does not transmit RF radiation into his home or any future home until the harmful and unintended consequences of ACT 129 can be cured.

32. That the Honorable Court take appropriate action that directs PUC to track the numbers and locations of Pennsylvania residents being harmed and suffering from smart meter RF radiation including children and vulnerable subsets of the population. *Petitioner's Direct Testimony dated April 2, 2018 Page 19, paragraph 6*

33. That the Honorable Court call for the appropriate state agencies to launch a public education campaign about smart meter adverse health effects and precautions people can take to minimize exposure. *Petitioner's Direct Testimony dated April 2, 2018 Page 19, paragraph 5*

34. That in setting aside the Opinion and Order the Petitioner prays that this Court take whatever actions that may be required to permanently grant relief to the Petitioner.

Dated: September 25, 2019

Richard N. Myers (Petitioner)
Pro Se

LIST OF EXHIBITS

1. Letter #1 from a constituent to 10 elected officials reporting smart meter harm

2. Letter #2 from a constituent to Representative Farry reporting harm and homelessness caused by a smart meter

PROOF OF SERVICE

I, Richard N. Myers, hereby certify that on this date I caused a true and correct copy of the foregoing Petition for Review to be served upon the following and in the manner indicated below, which satisfies the requirements of Pa. R.A.P. 1514 (c) and Pa.R.A.P. 121 (c):

Via Hand Delivery
Prothonotary
Commonwealth Court of Pennsylvania
601 Commonwealth Avenue, Suite 2100
P.O. Box 69185
Harrisburg, PA 17106-9185

Via Certified Mail
Joshua D. Shapiro
Attorney General
Pennsylvania Office of the Attorney General
16th Floor, Strawberry Square
Harrisburg, PA 17120

Via Certified Mail
Gladys Brown Dutrieuille, Chairperson
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Via Certified Mail
Devin Ryan
C/O Post & Schell
17 North Second Street, 12th Floor
Harrisburg, PA 17101-1601

Dated: September 25, 2019

Richard N. Myers
1123 Elm Avenue
Lancaster, PA 17603
(717) 393-6813

CERTIFICATE OF COMPLIANCE PURSUANT TO Pa.R.A.P. 127

I, Richard N. Myers, hereby certify that this filing complies with the provisions of the Case Records Public Access Policy of the United J udicial System of Pennsylvania that require filing documents differently than non-confidential information and documents.

Richard N. Myers
1123 Elm Avenue
Lancaster, PA 17603
(717) 393-6813

Dated: September 25, 2019

To: PA Rep. Russell Diamond (Email sent through State House portal.)

Cc: PA Senators Robert Tomlinson(rtomlinson@pasen.gov), Tom Killion (tkillion@pasen.gov), Joseph Scarnati(jscarnati@pasen.gov) John Gordner (hughes@pasenate.com), Lawrence Farnese (farnese@pasenate.com), Steven Santarsiero (Senatorsantarsiero@pasenate.com), and John Yudichak (yudichak@pasenate.com) Mike Folmer (mfolmer@pasen.gov), Katie Muth (senatormuth@pasenate.com) Mario Scavello (mscavello@pasen.gov)

From: Helen Hurst, Newmanstown, PA, helen@lmf.net
BY EMAIL AND HAND DELIVERY
AMERICANS WITH DISABILITIES ACT (ADA) REQUEST

Dear Rep. Diamond and Senators:

This is an official request under the Americans with Disabilities Act (ADA) that you act immediately to stop the Pennsylvania Utility Commission (PUC) from forcing a so-called "SMART" (Secret Military Armaments as Residential Technology) electric utility meter on my property. Due to my disabilities, I cannot have a SMART meter.

I had always been a healthy person, but more recently, when exposed to radiofrequency / microwave (RF/MW) radiation such as from GPS, HDTV, remote phones, cell towers, Wi-Fi, microwave ovens, and appliances "SMART" chips, I lost functional capacities. Now, when exposed to these, or to extreme low frequency florescent lights, power lines, lamps plugged in behind my bed, or dirty electricity, I first get a headache on the top of my head, and then become unstable when I try to walk.

I lost even more functional capacity when, on July 30, 2019, a "SMART" meter was placed by an agent of Pennsylvania Power & Light Company (PPL) on our home. I was literally shocked – zapped – when it began operating. With a constant headache, I had complete inability to walk due to my being unstable. I would sleep day and night, and could not awaken. I had tingling in my toes and fingertips and could not drive. My medical doctor concurred about my suffering and documented that I have electromagnetic sensitivity "and should avoid the installation of smart meters." This is no mere matter of "concern", but rather of substantial impairments.

After the SMART meter was removed on August 3, 2019, and we were off the electrical grid, we hooked up to an electrical generator, and my headache and sleepiness were gone within one hour. The tingling took about 24 hours to subside. I feel enormously better. However, the generator costs $180/day! Finally

EXHIBIT 1

we got a smaller one for $100/day, but this is still outrageous. We are retired and on Social Security.

I agreed to PUC to have a SMART meter at a distance from our home only under extreme duress, having been told by PUC, falsely, that it is "the law" that I must have a SMART meter or else my electrical service would be terminated.

Contrary to PUC's claim, the federal government did not make Smart Meters mandatory. See the Energy Policy Act of 2005, Title XII, Subtitle E, Section 1252, (a), (14), (C):

> *"Each electric utility subject to subparagraph (A) shall provide each customer requesting a time-based rate with a time-based meter capable of enabling the utility and customer to offer and receive such rate, respectively."*

This federal policy constitutes an opt-*in* program, which has been completely denied to me by the PUC, contrary to federal law. PUC intends to force a SMART meter on me this Tuesday, tomorrow, August 13!

Furthermore, the science on RF/MW radiation bioeffects, at least the effects on the central nervous system, were so well known by the mid-1960s that on October 18, 1968, the US Congress amended the Public Health Service Act (See attachment) in Public Law 90-602 1968, stating, "The Congress hereby declares that the public health and safety must be protected from the dangers of electronic product radiation," thereby granting all Americans the right to freedom from harmful radiation.

For this reason I need and hereby request your immediate intervention with PUC to stop this SMART meter's installation and to allow me to have electricity with an analog meter, which always worked fine and produced no problem. I am willing to submit photos of that meter every month to the utility to show the readings, and even to acquire the meter on my own and have a certified electrician install it, so there is no extra cost or inconvenience to anyone.

Because there will be neither cost nor inconvenience to PPL or PUC, this constitutions "reasonable accommodation" under US ADA. Will you please, under ADA, make that call to PUC for me today, August 12, and assure me that I will not have to suffer the installation or operations of any SMART meter.

With all my gratitude, signed this 11th day of August, 2019,

Helen M Hurst

Helen M Hurst [redacted], PA 17073

Public Law 90-602, October 18, 1968

AN ACT to amend the Public Health Service Act to provide for the protection of the public health from radiation emissions from electronic products.

"Subpart 3 -- Electronic Product Radiation Control

"DECLARATION OF PURPOSE

"Sec. 354. The Congress hereby declares that the public health and safety must be protected from the dangers of electronic product radiation."

Liza Mouskos
PO Box 116, Revere, PA 18953

Rep. Brad Rose and Rep. Frank Farry
Committee on Consumer Affairs
501 N. 3rd Street, Harrisburg, PA 17120

June 17, 2019

Re: HB 1400 - ADA REQUEST

BY FAX AND HAND-DELIVERY

Dear Reps. Rose and Farry, and the Committee on Consumer Affairs:

This is an official request under the Americans with Disabilities Act (ADA) that you cease at once the legislative process of HB1400, pertaining to 5G deployment, as all microwave radiation exposure exacerbates my medical condition. I am diagnosed with Immune Compromise, Chronic Kidney Infection and Electromagnetic Sensitivity. Any further microwave radiation such as 5G deploys would cause much worse immune and neurological aberrations and increased physical pain and debility. I specifically ask under ADA that you cease and desist from any consideration of HB1400, that you take no vote, since you already have adequate information to know that HB1400's 5G radiation is not only unsafe but also unhealthy for all persons and other living beings. 5G would be a disaster: you know that.

Because radiofrequency / microwave (RF/MW) radiation drove me out of my house, I have lived in my car or in a leaky tent since March 27th, having previously lived happily in my home for 16 years. I was injured into extreme illness by the neighbor's so-called "smart" – Advanced Metering Infrastructure (AMI) – meter, which produces spikes of radiation in my house. My living situation has included sleeping in 38-degree weather, whereby the dog most sickened by the AMI meter sleeping with me came down with pneumonia. I have awakened in a leaky tent in a pool of cold water numerous times. Now I have a cot, though my blankets get wet. I am routinely bitten by ticks, which carry lyme and other diseases. One night I was dreaming I had ticks biting my head, and when I awoke there were two ticks biting my scalp. I am almost always cold and now have a virulent kidney infection, my Achilles heel, because I was driven out of my own home by a neighbor's not smart but foolish meter radiation.

But even the loss of my home and immune function cannot compare to the direct, pernicious suffering from the radiation from the AMI meter. (I have two letters of documentation from my physician). The meter's radiation creates pressure in my head, especially the occiput. I am a musician, a composer, but the microwave radiation creates horrific stabbing pain in my ears with high-pitched ringing, impeding my ability to compose. My connective tissue feels on fire, especially in my arms. I experience sharp pain in my muscles and joints. Despite other chronic health problems, my lungs and heart have always been exceptionally strong and seemingly inviolate; now I suffer from lung pain and restriction with shortness of breath and horrific pain in my chest and palpitations. If I am in the house, exposed to the radiation for a number of hours, I vomit blood. I have never previously had any such bleeding or gastric problems. Despite the fact my I.Q. is in the top 1%, my thinking is now cloudy and slow.

My previously healthy dogs are all sick and their sicknesses ensued a week after the AMI meter was installed. One older dog was healthy and on no medication, still trotting in the yard. However, after the meter was installed, she started having dizziness and balance problems. She fell and broke her jaw. Since I was living in my car, I was unaware of her suffering. By the time I returned to my irradiated home, she was in shock and had to be euthanized. I despair of how long she had to suffer in pain. I should mention this was a famous dog who had been Number 1 puppy in the US Italian Greyhound National Specialty.

My other multiple Best of Breed champion almost died, and I have over $2,000 in vet bills to save her life. She was previously robustly healthy, but post-smart meter, lost one-third of her body weight. I have photos of three of the dogs vomiting.

Another dog who won at the Specialty also now does not want to eat, and two of the dogs are losing their hair. When it is warmer they live in the tent with me to stay away from the meters' microwave radiation.

Notwithstanding my neighbors' monomaniacal ignorance and selfishness for not completing their PUC paperwork to opt out of the AMI meter, and despite my offers to help them, THIS IS STATE-MANDATED HOMELESSNESS.

Without hyperbole, I can state that my life is execrable misery, and I profoundly regret the fact I was born. Needless to say, I would not survive 5G radiation, deployed like the AMI meters in the name of greed. The telecom companies need no more money drawn from our health: 5G is replaceable with fiber-optics to the premises (FTTP), which requires little infrastructure relative to 5G, and with far less cost.

5G would make me incomparably worse: I would likely die. This radiation makes me violently ill, even to the point of vomiting blood, which I would not otherwise be doing. The radiation in my home is making me sick and I must return to the car now.

Please hear me.

Liza Mouskos June 17, 2019

EXHIBIT 2

PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17105-3265

1337 CD 19

Public Meeting held August 29, 2019

Commissioners Present:

Gladys Brown Dutrieuille, Chairman
David W. Sweet, Vice Chairman
Norman J. Kennard
Andrew G. Place
John F. Coleman, Jr.

Richard N. Myers

C-2017-2620710

v.

PPL Electric Utilities Corporation

OPINION AND ORDER

BY THE COMMISSION:

Before the Pennsylvania Public Utility Commission (Commission) for consideration and disposition are the Exceptions filed by Richard N. Myers (Mr. Myers or the Complainant) on September 4, 2018 and the Exceptions filed by PPL Electric Utilities Corporation (PPL) on September 5, 2018, in response to the Initial Decision of Administrative Law Judge (ALJ) Elizabeth H. Barnes, served on the Parties on August 16, 2018, in the above-captioned proceeding (Initial Decision or I.D.). Replies to Exceptions were filed by PPL on September 17, 2018. The Complainant did not file Replies to PPL's Exceptions. The Myers Initial Decision denied the Formal Complaint (Complaint) which was filed by Mr. Myers on August 11, 2017. For the reasons discussed below, we shall deny the Complainant's Exceptions, grant PPL's Exceptions, adopt, in part, and modify, in part, the Initial Decision of ALJ Barnes, and dismiss the Complaint, consistent with this Opinion and Order.

I. Background

This case involves an inquiry concerning the safety of the Complainant's exposure to the level of radio frequency (RF) fields, or electromagnetic energy,[1] from the advanced metering infrastructure (AMI) meter, or smart meter, that PPL proposes to install at the Complainant's residence and at eleven rental properties owned by the Complainant.

---

[1] For disposition purposes herein, we will refer to the emissions of concern as radio frequency (RF) emissions or RF field exposure. We note that the Complainant uses the term "non-thermal" RF to describe RF field exposure at low levels presumably lower than would cause thermal or heating effects in humans.

PPL is an electric distribution company (EDC) subject to the jurisdiction of the Commission. PPL furnishes, owns and maintains the meters in its distribution system. *See* PPL's Tariff Electric Pa. P.U.C. No. 201, Rule 8 at 12.

Act 129 of 2008 (Act 129 or Act), *inter alia*, amended Chapter 28 of the Public Utility Code (Code) and required EDCs with more than 100,000 customers to file smart meter technology procurement and installation plans for Commission approval and to furnish smart meter technology within its service territory in accordance with the provisions of the Act. Section 2807(f) of the Code provides as follows:

> (f) *Smart Meter technology and time of use rates.*
>
> (1) Within nine months after the effective date of this paragraph, electric distribution companies shall file a Smart Meter technology procurement and installation plan with the commission for approval. The plan shall describe the Smart Meter technologies the electric distribution company proposes to install in accordance with paragraph (2).
>
> (2) Electric distribution companies shall furnish Smart Meter technology as follows:
>
> (i) Upon request from a customer that agrees to pay the cost of the Smart Meter at the time of the request.
>
> (ii) In new building construction.
>
> (iii) In accordance with a depreciation schedule not to exceed 15 years.

66 Pa. C.S. § 2807(f). The General Assembly found that it was "in the public interest" to implement the measures set forth in Act 129 and that the universal installation of smart meters would enhance the "health, safety and prosperity" of Pennsylvania's citizens through the "availability of adequate, reliable, affordable, efficient and environmentally

sustainable electric service at the least cost." *See* H.B. 2200, 192d Gen. Assemb., Reg. Sess. (Pa. 2008)).

By Order entered in 2009, the Commission directed all EDCs subject to Act 129's smart meter requirements, including PPL, to universally deploy smart meter technology within their respective service territories in the Commonwealth in accordance with a depreciation schedule not to exceed fifteen years and in accordance with other guidelines established therein. *See Smart Meter Procurement and Installation*, Docket No. M-2009-2092655 (Implementation Order entered June 24, 2009) (*Smart Meter Procurement and Installation Order*). PPL sought and obtained the Commission's approval to complete the installation of AMI meters for substantially all customers within its service territory by the end of 2019. *See Petition of PPL Electric Utilities Corporation for Approval of its Smart Meter Procurement and Installation Plan*, Docket No. M-2014-2430781 (Order entered September 3, 2015)); *see also Petition of PPL Electric Utilities Corporation for Approval of its Smart Meter Procurement and Installation Plan*, Docket No. M-2009-2123945 (Order entered June 24, 2010).

On July 20, 2017, PPL, in carrying out its obligations under Act 129 and the relevant Commission's Orders implementing Act 129, sent Mr. Myers a letter notifying him that a smart meter would be installed at his residence in approximately three weeks. PPL Exh. 2; Tr. at 203-206. On August 8, 2017, Mr. Myers contacted PPL by telephone to inform PPL that he did not want the meter change. PPL Exh. No. 2. The Complainant and PPL eventually litigated this matter in an evidentiary hearing before ALJ Barnes. After the hearing concluded, ALJ Barnes' written Initial Decision concluded that the Complainant failed to satisfy his burden of proof with respect to the claims contained in the Complaint. The Complainant and PPL filed Exceptions to the Initial Decision, and PPL filed Replies thereto. This Order addresses the Complainant's and PPL's Exceptions.

II. History of the Proceeding

On August 11, 2017, Mr. Richard N. Myers filed a Complaint with the Commission against PPL seeking to prevent PPL from installing an AMI meter at his home and at eleven rental homes he owns in Lancaster and Columbia, Pennsylvania. The Complainant requested that PPL provide scientific research studies that showed high frequency electromagnetic radiation from smart meters is safe. The Complainant requested that the Commission restore the opt-in provision allowed by Act 129 which the Commission ignored and has taken away from consumers. Mr. Myers also requested that his properties (his residence and the eleven rental properties he owns) be exempted from smart meter installations and/or upgrades. Complaint at 3.

On September 11, 2017, PPL filed its Answer to the Complaint. In its Answer, PPL denied that the smart meters pose any health or safety concerns. PPL also noted that the Complainant failed to allege that he or his tenants suffer from any specific health or safety effects resulting from the installation of smart meters and the Complainant failed to complete Paragraph 4 of the Complaint which asks the Complainant to explain "What kind of problem are you having with the utility or company?" Answer to Complaint at 1-2.

PPL further answered the Complaint by stating that PPL's smart meters meet all applicable safety requirements under state and federal law. PPL stated that it is required to install AMI meters for the company's electric distribution customers subject to the requirements of Act 129. PPL provided that nothing in the Public Utility Code, the Commission's orders and regulations, or PPL's Smart Meter Plan states that a customer can opt-out of a smart meter installation. Answer to Complaint at 2.

On March 30, 2018, PPL filed a Motion in Limine to exclude the Complainant's exhibits, testimony, and witness. The Motion in Limine was argued at the

in-person evidentiary hearing held on April 2, 2018. The Complainant appeared *pro se* and presented testimony of David O. Carpenter, M.D. PPL was represented by Devin Ryan, Esq. and Curtis Renner, Esq., and presented testimony and exhibits of Mr. William Hennegan, Mr. Scott Larson, Christopher Davis, Ph.D., and Mark Israel, M.D. Admitted into the record at the hearing were the Complainant's Exhibits Nos. 1-6, 8-10, 12-27. Also admitted at the hearing were PPL Exhibits Nos. 2-4, 9-10. On April 11, 2018, the Complainant's Exhibits Nos. 29 (a copy of the Complaint) and 30 (a January 31, 2006 letter from PPL to the Complainant regarding the landlord agreement for his rental properties) were attached to the docket. On April 24, 2018, PPL's Exhibit No. 11 (customer notification and smart meter installation date information for the Complainant's tenants' accounts) was entered into the record.

The transcript of the hearing, consisting of 278 pages, was filed on April 27, 2018. The record closed on June 12, 2018, the date the parties filed Reply Briefs. On July 9, 2018, PPL filed a Motion to Strike Portions of the Complainant's Reply Brief.

On July 16, 2018, the Complainant filed an Answer to PPL's Motion to Strike Portions of his Reply Brief. On July 19, 2018, the Complainant filed a Motion to Reopen the Record for the purpose of taking additional evidence. The Complainant requested Complainant's Exhibit 29[2], a document entitled "Actions from Peer Review of the Draft National Toxicology Program (NTP) Technical Reports on Cell Phone Radiation March 26-28, 2018" be admitted. On July 27, 2018, PPL filed an Answer to the Motion to Reopen the Record.

On August 16, 2018, the Commission served ALJ Barnes' Initial Decision in *Richard N. Myers v. PPL Electric Utilities Corporation*, Docket No. C-2017-2620710. In

---

[2] There would have been two Myers Exhibit No. 29 if this exhibit had been entered into the record, but the second proposed Myers Exhibit No. 29 was not entered into the record.

the Initial Decision, the ALJ granted PPL's Motion to Strike Portions of the Complainant's Reply Brief. The ALJ denied the Complainant's Motion to Reopen the Record for the purpose of admitting additional evidence. The ALJ dismissed and denied the Complaint.

As noted above, on September 4, 2018, the Complainant filed Exceptions to the Initial Decision. On September 5, 2018, PPL filed Exceptions to the Initial Decision. Replies to Exceptions were timely filed by PPL on September 17, 2018.

III. Discussion

A. Legal Standards

As a matter of law, to establish a legally sufficient claim, a complainant must show that the named utility is responsible or accountable for the problem described in the complaint in order to prevail. *Patterson v. The Bell Telephone Company of Pennsylvania*, 72 Pa. P.U.C. 196 (1990) (*Patterson*). The offense must be a violation of the Public Utility Code (Code), a Commission Regulation or Order or a violation of a Commission-approved tariff. 66 Pa. C.S. § 701.

While Act 129 does not provide customers a general "opt-out" right from smart meter installation at a customer's residence, a customer's formal complaint that raises a claim under Section 1501 of the Code, 66 Pa. C.S. § 1501, related to the safety of a utility's installation and use of a smart meter at the customer's residence is legally sufficient to proceed to an evidentiary hearing before an ALJ. *See Maria Povacz v. PECO Energy Company*, Docket No. C-2012-2317176 (Order entered January 24, 2013) (*January 2013 Povacz Order*); *see also Susan Kreider v. PECO Energy Company*, P-2015-2495064 (Order entered January 28, 2016) (*Kreider*). At an evidentiary hearing before the Commission, a complainant may prove his/her claim through the

complainant's own personal testimony and/or "the testimony of others as well as other evidence that goes to that issue." *Romeo v. Pa. PUC*, 154 A.3d 422, 430 (Pa. Cmwlth. 2017) (*Romeo*).

As the party seeking affirmative relief from the Commission, the complainant in a formal complaint proceeding has the burden of proof. 66 Pa. C.S. § 332(a). The burden of proof is the "preponderance of the evidence" standard. *Suber v. Pennsylvania Com'n on Crime and Deliquency*, 885 A. 2d 678, 682 (Pa. Cmwlth. 2005) (*Suber*); *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600 (Pa. Cmwlth. 1990), *alloc. denied*, 529 Pa. 654, 602 A.2d 863 (1992) (*Lansberry*); *see also North American Coal Corp. v. Air Pollution Commission*, 279 A.2d 356 (Pa. Cmwlth. 1971). To establish a fact or claim by a preponderance of the evidence means to offer the greater weight of the evidence, or evidence that outweighs, or is more convincing than, by even the smallest amount, the probative value of the evidence presented by the other party. *See Se-Ling Hosiery, Inc. v. Margulies*, 364 Pa. 45, 48-49, 70 A.2d 854, 855 (1950).

The burden of proof is comprised of two distinct burdens: the burden of production and the burden of persuasion. *Hurley v. Hurley*, 2000 Pa. Super. 178, 754 A.2d 1283 (2000). The burden of production, also called the burden of going forward with the evidence, determines which party must come forward with evidence to support a particular claim or defense. *Scott and Linda Moore v. National Fuel Gas Distribution*, Docket No. C-2014-2458555 (Initial Decision issued May 11, 2015) (*Moore*). The burden of production goes to the legal sufficiency of a party's claim or affirmative defense. *See Id.* It may shift between the parties during a hearing. A complainant may establish a *prima facie* case with circumstantial evidence. *See Milkie v. Pa. Pub. Util. Comm'n*, 768 A.2d 1217, 1220 (Pa. Cmwlth. 2001) (*Milkie*). If a complainant introduces sufficient evidence to establish legal sufficiency of the claim, also called a *prima facie* case, the burden of production shifts to the utility to rebut the complainant's evidence. *See Moore*.

If the utility introduces evidence sufficient to balance the evidence introduced by the complainant, that is, evidence of co-equal value or weight, the complainant's burden of proof has not been satisfied and the burden of going forward with the evidence shifts back to the complainant, who must provide some additional evidence favorable to the complainant's claim. *See Milkie*, 768 A.2d at 1220.; *see also Burleson v. Pa. PUC*, 443 A.2d 1373 (Pa. Cmwlth. 1982), *aff'd*, 501 Pa. 433, 461 A.2d 1234 (1983) (*Burleson*).

Having produced sufficient evidence to establish legal sufficiency of a claim, the party with the burden of proof must also carry the burden of persuasion to be entitled to a favorable ruling. *See Moore*. While the burden of production may shift back and forth during a proceeding, the burden of persuasion never shifts; it always remains on a complainant as the party seeking affirmative relief from the Commission. *See Milkie*, 768 A.2d at 1220; *see also, Riedel v. County of Allegheny*, 633 A.2d 1325, 1328, n.11 (Pa. Cmwlth. 1993); *see also, Burleson*, 443 A.2d at 1375. It is entirely possible for a party to carry the burden of production but not be entitled to a favorable ruling because the party did not carry the burden of persuasion. *See Moore.* In determining whether a complainant has met the burden of persuasion, the ultimate fact-finder[3] may engage in determinations of credibility, may accept or reject testimony of any witness in whole or in part, and may accept or reject inferences from the evidence. *See Moore*, citing *Suber.*

Adjudications by the Commission must be supported by substantial evidence in the record. 2 Pa. C.S. § 704; *Lansberry*, 578 A.2d at 602. Substantial evidence is such relevant evidence that a reasonable mind might accept as adequate to

---

[3] In formal complaint proceedings, the Commission, not the ALJ, is the ultimate fact-finder; it weighs the evidence and resolves conflicts in testimony. When reviewing the initial decision of an ALJ, the Commission has all the powers that it would have had in making the initial decision except as to any limits that it may impose by notice or by rule. *Milkie*, 768 A.2d at 1220, n. 7 (citing, *inter alia*, 66 Pa. C.S. § 335(a)).

support a conclusion. *Consolidated Edison Company of New York v. National Labor Relations Board*, 305 U.S. 197, 229, 59 S.Ct. 206, 217. More is required than a mere trace of evidence or a suspicion of the existence of a fact sought to be established. *Norfolk & Western Ry. Co. v. Pa. PUC*, 489 Pa. 109, 413 A.2d 1037 (1980) (*Norfolk*); *Erie Resistor Corp. v. Unemployment Comp. Bd. of Review*, 166 A.2d 96 (Pa. Super. 1961); *Murphy v. Comm. Dept. of Public Welfare, White Haven Center*, 480 A.2d 382 (Pa. Cmwlth. 1984).

Pursuant to Section 1501 of the Code, a public utility has a duty to maintain "adequate, efficient, safe, and reasonable service and facilities" and to make repairs, changes, and improvements that are necessary or proper for the accommodation, convenience, and safety of its patrons, employees, and the public. *See* 66 Pa. C.S. § 1501. Section 1501 of the Code, 66 Pa. C.S. § 1501, provides, in pertinent part, as follows:

> 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 and facilities shall be in conformity with the regulations and orders of the commission.

The term "service" is defined broadly under Section 102 of the Code, 66 Pa. C.S. § 102, in relevant part, as follows:

> **"Service."** Used in its broadest and most inclusive sense, includes all acts done, rendered, or performed, and all things furnished or supplied, and any and all facilities used, furnished, or supplied by public utilities. . .in the performance of their duties under this part to their patrons, employees,

other public utilities, and the public, as well as the interchange of facilities between two or more of them . . .

Section 1505(a) of the Code, 66 Pa. C.S. § 1505(a), provides that:

> Whenever the commission, after reasonable notice and hearing, upon its own motion or upon complaint, finds that the service or facilities of any public utility are unreasonable, unsafe, inadequate, insufficient, or unreasonably discriminatory, or otherwise in violation of this part, the commission shall determine and prescribe, by regulation or order, the reasonable, safe, adequate, sufficient, service or facilities to be observed, furnished, enforced, or employed, including all such repairs, changes, alterations, extensions, substitutions, or improvements in facilities as shall be reasonably necessary and proper for the safety, accommodation, and convenience of the public.

Pursuant to Section 57.28(a)(1) of our Regulations,[4] 52 Pa. Code § 57.28(a)(1), an EDC must use reasonable efforts to properly warn and protect the public from danger and to exercise reasonable care to reduce the hazards to which customers may be subjected to by reason of the EDC's provision of electric utility service and its associated equipment and facilities. Section 57.28(a)(1), 52 Pa. Code § 57.28(a)(1), provides specifically:

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

---

[4] *See Final Rulemaking Order, Rulemaking Re: Electric Safety Regulations, 52 Pa. Code Chapter 57*, Docket No. L-2015-2500632 (Order entered April 20, 2017) (*Electric Safety Final Rulemaking Order*).

As we have ruled in *Povacz v. PECO Energy Company*, Docket No. C-2015-2475023 (Order entered March 28, 2019) (*2019 Povacz Order*), in order to prevail in a Section 1501 claim against an EDC alleging that an AMI meter caused or will cause adverse health effects or harm to human health, the Complainant must demonstrate by a preponderance of the evidence a "conclusive causal connection" between the harm to human health and the RFs from the AMI meter. *See 2019 Povacz Order*, slip op., at 28-29 (citing *Letter of Notification of Philadelphia Electric Company 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*, 1993 WL 855896 (Pa. P.U.C. 1993), Docket No. 110550F0055 (Final Order entered November 12, 1993) (*Woodbourne-Heaton Final Order*), slip op. at 11).

An EDC that violates the Code or a Commission Order or Regulation may be subjected to a civil penalty of up to $1,000 per violation for every day of that violation's continuing offense. *See* 66 Pa. C.S. § 3301(a)-(b). The Commission's policy statement at 52 Pa. Code § 69.1201 establishes specific factors and standards the Commission will consider in evaluating litigated cases involving violations and in determining whether a fine is appropriate.

In the Initial Decision, ALJ Barnes made fifty-seven Findings of Fact and reached twenty-three Conclusions of Law. I.D. at 4-11, 31-35. The Findings of Fact and Conclusions of Law are incorporated herein by reference and are adopted without comment unless they are either expressly or by necessary implication rejected or modified by this Opinion and Order.

As we proceed in our review of the various positions of the Parties in this proceeding, we are reminded that the Commission is not required to consider expressly or at length each contention or argument raised by the parties. *Consolidated Rail Corp. v. Pa. PUC*, 625 A.2d 741 (Pa. Cmwlth. 1993); *also see, generally, University of*

Pennsylvania v. Pa. PUC, 485 A.2d 1217 (Pa. Cmwlth. 1984). Thus, any issue or Exception that we do not specifically address shall be deemed to have been duly considered and denied without further discussion.

B. Litigated Issues

1. Whether the Complainant was Required under Applicable Law to Prove by a Preponderance of the Evidence that RF Exposure from a PPL Smart Meter Will Cause Adverse Health Effects

a. Positions of the Parties

Regarding the burden of proof, we note that the Complainant, in general, argues that the *Precautionary Principle*[5] should be applied here, while PPL argues that the Complainant has the burden of proof and must show by a preponderance of the evidence that it is more likely than not that PPL's AMI meter will cause adverse health effects. We continue now with a summary of both Parties' positions.

The Complainant contends that the public, government officials, and professional organizations are embracing the Precautionary Principle and are taking measures to reduce public exposure to RF radiation. The Complainant avers that the Commission should adopt the Precautionary Principle and approach regarding smart meter emissions. Myers M.B. at 14. The Complainant states "And I urge the PUC and

---

[5] The Precautionary Principle advocates erring on the side of caution when the science is not proven in regard to public policy decisions that may impact human health or the environment. The Complainant's expert witness, Dr. Carpenter, describes the Precautionary Principle as "a matter of...don't wait until you dot every I and cross every T that you have reason to believe that there's – have it associated with something. Take actions to reduce the exposure that resulted in those diseases that may not be one hundred percent documented." Tr. at 83-84.

our legislature to adopt the Precautionary Principle and err on the side of safety, particularly when other countries are already doing so." Tr. at 189.

The Complainant provides a definition of the Precautionary Principle as follows:

> The Precautionary Principle provides justification for public policy actions in situations of scientific complexity, uncertainty and ignorance, where there may be a need to act in order to avoid, or reduce, potentially serious or irreversible threats to health or the environment, using an appropriate level of scientific evidence, and taking into account the likely pros and cons of action and inaction.

Myers M.B. at 21 (citing Myers Exh. No. 3 - Bioinitiative 2012, Section 23, p. 12).

The Complainant contends that the Commission does not need to resolve the science regarding smart meters and should be guided by the Precautionary Principle approach and take what measures are necessary to allow customers to opt-out of smart meters in the interest of public safety. The Complainant provides that the European Court of Justice, the World Health Organization, the European Environment Agency and the American Public Health Association are a few examples of institutions which embrace the Precautionary Principle to protect the public in areas of scientific uncertainty. Myers M.B. at 21.

PPL, on the other hand, argues that the Complainant has the burden of proof. PPL M.B. at 4 (citing *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600 (Pa. Cmwlth. 1990) and 66 Pa. C.S. § 332(a)). PPL states that the Complainant must prove by a preponderance of the evidence that PPL would violate the Public Utility Code or any Commission regulation or order by installing the new AMI meter. PPL M.B. at 12. PPL provides that the preponderance of evidence standard requires proof by a greater weight

of the evidence. PPL explains that this standard is satisfied by presenting evidence more convincing, by even the smallest amount, than that presented by another party. PPL M.B. at 4 (citing *Commonwealth v. Williams*, 557 Pa. 207, 732 A.2d 1167 (1999); *Brown v. Commonwealth*, 940 A.2d 610, 614 n.14 (Pa. CMwlth. 2008)).

PPL notes that 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." PPL M.B. at 6 (citing *Kreider v. PECO Energy Co.*, Docket No. P-2015-2495064 at 18 (Order entered September 3, 2015); *Romeo v. Pa. PUC*, 154 A.3d 422, 429 (Pa. Cmwlth. 2017)). PPL contends that 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." PPL M.B. at 5 (citing *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 Cntys.*, 1992 Pa. PUC Lexis 160, at *210-11 (June 29, 1992) (Initial Decision) (*Woodbourne-Heaton*)).

PPL contends that the Precautionary Principle advocated by the Complainant is an extreme standard that has been widely criticized, has never been utilized in any Pennsylvania court case, and would unreasonably and unlawfully shift the burden of proof to PPL. PPL R.B. at 3.

b. ALJ's Initial Decision

The ALJ explained that Section 332(a) of the Code, 66 Pa.C.S. § 332(a), provides that the party seeking relief from the Commission has the burden of proof. The ALJ further explained that 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." I.D. at 11 (citing *Samuel J. Lansberry, Inc. v. Pa. Pub. Util. Comm'n*, 578 A.2d 600, 602 (Pa. Cmwlth. 1990)). The ALJ provided that "burden of proof" means a duty to establish a fact by a preponderance of the evidence, or evidence more convincing, by even the smallest amount, than the evidence presented by the other party. I.D. at 11 (citing *Commonwealth v. Williams*, 557 Pa. 207, 732 A.2d 1167 (1999); *Brown v. Commonwealth*, 940 A.2d 610, 614 n.14 (Pa. Cmwlth. 2008)).

The ALJ stated:

> If the party seeking a rule or order from the Commission sets forth a *prima facie* case, then the burden shifts to the opponent. 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.

I.D. at 12 (citing *Replogle v. Pennsylvania Electric Company*, 54 Pa. PUC 528 (1980).

The ALJ explained:

> 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.

I.D. at 12 (citing *Woodbourne-Heaton*).

The ALJ noted that the Commission has also stated, "[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 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." I.D. at 13-14 (citing *Kreider* at 23; *Woodbourne-Heaton*, 1992 Pa. PUC Lexis 160, at *1213; *Frompovich v. PECO Energy Co.*, Docket No. C-2015-2474602 (Opinion and Order entered May 3, 2018 at 10) (*Frompovich*)).

The ALJ concluded that the Complainant has failed to sustain his burden of proof that (1) the Respondent violated Section 1501 of the Public Utility Code, (2) installing the new AMI meter would violate the Public Utility Code or any Commission regulation or order, or (3) installing the new meter would constitute unsafe or unreasonable service in violation of 66 Pa. C.S. § 1501. I.D. at 32-34.

c. Disposition

First, we address the overall question here of whether the Complainant is required to prove by a preponderance of the evidence that RF exposure from a PPL smart meter will cause adverse health effects. We begin our disposition regarding the Complainant's burden of proof noting that we agree with the ALJ, the correct burden of proof that applies to the Complainant in this proceeding is the preponderance of evidence standard. I.D. at 11. Here, the Complainant must show that PPL is responsible or accountable for the problem described in the Complaint and that the offense is a violation of the Code, a Commission Regulation or Order or a violation of a Commission-approved tariff. 66 Pa. C.S. § 701; *Patterson, supra*. Upon a careful review of the statements contained in the Complainant's Complaint, this means the Complainant must prove, by a preponderance of the evidence, that the installation of a smart meter constitutes unsafe or unreasonable service under 66 Pa. C.S. § 1501. *See* Complaint at 3.

While the Complainant asserts that he provided "a preponderance of scientific evidence and expert testimony that proves non-thermal RF radiation emitted by PPL smart meters can have a negative and serious impact on my health and that of others," he also argues that the "Commission does not have to resolve the scientific dispute over health risks from non-thermal radiation." Myers M.B. at 1, 13. The Complainant contends that the Commission should adopt the Precautionary Principle approach with smart meters and allow an opt-out for Mr. Myers, his tenants, and others with health concerns. Myers M.B. at 14.

As we stated in *Povacz* and explained in the "Legal Standards" section of this Order, the Complainant must demonstrate by a preponderance of the evidence a "conclusive causal connection" between the low-level RF exposure from a PPL smart meter and the alleged adverse human health effects. See *2019 Povacz Order* at 28-29.

Upon review of the record on this issue, the Initial Decision and the applicable law, we affirm the ALJ's conclusion that the Complainant did not meet his burden of proof regarding his claim that PPL's smart meter caused or will cause adverse health effects for the Complainant. Specifically, we affirm the ALJ's finding that the Complainant failed 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. I.D. at 31. We acknowledge the Complainant's competent lay testimony as to the Precautionary Principle, but we find that the principle is not appropriate here. Rather, the ALJ identified the correct burden of proof as the preponderance of evidence in this quasi-judicial proceeding. The Complainant has the burden of proof in this type of proceeding. Adopting the Precautionary Principle here would be a reversal of the burden of proof, requiring PPL to prove a negative. We cannot apply the Precautionary Principle here.

We now turn to address more specifically the Complainant's Exception No. 12.

d. Complainant's Exception No. 12, PPL's Reply and Disposition

In his Exception No. 12, the Complainant excepts to the ALJ's Finding of Fact No. 53:

> 53. 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 St. No. 2 at 14.

The Complainant avers that the ALJ erred in her statement regarding the findings of the World Health Organization (WHO) and other public health authorities. The Complainant provides that the WHO advocates for the use of the Precautionary Principle.

The Complainant states that the ALJ erred by not including the fact that the International Agency for Research on Cancer has classified non-thermal RF radiation as a Class 2B carcinogen. The Complainant also provides that the ALJ did not mention the ten U.S. government authorities and sixteen foreign nations who disagree with the WHO's finding that RF fields from cell phones have not been shown to cause adverse health effects. Myers Exc. at 15 (citing Myers Direct Testimony at 11-12, Tr. at 182). The Complainant also contends that the WHO advocates for the Precautionary Principle. Myers Exc. at 16 (citing Tr. at 86, Myers Exh. No. 3 at Section 23, p.11). The Complainant provides that the Communist and Russian governments protect their citizens by setting cell phone safe exposure levels approximately 50 times lower than the United States. Myers Exc. at 16 (citing Myers Exh. No. 3 Section 3 at 8).

In Replies to the Complainant's Exception No. 12, PPL notes that there was no need for the ALJ to mention IARC's classification of RF fields from cell phones. PPL

provides that IARC found RF fields from cell phones to be possibly carcinogenic, based on limited evidence, but did not find that RF fields from cell phones were carcinogenic or even probably carcinogenic. PPL explains that IARC concluded that for environmental exposures to RF fields, including RF fields from smart meters, the research was "inadequate" to reach conclusions about cancer causation. PPL R.Exc. at 14 (citing PPL St. No. 1 at 19). PPL explains that the WHO found that the research did not establish that RF fields from mobile phones cause adverse health effects. PPL R.Exc. at 15.

PPL explains that the Precautionary Principle is an extreme standard that should not be adopted in this proceeding. PPL explains further that the principle would unreasonably and unlawfully shift the burden of proof. PPL contends that the burden is not on the Company to prove a negative. PPL notes that the D.C. Circuit Court of Appeals observed:

> [The precautionary principle] approach to regulation has been criticized. The precautionary principle "imposes a burden of proof on those who created potential risks, and it requires regulation of activities even if it cannot be shown that those activities are likely to produce significant harms. Taken in this strong form, the precautionary principle should be rejected, not because it leads in bad directions, but because it leads in no direction at all. The principle is literally paralyzing – forbidding inaction, stringent regulation, and everything in between. The reason is that in the relevant cases, every step, including inaction, creates a risk to health, the environment, or both." Cass R. Sunstein, Beyond the Precautionary Principle, 151 U. Pa. L. Rev. 1003, 1003, (2003).

PPL R.Exc. at 16 (citing *Competitive Enter. Inst. v. United States*, 863 F.3d 911, 918-19 (D.C. Cir. 2017)).

We disagree with the Complainant's assertion regarding Finding of Fact No. 53. Dr. Israel stated that the WHO found that low level RF exposure, like that from smart meters, does not cause adverse health effects. PPL St. No. 2. at 19. The Complainant's reference in Myers Exh. No. 3 describes the general approach of the WHO regarding the Precautionary Principle. In contrast to the Complainant's assertion, the reference does not include application by the WHO of the Precautionary Principle specifically to smart meters. The Complainant's statement that the "WHO advocates for the Precautionary Principle with regards to public exposure to non-thermal RF radiation" is incorrect. We find no error in the ALJ's Finding of Fact No. 53. Based on the foregoing discussion, we shall deny the Complainant's Exception No. 12.

2. Whether the Complainant Has Demonstrated by a Preponderance of the Evidence that RF Exposure from a PPL Smart Meter Will Cause Adverse Health Effects

a. Positions of the Parties

The Complainant contends that he has proven by a preponderance of the evidence that PPL's AMI meter will adversely affect his health, while PPL contends that the Complainant did not offer any credible expert scientific testimony in support of his allegations about health risks from RF fields. A summary of both Parties' positions regarding the adverse health effects issue follows.

We begin our more detailed review of the Parties' positions with a summary of the Complainant's presentation of the evidence and PPL's challenges related thereto.

The Complainant argues that he has provided a preponderance of scientific evidence and expert testimony that proves non-thermal RF radiation emitted by PPL smart meters can have a negative effect and serious impact on his health and that of

others. The Complainant contends that as an aging senior citizen, he may be even more vulnerable than the general population. Myers M.B. at 1.

The Complainant contends that he has met his burden of proof based on 4,289 scientific studies that he has identified that report biological and adverse health effects from non-thermal radiation. These studies include Myers Exh. No. 3, the BioInitiative Report. The Complainant provides that PPL has made little or no attempt to address or refute the primary science in these scientific studies. Myers R.B. at 4-5 (citing Myers M.B. at 8-9, 65-102).

PPL contends that the Complainant erroneously believes that the scientific and medical issues in this case hinge on which party claims to have the highest tally of studies they believe support their position. PPL avers that it has offered thorough, credible and reliable evidence to rebut the Complainant's claims about the alleged adverse health effects of the AMI meter through the testimony of its expert witnesses, Dr. Christopher Davis and Dr. Mark Israel. PPL R.B. at 9-10 (citing PPL M.B. at 15-26).

The Complainant's presentation of the evidence included, in relevant part, the testimony of Mr. Myers himself, and the expert testimony of Dr. David O. Carpenter, M.D. As for Dr. Carpenter's qualifications, Dr. Carpenter is a professor of environmental health sciences at the University of Albany. Dr. Carpenter received his Bachelor of Arts degree from Harvard College and his M.D. from Harvard Medical School. After completing medical school, Dr. Carpenter decided to pursue research rather than enter clinical medicine. Dr. Carpenter is not a board-certified physician and does not practice medicine. Dr. Carpenter is the director of the Institute for Health and the Environment at the University of Albany. Tr. at 52-53, 55. Dr. Carpenter was admitted as a medical physician – public health physician. Tr. at 60.

According to the Complainant, Dr. Carpenter is an internationally recognized expert on environmental health and the hazards of non-ionizing radiation. The Complainant states that Dr. Carpenter has qualified and served as an expert witness at numerous legal proceedings addressing the health risks from RF radiation. Myers M.B. at 7 (citing Myers Exh. No. 2).

In response, PPL provides that Dr. Carpenter has never been licensed to practice medicine, is not board certified in any area of medicine, and does not diagnose or treat patients for any kind of condition or illness. PPL explains that Dr. Carpenter did not offer any opinions about the Complainant's health or the levels of RF fields at the Complainant's home or any of his rental properties. PPL explains further that Dr. Carpenter was unfamiliar with the type and level of RF fields produced by the PPL AMI meters. PPL M.B. at 26 (citing Tr. at 105-110).

The Complainant submits in his Main Brief at 7-8, that Dr. Carpenter testified on the issues that are crucial in the Commission's decision as follows:

- The very brief but very intense burst of pulses from smart meters is more harmful to people and that there is something we don't quite understand that is particularly provocative about very rapid but very intense short bursts. Tr. at 93.

- That the weight of the evidence is overwhelming and consistent with the conclusion that excessive exposure to radiofrequency like magnetic fields is associated with adverse health effects, including elevation of cancer of the nervous system. Tr. at 78.

- That in biology, finding a mechanism of action is not a requirement for quality research, once you find a consistent pattern. Tr. at 78-79.

- Dr. Carpenter testified that the BioInitiative Report quotes articles that don't find optimum effects as well as those that do. Tr. at 76.

- The criticism that the BioInitiative Report has received is because of the awareness it has raised about the huge amount of scientific studies on biological and adverse health effects that exist. Tr. at 74.

- There are individuals with conflicts of interest and strong ties in the telecommunications industries who ignore evidence and are under some undue influence from the industry. Tr. at 154-155.

In response to Dr. Carpenter's expert opinions, PPL contends that Dr. Carpenter did not provide balanced or credible scientific testimony. PPL provides that Dr. Carpenter never looked at the specifications for the AMI meters and based his opinion about health effects on his belief that smart meters create pulsed RF fields. According to PPL, Dr. Davis – PPL's expert in physics and radio frequency exposures assessment – testified that the AMI meter "produces sinusoidal RF fields, which are physically different from pulsed fields." PPL M.B. at 26 (citing Tr. at 93, 109-110; PPL St. No. 1 at 8).

PPL provides that Dr. Carpenter offered an opinion that the RF fields from the PPL AMI meter complied with the Federal Communications Commission (FCC) exposure safety standard, although Dr. Carpenter was unfamiliar with the RF fields from the meters, does not agree with the FCC standard, and could not say what the standard is. PPL M.B. at 26-27 (citing Tr. at 110-112). PPL avers that Dr. Carpenter's testimony was incomplete and unbalanced as Dr. Carpenter selectively provided information that he interpreted as supporting his views and withheld information that contradicted his positions. PPL M.B. at 27. As an example, PPL notes that Dr. Carpenter offered selective and misleading testimony about the review of research on RF fields conducted by the International Agency for Research on Cancer (IARC). PPL provides that on direct

examination, Dr. Carpenter testified about IARC's findings about RF fields from cell phones but chose not to testify about IARC's findings related to smart meters although he knew about these IARC findings. PPL explains that under cross examination, Dr. Carpenter had to admit that he knew IARC had found in 2011 that for RF from smart meters there was "inadequate evidence" of any cancer risk, yet Dr. Carpenter did not mention it as he "didn't agree with it." PPL M.B. at 30 (citing Tr. at 88, 142-144, 146).

This now concludes our summary of the Complainant's presentation of the evidence and PPL's challenges related thereto. Next, we turn to PPL's presentation of the evidence and the Complainant's challenges thereto.

PPL's rebuttal case, or presentation of the evidence, included the expert testimonies of two scientists – Christopher Davis, PhD, and Mark Israel, M.D., Mr. Larson, with expertise in the design and operation of PPL's AMI system, and Mr. Hennegan, who testified regarding communications between PPL and the Complainant. PPL M.B. at 16-26.

As for Dr. Davis' qualifications, Dr. Davis is the Minta Martin Professor of Engineering and Professor of Electrical and Computer Engineering at the University of Maryland. Dr. Davis was recognized as an expert in the fields of physics, biophysics, chemistry, electrical engineering, electromagnetics, bioelectromagnetics, radiofrequency bioelectromagnetics and dosimetry. PPL M.B. at 16 n.8. (citing PPL St. No. 1 at 1, Tr. at 228-229).

Dr. Davis testified that the FCC has determined safe public exposure levels for RF fields from devices that transmit RF signals, such as AMI meters. PPL provides that, based on the engineering specifications of the Landis + Gyr AMI meter used by PPL, Dr. Davis calculated that the levels of average fields from the AMI meters are 98,000 times lower than the FCC limit. PPL M.B. at 17. PPL provides that Dr. Davis

testified that there is no scientific basis to conclude that the very low levels of RF fields from the PPL AMI meters can or will cause any adverse thermal or non-thermal biological effects in people. PPL M.B. at 19-20 (citing PPL St. No. 1 at 18).

In response, the Complainant contends that Dr. Davis' statement that there is no scientific basis to conclude that the very low levels of RF fields from the PPL AMI meters can cause health effects is "patently false." The Complainant provides that he identified 4,000 plus scientific studies which report adverse health or biological effects from exposure to non-thermal RF radiation. According to the Complainant, these adverse health effects occur at levels thousands upon thousands of times lower than the levels smart meters emit and the FCC deems to be safe. Myers M.B. at 5 (citing PPL St. No. 1 at 18; PPL Exhs. No. CD-2 through CD-7).

Dr. Davis also testified that there are many sources of RF signals in the everyday environment and the RF fields from the AMI meter are much lower than from sources such as cell phones. PPL provides that the RF fields from using cell phones can be over 260,000 times higher than from the AMI meter. PPL explains that the Complainant reported that he used his cell phone for 16,222 minutes over a 12-month period which is equivalent to 3,198 years of continuous RF exposure three feet from the AMI meter. PPL M.B. at 18 (citing PPL St. No. 1 at 14-15). PPL notes that Dr. Davis testified that there are seven television broadcast towers within a 50-mile radius of the Complainant's house. Dr. Davis testified that the constant background level of RF fields from the towers is 18.4 times higher than the RF signals from the AMI meter. PPL M.B. at 18 (citing PPL St. No. 1 at 16; PPL Exh. No. CD-5).

The Complainant challenges Dr. Davis' statements and avers that they are irrelevant and misleading. He contends that he provided studies in Appendix A of his Main Brief that show adverse health effects at much lower levels. Myers R.B. at 6. The Complainant explains that Dr. Davis' Exhibits CD-2 through CD-7 are flawed and

misleading. According to the Complainant, Dr. Davis' calculations are arithmetical conjecture, constitute an unacceptable analytical gap, and are not biological science. Myers R.B. at 9.

As noted above, PPL also presented the expert opinion testimony of Dr. Israel. As for Dr. Israel's qualifications, PPL submits that he is a medical doctor who is Professor of Systems Biology and Pediatrics and Medicine at Dartmouth Medical School. He is also Executive Director of the Israel Cancer Research Fund. Dr. Israel was recognized as an expert in medicine and medical research, in particular as related to RF fields and health. PPL M.B. at 20 (citing Tr. at 260-261, PPL St. No. 2 at 16-23).

PPL provides that Dr. Israel evaluated the exhibits that the Complainant downloaded from the internet, including the BioInitiative Report (Myers Exh. No. 3). Dr. Israel concluded that these exhibits are not scientific studies and demonstrated that they do not provide scientific data that can be used to reach a reliable conclusion about RF fields and health. PPL M.B. at 24-25. According to PPL, Dr. Israel found, based on his medical education, training and experience, and his evaluation of the scientific research, and to a reasonable degree of medical certainty, that: (1) there is no reliable medical basis to conclude that RF fields from the AMI meters will cause or contribute to the development of illness or disease, and (2) there is no reliable medical basis to conclude that RF fields from the AMI meter would cause, contribute to, or exacerbate any adverse health effects. PPL M.B. at 25-26 (citing PPL St. No. 2 at 25).

The Complainant argues that Dr. Israel ignores the research he provided in the numerous studies he cited. The Complainant also points out that IARC classified the non-thermal RF from cell phones as a Group 2B possible carcinogen and physicians use EMFs to help in healing bone fractures which proves non-thermal RF is biologically active. Myers R.B. at 10-11 (citing Myers M.B. at 46, Myers Exh. No. 3 at 19).

PPL responds by noting that the Complainant persists in mischaracterizing the findings of IARC and claiming that it "did not study smart meters." PPL provides that Dr. Carpenter admitted on cross-examination that IARC did in fact look at RF fields from smart meters and concluded that there was "inadequate evidence" of cancer for RF from smart meters. PPL R.B. 16 (citing Myer M.B. at 55, Tr. at 144-146).

b. ALJ's Initial Decision

The ALJ noted that the Complainant contends that the installation of an AMI meter at his home and eleven of his tenants' residential dwellings would be unsafe, unreasonable, and in violation of 66 Pa. C.S. § 1501. The ALJ dismissed the complaint for failure to prove by a preponderance of evidence that the installation of the smart meter constitutes unsafe or unreasonable service under Section 1501. I.D. at 1.

The ALJ provided a review of the Complainant's evidence regarding his claim that non-thermal RF radiation emitted by PPL smart meters can have a negative impact on his health and the health of all persons including the testimony of Dr. Carpenter as follows:

- Dr. Carpenter stated that excessive exposure to RF like magnetic fields is associated with adverse health effects, including elevation of cancer of the nervous system. I.D. at 18 (citing Tr. at 78-79).

- Dr. Carpenter testified that agencies and individuals are in denial of the thousands of publications that report adverse health effects at intensities that do not generate tissue heating. Dr. Carpenter bases his opinion in part on the BioInitiative Report. I.D. at 18 (citing Tr. at 74, 83; Myers Exh No. 3).

- Dr. Carpenter admits the AMI meter average emissions are in compliance with the FCC standards for RF emissions. However, Dr. Carpenter contends the FCC does not have the correct standard measuring the intensity of the impulses. Dr. Carpenter disagrees with the methodology of measurement as the standards do not address the intensity of the pulses, only average exposure over time. Dr. Carpenter also testified that there are individuals with conflicts of interest and strong ties in the telecommunications industry influencing the FCC. I.D. at 18-19 (citing Tr. at 93, 154-155).

The ALJ concluded that countervailing evidence was more persuasive with respect to the health concerns related to AMI meters in general. I.D. at 19. The ALJ found that the body of scientific research does not show that exposure to non-thermal RF fields causes or contributes to adverse health effects. I.D. at 25.

The ALJ provided that Dr. Carpenter admitted at the hearing that he was involved in creating the BioInitiative Report and that its purpose was to advocate against the current RF exposure standards. The ALJ concluded that because the BioInitiative Report is an advocacy document, the report does not provide a balanced view of the scientific research. I.D. at 21. The ALJ was not persuaded that Dr. Carpenter's opinion should carry more weight than that of Dr. Israel. The ALJ noted that Dr. Israel's expert opinion was accepted by this Commission in *Frompovich* while Dr. Carpenter's opinions have been found to have been flawed in prior judiciary proceedings. I.D. at 22-23 (citing PPL M.B. at 31-35).

The ALJ provides that the Complainant continues to maintain that AMI meters create "pulsed" fields. The ALJ notes that Dr. Davis explained that, "This is a frequently misstated fact." Dr. Davis testified that the meter produces "sinusoidal RF

fields, which are physically different from pulsed fields." I.D. at 23 (citing Myers M.B. at 7-33; PPL St. No. 1 at 8).

The ALJ notes that the Complainant argues that the FCC standard is obsolete because it is based on old research. The ALJ explains that the Complainant mistakenly argues that the FCC has failed to reassess its guidelines for RF exposure. The ALJ contends that Dr. Carpenter admitted that the FCC has undertaken a public reassessment of its RF exposure standard and that to his knowledge the FCC has not finished that reassessment. I.D. at 24 (citing Tr. at 112-113, Myers M.B. at 49).

c. Exceptions and Replies

The Complainant contends generally in Exceptions 1, 2, 15 and 16 that the ALJ erred in determining that the Complainant's evidence failed to prove that the non-thermal fields from the PPL AMI meters can cause or contribute to adverse health effects. In Exception Nos. 8, 9, 10, 13, 18, and 19, the Complainant disagrees with the ALJ's and PPL's statements regarding the studies the Complainant provided as evidence and the ALJ's assessment of the testimony of Dr. Carpenter and the testimony of PPL's experts, Dr. Davis and Dr. Israel.

We discuss the above-referenced Exceptions, PPL's Replies thereto, and our disposition, more fully below in the Disposition section.

d. Disposition

Upon review of the evidentiary record and the positions of the Parties, we shall deny the Complainant's Exception Nos. 1, 2, 8, 9, 10, 13, 15, 16, 18 and 19. We provide a specific disposition to each Exception more fully below. First, we address the overall question here of whether the Complainant has demonstrated by a preponderance

of the evidence that RF exposure from a PPL smart meter will cause adverse health effects.

On the issue of causation between RF fields and adverse health effects, the Complainant offered the expert medical opinion of Dr. Carpenter.

Dr. Carpenter was admitted as an expert in medicine including public health, but not in EHS or RF fields/EMFs and human health. Dr. Carpenter is not a board certified or licensed physician. He does not diagnose disease but studies the distribution of disease in the population. Tr. at 105-106. Dr. Carpenter characterizes the transmission from the PPL AMI meters as "very, very brief but very intense bursts of pulses" (Tr. at 93), yet he is not familiar with the technical specifications of the meters. Dr. Carpenter testified as follows regarding the PPL AMI meters:

> Q. What – what model of AMI meter is PPL&L proposing to install on Mr. Myers' properties?
>
> Dr. Carpenter: I don't know.
>
> Q. Do you know what type of radiofrequency fields are used by the AMI meter that PP&L installs?
>
> Dr. Carpenter: No, I don't know the fields.
>
> Q. Have you ever looked at the specs for things like maximum power output?
>
> Dr. Carpenter: No.
>
> Q. And do you know what the level of RF fields would be at say one meter distance from the AMI meter itself?
>
> Dr. Carpenter: No, I do not.

Tr. at 109-110.

Dr. Carpenter does not and cannot define his characterization of the AMI meter transmission as "very intense" according to a power level of the meter, because he does not know the power level of transmissions from the meter. Dr. Carpenter is also unfamiliar with the FCC standard that regulates the transmissions from the meter, even though he objects to the FCC standard. Tr. at 11. Dr. Carpenter contends that the FCC should re-evaluate its current standard. Tr. at 112. Dr. Carpenter recommended an exposure standard of 0.1 microwatt per centimeter squared for RF that was lower than the FCC exposure standard in Complainant's Exhibit No. 27. PPL's expert, Dr. Davis, testified that the level of RF from the PPL AMI meter is more than 16 times smaller than the exposure standard recommended by Dr. Carpenter. Tr. at 236.

Although Dr. Carpenter's recommendation for a lower exposure standard was part of a paper submitted to the President's Cancer Panel in 2009, the Panel did not adopt Dr. Carpenter's standard. The Panel found that the available data on cancer risk due to RF from cell phones, cell phone towers and other wireless devices, are neither consistent nor conclusive and a mechanism of RF-related cancer has yet to be identified. Tr. at 132.

PPL's rebuttal evidence included the expert testimony of Dr. Davis and Dr. Israel. Dr. Davis testified that in his opinion, there is no reliable scientific basis in physics, biophysics, bioelectromagnetics or RF bioelectromagnetics to conclude that the very low levels of RF fields from the AMI meters being used by PPL can or will cause any adverse thermal or non-thermal biological effects in people. PPL St. No. 1 at 18. Dr. Davis testified that there is nothing unusual about the RF fields from the AMI meters used by PPL. Dr. Davis explained that the average RF fields from the PPL AMI meters are 98,000 times smaller than the FCC exposure limit. PPL St. No. 1 at 13. According to Dr. Davis, the RF fields from the PPL AMI meters are the same type of fields used for radio communications by many common everyday devices, such as radios, garage door

openers, baby monitors, portable phones, Wi-Fi, and other wireless communications devices. PPL St. No. 1 at 14.

Dr. Davis's testimony sufficiently demonstrated that the Complainant is subject to greater RF exposure from his cell phone usage than from an AMI meter. Dr. Davis noted that even if Mr. Myers used his cell phone with a headset or earphones, he would need to stay within 1 meter of his AMI meter for 8 years to get a level of RF exposure equivalent to the RF exposure he got from using his cell phone. PPL St. No. 1 at 15.

Dr. Israel also is a qualified expert on the issues in this proceeding. Based on his medical education, training and experience, and his evaluation of the scientific research, Dr. Israel's expert opinion is that there is no reliable medical basis to conclude that RF fields from the AMI meter being used by PPL will cause or contribute to the development of illness or disease. PPL St. No. 2 at 25. Dr. Israel's unequivocal opinion meets PPL's required burden of production and constitutes legally competent evidence to support a finding of fact on the issue of causal connection between RF fields from an AMI meter and adverse human health effects.

In his Briefs and Exceptions, the Complainant challenged the qualifications of PPL's experts, the bases of their opinions and certain specific areas of their testimonies. After careful review of those challenges, however, we agree with the ALJ that the Complainant did not successfully impugn PPL's rebuttal evidence. We discuss below our reasons for this conclusion when we specifically address the Complainant's Exceptions below.

Accordingly, we affirm the ALJ's conclusion that PPL met its burden of production in this proceeding that there is insufficient evidence that the Complainant will be adversely affected by PPL's use of a smart meter or that a smart meter will constitute

unsafe or unreasonable service. Because PPL met its burden of evidence production, the burden of production shifted back to the Complainant. The Complainant did not introduce further evidence into the record to demonstrate a conclusive causal connection between the low-level RF fields from a PPL smart meter and adverse health effects for the Complainant. Thus, we affirm the ALJ's conclusion that the Complainant did not meet his burden of proof in this proceeding.

We now address more specifically the Complainant's Exception Nos. 1, 2, 8, 9, 10, 13, 15, 16, 18, and 19. We have addressed the Complainant's Exceptions in groups where appropriate.

e. Complainant's Exception Nos. 1, 2, 15, 16, PPL's Replies and Disposition

In Exception Nos. 1, 2, 15, and 16, the Complainant generally excepts to the ALJ's finding that he has not proven that the AMI meter can cause or contribute to adverse health effects based on the materials he submitted in his Exhibits Nos. 3 through 5. Myers Exhibit No. 3 is the BioInitiative Report for which Dr. Carpenter served as a co-editor of the report. Myers Exhibit Nos. 4 and 5 are bibliographies of studies related to RF fields. The Complainant provides that he has identified 4,266 scientific studies that report biological and adverse health effects from non-thermal RF radiation. He argues that he has provided 400 times more positive studies than PPL's ten negative studies, which means he has provided the preponderance of the evidence. Myers Exc. at 1-2.

The Complainant avers that it does not matter that studies reporting adverse health effects were or were not conducted using PPL's AMI meter, but rather the issue is the non-thermal radiation, not the device which emits it. Myers Exc. at 2. The Complainant contends that the majority of studies he provided were published in professional journals

and were subject to peer review. He notes that if the Commission accepts PPL's ten studies as having scientific merit, the same standard should apply to his studies. Myers Exc. at 4. The Complainant states that "Positive findings carry more weight than negative findings." According to the Complainant, the BioInitiative Report serves a vital purpose as it fills an information gap for the public and public officials about health risks from excess exposure to non-thermal RF radiation. Myers Exc. at 5.

In response, PPL provides that the Complainant believes he should prevail because he identified over 4,000 studies in his Exhibit Nos. 3 through 5. PPL states that what matters is the credibility of the expert evaluations of the body of scientific research. PPL R.Exc. at 2 (citing PPL R.B. at 9). PPL explains that the ALJ correctly found that Complainant's Exhibits 3 through 5 do not provide a reliable scientific basis for reaching a conclusion about the AMI meters being used by PPL. PPL R.Exc. at 3 (citing I.D. at 20-22). PPL explains further that the BioInitiative Report (Myers Exh. No. 3) is an advocacy document and not a scientific study and Dr. Carpenter testified that its purpose was advocacy. PPL notes that Myers Exh. Nos. 4 and 5 are merely lists of various studies. PPL R.Exc. at 5 (citing PPL R.B. at 12). PPL provides that the Commission and its ALJs have long been dealing with issues related to electromagnetic fields and the installation of AMI meters. PPL R.Exc. at 5-6 (citing *Woodbourne-Heaton*). Finally, PPL provides that the Complainant errs in claiming that studies with positive findings carry more weight than studies with negative findings. PPL contends that the Complainant's studies have little to no evidentiary value because none of them have been replicated. PPL R.Exc. at 6.

The Complainant contends that "compared to the number of studies cited by PPL my studies comprise a preponderance of evidence that excess exposure to non-thermal RF radiation from a PPL smart meter...can put my health at risk." Myers Exc. at 2. The Complainant presents a table comparing the number of studies he identified to the number provided by PPL. The Complainant is misapplying the term

"preponderance." The preponderance of the evidence standard is not related to the number of studies cited by the Complainant. Rather it applies to the weight of the evidence. The Complainant is required to prove more likely than not that the AMI meter could cause adverse health effects. The relative number of studies cited by the Complainant versus those provided by PPL is irrelevant to his burden of proof.[6] Therefore, we shall deny Exception Nos. 1, 2, 15, and 16 of the Complainant.

f. Complainant's Exception No. 8, PPL's Reply, and Disposition

In Exception No. 8 the Complainant disagrees with PPL's statement "The majority of studies published have failed to show an association between exposure to radiofrequency from a cell phone and health problems." Myers Exc. at 13 (citing I.D. at 24). According to the Complainant, this statement constitutes hearsay. The Complainant also provides that PPL misled the ALJ and Commission with the statement by omitting any reference to the WHO/IARC classification of RF radiation as a Group 2B carcinogen. Myers Exc. at 13.

PPL responds by noting the statement is from Dr. Davis' expert testimony and is directly based on the conclusion of the Food and Drug Administration (FDA) that "[t]he majority of studies published have failed to show an association between exposure to radiofrequency from a cell phone and health problems." PPL R.Exc. at 11 (citing PPL St. No. 1 at 11-12). PPL explains that the Complainant fails to recognize that he never objected to this evidence and that expert witnesses are permitted to rely on hearsay in forming their expert opinions. PPL contends that it addressed the IARC classification through Dr. Israel's testimony. Dr. Israel testified that IARC concluded that for

---

[6] Black's Law Dictionary, Sixth Ed. provides a definition of preponderance of the evidence as follows:...evidence which is of greater weight or more convincing than the evidence which is offered in opposition to it; that is, evidence which as a whole shows that the fact sought to be proved is more probable than not.

environmental exposures to RF fields, including RF fields from smart meters, the research was "inadequate" to reach conclusions about cancer causation. PPL Exc. at 12 (citing PPL St. No. 2 at 19).

We agree with PPL, that the statement the Complainant objects to regarding Dr. Davis' testimony is not hearsay. We find that the statement is from the FDA and was relied upon by the FCC to determine if its limits should be revised. As noted by Dr. Davis in his testimony, the FDA stated further regarding RF exposure that "Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects." PPL St. No. 1 at 12. Accordingly, the Complainant's Exception No. 8 is denied.

g. Complainant's Exception No. 9, PPL's Reply and Disposition

In Exception No. 9, the Complainant objects to the following sentence in the I.D.: "PPL now contends that although Complainant Exhibits 1-10, and 12-27 were admitted into the record, the exhibits should not be used to support any findings of fact." I.D. at 20 (citing PPL M.B. at 1-14). The Complaint states that "it is nonsense" for PPL to petition the Commission to not allow the Complainant to present facts and other evidence provided by or substantiated by an expert witness and peer reviewed science to support his Complaint. Myers Exc. at 13-14.

PPL responds that it addressed the Complainant's exhibits in detail in their Main Brief at 35-43 and 37-42 and demonstrated that they lack scientific and evidentiary merit. PPL notes that many of the documents are uncorroborated hearsay, lacked authenticity, were irrelevant because they did not address RF fields from AMI meters, and were selectively excerpted. PPL provides that the Complainant's reliance on his Exhibit Nos. 3 through 5 is misplaced because they contain flaws and were endorsed by Dr. Carpenter, who offered flawed and unreliable testimony. PPL R.Exc. at 12-13.

The ALJ provided that she gave some weight to Complainant's Exhibits 1, 2, and 3, as Dr. Carpenter was present for cross examination and these exhibits were either his statement, his resume, or the BioInitiative article for which he was one of many authors. The ALJ found that Complainant's Exhibit Nos. 4 and 5 are not very persuasive as they are not full scientific studies but rather an abstract and a list of reviews. Beyond allowing them to be entered into the record, the ALJ did not specifically address in the I.D. the Complainant's Exhibits Nos. 6-10 and 12-27. We note that the ALJ discussed the Complainant's Exhibit Nos. 1-5 specifically in the I.D. We also note that the ALJ provided that under Pennsylvania's "Walker Rule," it is well-established that "[h]earsay evidence, properly objected to, is not competent evidence to support a finding." The ALJ explained further that even if hearsay evidence is "admitted without objection," the ALJ must give the evidence "its natural probative effect an 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." I.D. at 19 (citing *Walker*). We note that PPL objected to many of the Complainant's exhibits and Dr. Carpenter's testimony at the hearing. We find that there is no error or inconsistency in the statement in the I.D. that the Complainant objects to regarding PPL's contention that the Complainant's Exhibits should not support any findings of fact. We also find that it is not "nonsense" for PPL to make this statement. PPL is asserting its due process rights to object to Complainant's Exhibits. The statement simply reiterates PPL's position regarding the Complainant's exhibits from the hearing and PPL's Briefs. Therefore, we shall deny the Complainant's Exception No. 9.

h. Complainant's Exception No. 10, PPL's Reply and Disposition

In Exception No. 10, the Complainant contends that the ALJ erred in the following statement: "While some researchers have reported biological changes associated with RF energy, these studies have failed to be replicated." I.D. at 24. The Complainant explains that the 4,266 studies he identified replicate the fundamental point

in his complaint that non-thermal RF radiation can create biological and adverse health effects. Myers Exc. at 14.

In response, PPL notes that the ALJ's statement is supported by the FDA's conclusion that "scientists have conducted hundreds of studies looking at the biological effects of the radiofrequency energy emitted by cell phones" and that '[w]hile some researchers have reported biological changes associated with RF energy,' the studies have not been replicated. PPL R.Exc. at 13 (citing PPL St. No. 1 at 11). PPL explains that the Complainant confuses the replication of findings with the replication of studies. PPL explains further that to the Complainant and Dr. Carpenter, it is sufficient that multiple studies make similar observations, but what actually matters is whether the study itself can be replicated. PPL R. Exc. at 14 (citing Myers Exc. at 14, Tr. at 79).

The Complainant excepts to the ALJ's statement which is a quote from the FDA. We agree with PPL; the Complainant is confusing the meaning of replicate[7] in the FDA's statement. The Complainant's Exhibit No. 3, the BioInitiative Report is an advocacy document containing multiple studies reporting similar results. The FDA statement provides that studies showing results such as those in the BioInitiative Report have not been replicated or repeated by other independent researchers. Accordingly, the Complainants' Exception No. 10 is denied.

i. Complainant's Exception No. 13, PPL's Reply and Disposition

In Exception No. 13, the Complainant contends that studies with positive findings have more significance than negative studies. The Complainant provides that the ALJ erred in being persuaded by Dr. Davis who explained that there are also hundreds of studies, probably thousands of studies that record no effects from RF

[7] Replicate in this sense is defined by Webster's Dictionary as: to repeat, duplicate, or reproduce, especially for experimental purposes.

radiation. The Complainant avers that Dr. Davis should have identified these studies. Myers Exc. at 16.

In Response, PPL submits that the ALJ properly relied on the expert testimony of Dr. Davis that there are many studies that record no effects from RF exposure. PPL provides that Dr. Davis is a highly experienced researcher and teacher and is an active scientific researcher. According to PPL, Dr. Davis was more than qualified to testify generally that hundreds, if not thousands, of studies show that there are no effects from exposure to RF fields.

The Complainant is in error – studies with positive results do not inherently outweigh studies with negative results. Dr. Davis testified that many of the studies with positive results – studies that found a link between RF and adverse health effects – could not be replicated. Tr. at 247. Dr. Israel testified that study results cannot be accepted as real unless they can be replicated. PPL St. No. 2 at 8. Based on the foregoing discussion, we shall deny the Complainants' Exception No. 13.

j. Complainant's Exception No. 18 and 19, PPL's Replies and Disposition

In Exception Nos. 18 and 19, the Complainant contends that Dr. Carpenter's testimony is more credible than that of PPL's experts, Dr. Davis and Dr. Israel. The Complainant points out that Dr. Davis is not a medical doctor or biologist and has no medical expertise. The Complainant avers that Dr. Davis' Exhibits CD-1 through CD-7 are "nothing more than arithmetical conjecture and hypothesis." Myers Exc. at 19. The Complainant contends that Dr. Israel wrongly discredits Dr. Carpenter and Dr. Israel has not rebutted the science in any of the thousands of scientific studies in Complainant's Exhibit Nos. 3-5. Myers Exc. at 20.

In Response, PPL submits that the ALJ correctly determined that the expert testimony of Dr. Davis and Dr. Israel was more credible and reliable than the flawed testimony of Dr. Carpenter. PPL contends that Dr. Davis and Dr. Israel have exceptional qualifications and presented thorough, credible, and reliable opinions in this proceeding. PPL provides that Dr. Davis explained that there is nothing unusual about the RF fields from the AMI meters. PPL notes that Dr. Davis calculated that the levels of RF fields from the AMI meters are 98,000 times lower than the RF exposure safety limits established by the FCC and the constant background RF fields at the Complainant's residence are 18.4 times higher than the RF signals from the AMI meter. PPL avers that the Complainant never disputed these calculations and cannot dismiss them by claiming they are only arithmetic. PPL R.Exc. at 21-22.

According to PPL, Dr. Israel is an eminent physician and medical researcher and was exceptionally qualified to testify on the medical issues in this proceeding. PPL provides that Dr. Israel had conducted medical research, in particular as related to RF fields and health. PPL notes that Dr. Israel evaluated the body of scientific research on RF fields and adverse health effects, not only the ten negative studies alleged by the Complainant. PPL contends that Dr. Carpenter's opinions are flawed and unreliable. PPL R.Exc. at 22-25.

Based on the record evidence about the nature of Dr. Carpenter's opinions, we find that it would be improper to give much weight to the testimony of Dr. Carpenter. Although the ALJ qualified Dr. Carpenter as a medical expert in public health, the ALJ also provided that Dr. Carpenter's opinions have been found to have been flawed in prior judiciary proceedings. I.D. at 23 (citing PPL M.B. at 31-35). We note that in 2010, in an electric siting line case before the Commission, Dr. Carpenter's opinions about the scientific research showing adverse health effects from EMF were deemed "flawed" and "extreme" and were rejected by the Commission as "unsubstantiated." PPL M.B. at 31 (citing *Application of PPL Elec. Utils. Corp Filed Pursuant to 52 Pa. Code Chapter 57,*

Subchapter 6, for Approval of the Siting and Constr. of the Pa. Portion of the Proposed Susquehanna-Roseland 500 kV Transmission Line in Portions of Lackawanna, Luzerne, Monroe, Pike and Wayne Cntys., Pa., Docket Nos. A-2009-2082652, et al., 2010 Pa. PUC LEXIS 434, at *172-173 (Order entered Deb 12, 2010)).

Dr. Carpenter testified that the BioInitiative Report was an advocacy document and authors were selected based on their opinion about RF and health effects. Tr. at 159. Dr. Carpenter did not acknowledge until he was asked about it directly that his paper submitted to the President's Cancer Panel that included a new exposure limit for RF was rejected. Tr. at 132-133. Dr. Carpenter ignored the IARC findings that showed inadequate evidence of adverse health effects from smart meter RF because he disagreed with the IARC findings. Tr. at 146. Based on this record evidence, we find that Dr. Carpenter's testimony is unreliable.

We do not agree with the Complainant that because Dr. Davis is not a medical doctor his testimony should carry less weight than Dr. Carpenter's testimony. Dr. Davis was qualified by the ALJ in the fields he testified in and was not asked to testify as a medical doctor. Dr. Davis is well-qualified in his field including physics, biophysics, electrical engineering, electromagnetics, and radiofrequency bioelectromagnetics relevant to this proceeding. Dr. Israel is an experienced researcher who has written numerous papers accepted in peer-reviewed journals and is an experienced physician. We find that the ALJ placed appropriate weight on the testimony of Dr. Davis and Dr. Israel. Based on the foregoing discussion, we shall deny the Complainant's Exception Nos. 18 and 19.

3. Whether Substantial Record Evidence Supports the ALJ's Fire Safety Recommendations

a. Positions of the Parties

PPL provides that the Complainant never presented any evidence to support a claim that the AMI meter is unsafe and causes fires. PPL notes that the new AMI meters are equipped with software and mechanisms that alert the Company if there is an issue with overheating. PPL contends that it has set a stringent requirement that the new AMI meters it selected be able to withstand a "thermal index up to 160 degrees Celsius." PPL M.B. at 43 (citing Tr. at 220).

The Complainant provides that he does not raise a fire hazard concern with PPL's AMI smart meter in his Formal Complaint and Brief since he has no evidence to that effect. Myers M.B. at 1-2.

b. ALJ's Initial Decision

Although the Complainant did not allege a fire hazard in the Formal Complaint, the ALJ inferred that the Complainant was concerned with a fire hazard from the AMI meter as he generally argues PPL is violating 66 Pa. C.S. § 1501, which requires utilities to provide safe and reasonable service. I.D. at 25.

The ALJ noted that PECO Energy Company had an overheating issue with its initial deployment of Sensus AMI meters, and these meters were replaced with the Landis + Gyr Focus AXR-SD meters, the same model that PPL is using. The ALJ provided that there is no evidence to show PPL has had any fire incidents related to the new AMI meters after deploying 720,000 meters. I.D. at 26-27 (citing Tr. at 221).

Noting that there is some evidence of fires in the past due to micro-arcing[8] as per the testimony of PPL witness, Mr. Larson, the ALJ recommended that PPL perform a sample audit on its past meter installations and meter base checks prior to setting any meters as an added precaution against fires caused by micro-arcing. The ALJ further recommended that PPL should perform what tests serve to minimize any potential fires due to micro-arcing. The ALJ also recommended that PPL and its Agents verify that the Underwriter's Laboratory Inspection certificate is present on every AMI meter prior to installation as an additional precaution. I.D. at 27.

c. PPL's Exception No. 1

In its first Exception, PPL avers that the ALJ did not need to make the fire safety recommendations because they have already been adopted by the Company or are unnecessary given the Company's established practices and procedures. PPL Exc. at 3 (citing I.D. at 27). PPL requests that the I.D. be modified to remove the ALJ's safety recommendations. PPL Exc. at 5.

PPL notes that the ALJ found that the new AMI meter proposed for Complainant's residence would not be a fire risk. According to PPL, the ALJ was persuaded by the credible testimony of the Company's witnesses that the new AMI meters are safe, not fire hazards, and have devices designed to actually prevent fires. PPL Exc. at 2 (citing I.D. at 25-27).

d. Disposition

Upon review, we shall grant PPL Exception No. 1 and modify the Initial Decision to eliminate the ALJ's fire safety recommendations. We note that the

---

[8] We note, as discussed *infra* in our Disposition, that Mr. Larson did not testify regarding "micro-arcing" in this proceeding.

Commission has deemed the Landis + Gyr Focus meters to be reasonable and not a fire hazard within the meaning of 66 Pa. C.S. § 1501 and has allowed other EDCs to install them on residential dwellings within its service territory. As pointed out by the ALJ, over 1.2 million Landis + Gyr Focus meters have been installed by PECO, and there have been no reports of fire incidents related to the meters. I.D. at 26, citing *Frompovich* at 56-57. We further agree with the ALJ's determination that there is no evidence to show that PPL has had any fire incidents related to the same make and model of the AMI meters after deploying 720,000 out of 1.4 million of such meters. I.D. at 27, citing Tr. at 221.

From the record in this case, the ALJ's fire concerns with the PPL AMI meter are not appropriate. The ALJ is incorrect in her statement "Since there is evidence of some fires in the past due to micro-arcing from loose jaws per the testimony of Mr. Larson." I.D. at 27. Mr. Larson did not testify in this case regarding "micro-arcing from loose jaws." Mr. Larson's testimony stated that to avoid the potential for overheating, PPL selected an AMI model for use that meets a high standard of temperature resilience of 160 degrees Celsius and the model selected was the only model that met this requirement. Tr. at 220. Mr. Larson states that the smart meter model PPL has chosen is not a fire hazard. Tr. at 220. Mr. Larson testified that the meter provides notification of an overheating issue when it reaches 130 degrees Celsius and PPL monitors this temperature data. Tr. at 221.

The ALJ stated "I am persuaded by the credible testimonies of Dr. Davis and Mr. Larson to find that the new meter is not a fire risk." I.D. at 27. Dr. Davis did not testify at the hearing regarding fire risk and his rebuttal testimony – PPL St. No. 1 does not mention fire risk. The ALJ is incorrect in her statement regarding Dr. Davis' testimony regarding fire risk in this proceeding. We find that the ALJ's fire risk concerns are not supported by the record in this proceeding. The ALJ's recommendations to PPL regarding the proper method of installation of any of its equipment without appropriate

technical expert testimony is also unsupported by the record. Based on all of the above reasons, we shall grant PPL Exception No. 1 and modify the Initial Decision to eliminate the ALJ's fire safety discussion and recommendations.

4. Whether the ALJ Erred in Denying (1) the Admission of Extra-Record Evidence and (2) the Reopening of the Record in this Proceeding

a. Background

On March 30, 2018, PPL filed a Motion in Limine to exclude the Complainant's exhibits, testimony and witness. PPL requested that the ALJ prohibit the Complainant's expert, Dr. David O. Carpenter from testifying because his opinions have been found to be unreliable in other proceedings. PPL requested that several exhibits submitted by the Complainant be excluded because they are hearsay and not subject to a hearsay exception under the Pennsylvania Rules of Evidence. According to PPL, many of the Complainant's exhibits also should be excluded because they are irrelevant, lack authenticity, and are inherently unreliable. PPL also asserted that the ALJ should exclude the majority of the Complainant's direct testimony because it recites or relies upon hearsay statements or otherwise objectionable materials. Motion in Limine at 1. The Motion in Limine was argued at the in-person evidentiary hearing on April 2, 2018. I.D. at 3.

On July 9, 2018, PPL filed a Motion to Strike Certain Portions of the Complainant's Reply Brief. PPL contends that in his Reply Brief, the Complainant inappropriately attempts to introduce and rely upon evidence that is not a part of the record. PPL provided a copy of the Complainant's Reply Brief with the extra-record evidence and any references to such material deleted as Appendix A to the Motion. Motion to Strike at 3, n.1. PPL contends that the Complainant's attempt to introduce and rely upon extra-record evidence should be rejected because it is well-established that

parties cannot present new evidence at the briefing stage. Motion to Strike at 5 (citations omitted).

On July 16, 2018, the Complainant filed an answer to PPL's Motion to Strike Portions of his Reply Brief. The Complainant contends that he was guided by 66 Pa. Code § 332(d), specifically "together with all papers and requests filed in the proceeding, constitutes the exclusive record for decision" and did not knowingly submit information that was not part of the record. Answer to Motion to Strike at 2.

On July 19, 2018, the Complainant filed a Motion to Reopen the Record for the purpose of taking additional evidence. The Complainant requested Complainant's Exhibit 29, a document entitled "Actions from Peer Review of the Draft NTP Technical Reports on Cell Phone Radiation March 26-28, 2018" be admitted. On July 27, 2018, PPL filed an Answer to Motion to Reopen Record. PPL contends that the Complainant's Motion should be denied as he failed to prove that there have been "material changes of fact or of law" that "have occurred since the conclusion of the hearing" or that the "public interest requires" reopening of the record as per 52 Pa. Code § 5.571(b), (d). Answer to Motion to Reopen Record at 1.

b. ALJ's Initial Decision

The ALJ agreed with PPL that the Complainant's attempts to place additional evidence not in the record should be stricken as these materials and testimony were either introduced for the first time in the Complainant's Main Brief or Reply Brief. The ALJ stated that by waiting until the briefing stage to present any of this new evidence, the Complainant denied PPL an opportunity to review and inspect those materials and testimony, to cross-examine the Complainant or other witnesses about them, and to present evidence in rebuttal. The ALJ concluded that it would violate PPL's

due process rights for any findings of fact to be based upon or influenced by the Complainant's extra-record evidence. I.D. at 16-17.

Regarding the Motion to Reopen the Record, the ALJ was not persuaded by the Complainant to find the document "Actions from the Peer Review of the Draft NTP Technical Reports on Cell Phone Radiofrequency Radiation" as new or novel evidence or showing any change in fact or law that would warrant the reopening of the record in the public interest. The ALJ notes that the document was published on March 28, 2018, prior to the close of the record and concluded there is no good cause shown for its admittance as it consists of recommendations to the National Toxicology Program with regard to reports which have not yet been finalized. The ALJ concludes it has little evidentiary value and contains hearsay evidence to which PPL objects. I.D. at 17 (citing 52 Pa. Code §§ 5.431(b) and 5.571(a)). The ALJ granted the Motion to Strike and denied the Motion to Reopen the Record.

c. Complainant's Exception Nos. 7, 14 and PPL's Replies

In Exception No. 7, the Complainant states that he has made approximately 100 references to his exhibits in his Main Brief and other material in the record. He provides that he wants to make sure that none of his evidence in the record is accidentally stricken and provides a list of pages of his Main Brief and the entirety of his Reply Brief that he identified as "crucial" to his case. Myers Exc. at 12.

In response to Exception No. 7, PPL provides that it specifically identified the portions of the Complainant's Main and Reply Briefs that were extra-record evidence. PPL states that it submitted copies of the Complainant's Main and Reply Briefs with the extra-record evidence and any references to such materials deleted. PPL R.Exc. at 10 (citing PPL R.B., Appx. A; PPL Motion to Strike, Appx. A).

In his Exception No. 14, the Complainant contends that the document regarding the Draft NTP study he proposed to add to the record is new, novel and in the public interest. The Complainant states that he should have been allowed to elicit testimony from Dr. Carpenter regarding the Draft NTP study at the April 2, 2018 evidentiary hearing. The Complainant states that he is appealing and requests that the Commission approve his July 19, 2018 Motion to Reopen the Record. The Complainant also requests that the Commission hold off on its ruling on his complaint and that of others in order to consider the NTP's conclusion. Myers Exc. at 17.

In response to Complainant's Exception No. 14, PPL notes that the Complainant admitted in his Motion to Reopen the Record that this document was publicly available days before the evidentiary hearing on April 2, 2018, and well before the record closed on April 23, 2018. PPL reasons that therefore this evidence was not "new or novel," and there was no "change in fact or law" after the record closed. PPL contends that by waiting nearly three months to try to introduce this proposed exhibit at the briefing stage, the Complainant severely prejudiced PPL as at that point in the proceeding, PPL had no opportunity to cross-examine him about the document or present expert scientific evidence in rebuttal. PPL R.Exc. at 19 (citing Motion to Reopen at 2, I.D. at 17, Answer to Motion to Reopen at ¶ 18).

PPL notes that the document merely recounts the peer review panels' recommendations to the NTP with regard to its reports, which have not yet been finalized. PPL provides that these recommendations are not binding on the NTP and have little or no evidentiary value and are hearsay. PPL avers that the draft NTP study was not within the scope of Dr. Carpenter's testimony as the NTP study was not identified with Dr. Carpenter's direct testimony as an exhibit upon which he would rely. PPL R.Exc. at 19 (citing Answer to Motion to Reopen at ¶ 20-21).

d. Disposition

We agree with PPL and the ALJ, that the extra-record evidence should be excluded. We also agree with the ALJ's finding that the information the Complainant submitted in his Motion to Reopen the Record has no evidentiary value and is hearsay.

We acknowledge that the Complainant requests in his Exceptions that the Commission allow him to appeal his request to reopen the record that was denied, and that the Commission refrain from deciding his Complaint or other similar complaints until after the final NTP report is released.

As we stated in *Povacz*, we recognize that it is possible for the science related to the question of low-level RF exposure and human health to evolve and for new studies and reports to be published following the close of the record in this proceeding. It has been nearly two years since the Complaint was filed by the Complainant in August 2017 and an evidentiary hearing has been held. We cannot forever hold in abeyance a decision on this matter in recognition that the next piece of scientific evidence or study may bring to light information that was not considered by the experts as of the close of the evidentiary record. Should either Party determine that there is a material change in the underlying science that would change the facts in this proceeding, the procedural and substantive rights of the Parties appearing before this Commission are protected under our Regulations, at 52 Pa. Code § 5.571 (allowing parties to petition to reopen a record prior to a final decision for the purpose of taking additional evidence because material changes of fact have occurred since the conclusion of the hearing) and 52 Pa. Code § 5.572 (allowing parties to petition for rehearing after a final decision). We note that since the final NTP report was released in November 2018, as of the entry date of this Order, which is shown on the last page of this Order, the Complainant has not filed a petition under 52 Pa. Code § 5.571 seeking to reopen the record for the purpose of taking new or additional evidence in light of the conclusions stated in the final NTP report.

Based on the foregoing discussion and analysis, we shall deny the Complainant's Exception Nos. 7 and 14.

5. Whether Emissions from PPL's AMI Meters Comply with the FCC Standards and are Substantially Below UHF TV RF Emissions

a. Positions of the Parties

The Complainant explains that the FCC exposure limit is flawed and Dr. Davis' calculation of the field level from the AMI meter is an "arithmetical distraction." The Complainant notes that Dr. Davis' calculation offers no biological proof that the signals do not have adverse health effects on humans. The Complainant avers that Dr. Davis' calculation cannot stand against more than 4,000 scientific studies showing biological and adverse health effects from non-thermal RF radiation. According to the Complainant, the FCC standard does not take into account simultaneous exposure from other smart meters and wireless devices and the cumulative effect of chronic exposure over many years. Myers M.B. at 29-30. Regarding RF exposure from UHF TV, the Complainant notes that his living close to the TV tower gives him more reason to reduce RF exposure from a smart meter. Myers M.B. at 37.

The Complainant contends that Dr. Davis' claim that PPL's AMI meters do not produce pulsed RF fields is highly misleading. The Complainant explains that the word "pulse" is commonly used by many researchers who conduct research and publish studies on pulse-modulated RF radiation. Myers M.B. at 23.

PPL provides that Dr. Davis calculated the levels of RF fields from the AMI meters using the engineering specifications for the Landis + Gyr AMI meter being deployed by the Company. According to PPL, the RF fields from the AMI meters are 98,000 times lower than the RF exposure safety limit established by the FCC. PPL M.B.

at 17-18 (citing PPL St. No. 1 at 13, PPL Exh. CD-2). PPL notes that Dr. Davis found that "the RF field levels from the AMI meters being used by PPL more than comply with the applicable RF exposure limit." Additionally, PPL provides that the 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 M.B. at 18 (citing PPL St. No. 1 at 7).

PPL states that Dr. Davis also testified that there are many sources of RF signals in the everyday environment and the RF fields from the AMI meter are much lower than from other typical sources. PPL provides that even 30 feet away from a person using a cell phone, the RF fields are three times higher than from the AMI meter. PPL M.B. at 18 (citing PPL St. No. 1 at 14).

b. ALJ's Initial Decision

The ALJ noted that the Complainant continues to maintain that the AMI meters create "pulsed" fields and insists that his health concerns stem from "intermittent spikes of peak energy." Based on the testimony of Dr. Davis, the ALJ stated that it is inaccurate to claim that the AMI meters created "pulsed" fields. The ALJ noted that the Complainant does not contest Dr. Davis' expert testimony that the average exposure is 98,000 lower than the FCC RF exposure standard and that the peak RF exposures from the AMI meter is 95 times lower than the exposure standard. The ALJ also provided that although Dr. Carpenter advocates the FCC should amend its regulation, that alone is insufficient to find the smart meter is a health hazard, when it is compliant with the FCC's current standard. I.D. at 23 (citing Myers M.B. at 7, 13, 15, 26, 27, 29, 33; PPL St. No. 1 at 8, 13, PPL Exh. CD-3).

c. Complainant's Exception Nos. 3, 4, 5, 11, PPL's Replies, and Disposition

In Complainant's Exception Nos. 3, 4, 5, and 11, the Complainant avers generally that the ALJ erred in statements and Findings of Fact related to the RF fields from the AMI meter and the background RF at the Complainant's residence and rental properties. The Complainant contends that Finding of Fact Nos. 35, 38, 39, 41 and 43 are irrelevant as he has proven that adverse health effects from RF exposure occur at levels thousands of times below existing public safety levels. Myers Exc. at 7-10 (citing Myers Exh. No. 3 at Table 1-1, Myers M.B. at 37).

Finding of Fact Nos. 35, 38, 39, 41 and 43 are as follows:

> FOF No. 35: 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 St. No. 1 at 13, PPL Electric Exh. CD-2.
>
> FOF No. 38: Based on the locations of each tower and their RF power outputs, the constant background level of RF fields at Complainant's residence are 18.4 times higher than the RF signals from the AMI meter. PPL Electric St. No. 1 at 16, PPL Electric Exh. CD-5.
>
> FOF No. 39: The existing background levels of RF fields at Complainant's rental properties in Lancaster and Columbia are many times higher than the fields from the AMI meter. PPL Electric St. No. 1 at 16-17.
>
> FOF No. 41: Even 30 feet away from a person using a cell phone, the RF fields are 3 times higher than from the AMI meter. PPL Electric St. No. 1 at 14.
>
> FOF No. 43: RF fields at 3 meters from the AMI meter are 94 times smaller than the background RF exposure from EHF Television broadcasting at Complainant's rental property in Columbia. PPL Electric St. No 1 at 16-17, PPL Electric Exh. CD-7.

The Complainant argues that Finding of Fact Nos. 40 and 42 regarding RF exposure from cell phone usage do not apply to him as he never places his cell phone near his head. Myers Exc. at 10-11 (citing Myers M.B. at 22-23, 36, Tr. at 198-199).

Finding of Fact Nos. 40 and 42 are as follows:

> FOF No. 40: The RF exposure from a cell phone used at a person's head is 260,000 times higher than the average RF levels 1 meter away from the Company's new smart meter. C Introduction at 2, PPL Electric St. No. 1 at 14, PPL Electric Exh. CD-4.
>
> FOF No. 42: Complainant used his cell phone for 16,222 minutes over a 12-month period. PPL Electric St. No. 1 at 15, PPL Electric Exh. No. 10.

In Reply to Complainant's Exception Nos. 3, 4, 5 and 11, PPL provides that Complainant's Exhibit No. 3 – the BioInitiative Report – is a flawed advocacy document that has been widely criticized for its lack of objectivity and scientific value. PPL disagrees with the Complainant and avers that it is especially relevant to compare the level of RF fields from the AMI meter to the FCC's exposure standard, the background RF exposures from UHF television towers, and the RF fields from cell phones. PPL notes that the FCC safe exposure limits are based on evaluations of the body of scientific research on RF fields and were adopted in consultation with other federal agencies. PPL contends that the fact that the FCC's standard is 98,000 times higher than the level of RF fields produced by the AMI meter is highly relevant. PPL provides that the Complainant has been continuously exposed to background RF fields from UHF towers that are 18.4 times higher than the RF signals from the AMI meter, yet the Complainant continues to maintain that the AMI meter will cause him to suffer adverse health effects. Similarly, PPL notes that the Complainant has used his cell phone for 16,222 minutes over a 12-month period. PPL provides that the record demonstrates that a cell phone's RF fields

even from 30 feet away are 3 times higher than from the AMI meter's RF fields. PPL R.Exc. at 7-9.

We find Finding of Fact Nos. 35, 38, 39, 40, 41, 42, and 43 relevant to the proceeding. We find no errors in Finding of Fact Nos. 35, 38, 39, 40, 41, 42, and 43. We are persuaded by Dr. Davis' testimony that these Findings of Fact are accurate and provide useful information about the RF fields from the AMI meter and UHF towers at Mr. Myers' residence and his rental property. We note that it is extra-record material regarding how Mr. Myers uses his cellphone and Finding of Fact Nos. 40 and 42 are accurate and relevant without the extra-record material. Therefore, the Complainant's Exception Nos. 3, 4, 5, and 11 are denied.

d. Complainant's Exception Nos. 6, 17, PPL's Replies, and Disposition

In Complainant's Exception Nos. 6 and 17, the Complainant avers generally that the ALJ erred in accepting PPL's characterization of the RF signals from the AMI meter. The Complainant objects to Finding of Fact No. 36 that describes the RF signals as "of very short duration and will occur for only a total of 84 seconds over a 24-hour period." The Complainant contends that the AMI meter can emit signals up to 8,400 times a day and the signals are very intense. Myers Exc. at 11 (citing Myers M.B. at 27, Myers Exh. No. 8, Tr. at 93). The Complainant avers that the ALJ misrepresents his objections to smart meters by noting "it is inaccurate to claim that the AMI meters create 'pulsed' fields." Myers Exc. at 18 (citing I.D. at 23). The Complainant explains that it does not matter what term is used to describe the signals, because his concern is the AMI meter rapidly emitting thousands upon thousands of intermittent, very brief bursts of intense energy 24/7/365. Myers Exc. at 18-19 (citing Myers M.B. at 23-24, Tr at 93).

In Reply to Complainant's Exception Nos. 6 and 17, PPL provides that Dr. Davis provided expert testimony, "The total daily time of RF signaling from the AMI meters used by PPL is 84 seconds over the course of 24 hours, with individual signal durations of only 46 to 63 milliseconds." PPL explains that this equates to about 1,720 transmissions per day, as confirmed by PPL witness Mr. Larson. PPL explains further that Dr. Davis' testimony on this point was not contradicted by any other expert witness' testimony. PPL Exc. at 9-10 (citing Tr. at 219, 222-223, PPL St. No 1 at 7).

Regarding the Complainant's use of the term "pulsed," PPL provides that it is an inaccurate claim. PPL notes that Dr. Davis testified, "This is a frequently misstated fact." Dr. Davis also testified that the AMI meter "produces sinusoidal RF fields, which are physically different fields from pulsed fields." PPL provides that Dr. Davis was the only expert to testify regarding the nature of the RF fields from the AMI meters being used by PPL. PPL R.Exc. at 20 (citing Tr. at 234, PPL St. No. 1 at 8).

We find that the Complainant's characterization of the RF signals from the AMI meters being used by PPL is inaccurate. The Complainant contends that the AMI meter signal is "very intense," is "pulsed" and occurs "thousands and thousands" of times per day without providing evidence to prove this assertion. PPL's expert Dr. Davis testified that the signals occur with durations of 46 to 63 milliseconds for a total of 84 seconds over the course of 24 hours. Dr. Davis describes the signals as sinusoidal and physically different from a pulsed signal. Regarding the intensity of the signal, Dr. Davis testified that the peak signal from the AMI meter is 95 times lower than the FCC exposure standard. The average signal from the AMI meter is 98,000 times lower than the FCC exposure standard. At these levels, the AMI meter signal cannot be described as "very intense." Therefore, Complainant's Exception Nos. 6 and 17 are denied.

IV. Conclusion

In light of the above discussion, we shall: (1) deny the Complainant's Exceptions; (2) grant PPL's Exception; (3) adopt, in part, and modify, in part, the ALJ's Initial Decision; and (4) dismiss the Complaint, consistent with this Opinion and Order; **THEREFORE,**

IT IS ORDERED:

1. That the Exceptions filed by Richard N. Myers on September 4, 2018, to the Initial Decision of Administrative Law Judge Elizabeth H. Barnes issued on August 16, 2018, at Docket No. C-2017-2620710, are denied, consistent with this Opinion and Order.

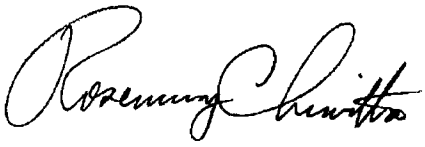
2. That the Exception filed by PPL Electric Utilities Corporation on September 17, 2018, to the Initial Decision of Administrative Law Judge Elizabeth H. Barnes issued on August 16, 2018, at Docket No. C-2017-2620710, is granted, consistent with this Opinion and Order.

3. That the Initial Decision of Administrative Law Judge Elizabeth H. Barnes, issued on August 16, 2018, at Docket No. C-2017-2620710, is adopted, in part, and modified, in part, consistent with this Opinion and Order.

4. That the Formal Complaint filed by Richard N. Myers, on August 11, 2017, at Docket No. C-2017-2620710, is denied and dismissed.

5. That this proceeding is marked closed.

BY THE COMMISSION,



Rosemary Chiavetta
Secretary

(SEAL)

ORDER ADOPTED: August 29, 2019

ORDER ENTERED: August 29, 2019