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June 6, 2018

VIA ELECTRONIC FILING

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

Re: Alan V. Schmukler v. PPL Electric Utilities Corporation
Docket No. C-2017-2621285

Dear Secretary Chiavetta:

Enclosed for filing is the Motion of PPL Electric Utilities Corporation to Strike Certain Portions of the Complainant's Reply Brief in the above-referenced proceeding. Copies will be provided as indicated on the Certificate of Service.

Respectfully submitted,

Devin Ryan

DTR/jl
Enclosures

cc: Honorable Elizabeth Barnes
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing has been served upon the following persons, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

VIA E-MAIL & FIRST CLASS MAIL

Alan V. Schmukler
199 Strawberry Street
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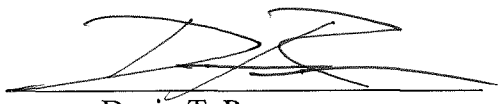
Date: June 6, 2018



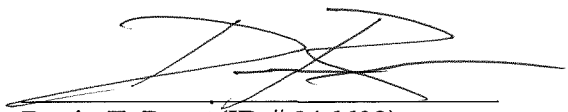
Devin T. Ryan

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Alan V. Schmukler,	:	
	:	
Complainant,	:	
	:	
v.	:	Docket No. C-2017-2621285
	:	
PPL Electric Utilities Corporation,	:	
	:	
Respondent.	:	

NOTICE TO PLEAD

YOU ARE HEREBY ADVISED THAT, PURSUANT TO 52 PA. CODE § 5.103(c), ANSWERS TO MOTIONS ARE DUE WITHIN TWENTY (20) DAYS AFTER THE DATE OF SERVICE. YOUR ANSWERS SHOULD BE FILED WITH THE SECRETARY OF THE PENNSYLVANIA PUBLIC UTILITY COMMISSION, P.O. BOX 3265, HARRISBURG, PA 17105-3265. A COPY SHOULD ALSO BE SERVED ON THE UNDERSIGNED COUNSEL.



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Date: June 6, 2018

Attorneys for PPL Electric Utilities Corporation

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Alan V. Schmukler,	:	
	:	
Complainant,	:	
	:	
v.	:	Docket No. C-2017-2621285
	:	
PPL Electric Utilities Corporation,	:	
	:	
Respondent.	:	

MOTION OF PPL ELECTRIC UTILITIES CORPORATION TO STRIKE CERTAIN PORTIONS OF THE COMPLAINANT'S REPLY BRIEF

TO THE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

PPL Electric Utilities Corporation ("PPL Electric" or the "Company") files, pursuant to the Pennsylvania Public Utility Commission's ("Commission") regulations at 52 Pa. Code § 5.103, this motion to strike certain portions of Alan V. Schmukler's ("Complainant") Reply Brief that attempt to present and rely on extra-record evidence. In support thereof, PPL Electric states as follows:

I. BACKGROUND

1. On September 26, 2017, PPL Electric Utilities Corporation ("PPL Electric" or the "Company") was served with the above-captioned Formal Complaint filed by the Complainant with the Commission.

2. On October 16, 2017, PPL Electric filed its Answer to the Complaint.

3. A telephonic evidentiary hearing was held on March 9, 2018, before Administrative Law Judge Elizabeth H. Barnes (the "ALJ").

4. The record in this proceeding closed on March 9, 2018.

5. On April 26 and 27, 2018, the Complainant and PPL Electric submitted their Main Briefs, respectively.

6. On May 11, 2018, the Complainant and PPL Electric submitted their Reply Briefs.

II. MOTION TO STRIKE

6. In his Reply Brief, the Complainant inappropriately attempts to introduce and rely upon evidence that is not a part of the record.

7. Specifically, the Complainant's Reply Brief presents or mentions the following facts, materials, and testimony, which are **not** in the record[1]:

a. Reply Brief Exhibit 0 – Portion of what appears to be a CFC Underwriting Limited webpage. (Complainant's RB at 53, 68-69)

b. Reply Brief Exhibit 1 – Expert Report of Andrew A. Marino in *Povacz v. PECO Energy Co.*, Docket No. C-2015-2475023. (Complainant's RB at 27, 70-78)

c. Reply Brief Exhibit 2 – Testimony of Martin L. Pall in *Murphy v. PECO Energy Co.*, Docket No. C-2015-2475726. (Complainant's RB at 44, 50-51, 79-80)

d. Reply Brief Exhibit 4 – Chart by Martin L. Pall. (Complainant's RB at 107-08)

e. Reply Brief Exhibit 5 – Additional testimony and exhibits of Mr. William Bathgate. (Complainant's RB at 5-8, 13-14, 109-20)

[1] A true and correct copy of the Complainant's Reply Brief with the extra-record evidence and any references to such materials deleted is attached as **Appendix A**. The Company also deleted any claims that the Complainant has a disability under the ADA because, as explained in Section III.C. of PPL Electric's Main Brief, the Commission has no jurisdiction over such claims. (*See* Appendix A at 14-15, 21, 27, 34-35, 38-39, 59, 62)

f. Document titled "Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates" by Norm Alster. (Complainant's RB at 9)

g. Letter sent by Norbert Hankin from the Radiation Protection Division of the U.S. Environmental Protection Agency to Janet Newton of The EMR Network. (Complainant's RB at 9-10)

h. *Nation Magazine* article. (Complainant's RB at 10)

i. Letter by Dr. De-Kun Li. (Complainant's RB at 11-12)

j. The National Toxicology Project Study and related articles. (Complainant's RB at 16, 36-37, 41-43, 61)

k. Ramazzini Study. (Complainant's RB at 16, 37, 43, 61)

l. BioInitiative Report (2012) in its entirety. (Complainant's RB at 16, 33-34, 56)

m. Testimony of Dr. Mark Israel in *Povacz v. PECO Energy Co.*, Docket No. C-2015-2475023. (Complainant's RB at 22-23, 39-40)

n. Additional information about the doctors who provided the four letters admitted as Complainant's Exhibit 1. (Complainant's RB at 24-26)

o. Link to additional portions of Daniel Hirsch article not provided with Complainant's Exhibit 15. (Complainant's RB at 36, 55)

p. Link to "Evidence 21 CCST-Expert Comments Regarding The California Council on Science and Technology (CCST) Smart Meter Report". (Complainant's RB at 36)

q. Testimony of Dr. David O. Carpenter in a Maine Public Utilities Commission proceeding at Docket No. 2011-00262. (Complainant's RB at 49)

r. Testimony of Dr. Lennart Hardell in a Maine Public Utilities Commission proceeding at Docket No. 2011-00262. (Complainant's RB at 56, 63-65)

s. Statement that "[t]he research shows that non-ionizing radiation can cause brain tumors," which appears to relate to the National Toxicology Project Study and Ramazzini Study. (Complainants RB at 57)

t. Article titled "Enforced Environmental Radiation Violates the Nuremberg Code" by Dr. Andrew Goldsworthy. (Complainant's RB at 59)

u. Link to full version of Complainant's Exhibit 24 about the Nuremberg Code. (Complainant's RB at 59)

v. Statements about alleged interactions between the Company and the Complainant's neighbor. (Complainant's RB at 61-62)

w. Testimony of Dr. William Rea in a Maine Public Utilities Commission proceeding at Docket No. 2011-00262. (Complainant's RB at 62-63)

Furthermore, the Complainant again attempts to reintroduce and rely upon exhibits that were explicitly stricken by the ALJ, particularly Complainant's Exhibits 9 and 11. (*See* Complainant's RB at 29-31, 41-45, 50)

8. The Complainant's attempt to introduce and rely upon all of this extra-record evidence should be rejected. It is well-established that parties cannot present new evidence at the briefing stage or cite stricken testimony and exhibits. *See, e.g., Pa. PUC v. Nat'l Fuel Gas Distrib. Corp.*, 1993 Pa. PUC LEXIS 95, at *7-10 (Order entered July 30, 1993); *Petition of the Borough of Cornwall for a Declaratory Order*, 2016 Pa. PUC LEXIS 3, at *24-26 (Jan. 6, 2016) (Recommended Decision), *adopted as modified*, Docket No. P-2015-2476211 (Order entered Aug. 11, 2016). "The Commission, as an administrative body, is bound by the due process provisions of constitutional law and by the principles of common fairness." *Hess v. Pa. PUC*, 107 A.3d 246, 266 (Pa. Cmwlth. 2014) (citations omitted). "Among the requirements of due process are notice and an opportunity to be heard on the issues, to be apprised of the evidence submitted, to cross-examine witnesses, to inspect documents, and to offer evidence in explanation or rebuttal." *Id.* (citations omitted).

9. Indeed, Section 332(c) of the Public Utility Code entitles every party to, among other things, "submit rebuttal evidence" and "conduct such cross-examination as may be required for a full and true disclosure of the facts." 66 Pa. C.S. § 332(c); *see Nat'l Fuel*, 1993 Pa. PUC LEXIS at *10 ("[S]uch material was outside the record and could be detrimental to the

rights of other parties to confront such evidence."). Accordingly, extra-record evidence in briefs is commonly stricken[2] because including extra-record materials in a party's brief "brings up hearsay problems and problems associated with the right to respond to evidence." *Pa. PUC v. Pa. Power & Light Co.*, 1995 Pa. PUC LEXIS 190, at *232 (July 28, 1995) (Recommended Decision) ("*PP&L*").

10. Here, all of these materials and testimony were either introduced for the first time in the Complainant's Main Brief[3] or Reply Brief or were stricken at the evidentiary hearing. By waiting until the briefing stage present any of this new evidence, the Complainant denied PPL Electric 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. Likewise, all of the excluded exhibits were stricken before the Company presented its case in rebuttal. (Tr. 128-29, 151-54, 157-61, 178-79) Therefore, it would violate PPL Electric's due process rights for any findings of fact to be based upon or influenced by the Complainant's extra-record evidence.

11. In addition, Section 5.431 of the Commission's regulations prescribes that "[t]he record will be closed at the conclusion of the hearing unless otherwise directed by the presiding officer or the Commission." 52 Pa. Code § 5.431(a). Particularly relevant here, "[a]fter the record is closed, additional matter may not be relied upon or accepted into the record unless allowed for good cause shown by the presiding officer or the Commission upon motion." *Id.* §

[2] *See, e.g.*, *Trucco v. PPL Elec. Utils. Corp.*, 2002 Pa. PUC LEXIS 21, at *5 (Order entered Mar. 29, 2002) (noting that ALJ Paist "struck those portions of the Complainants' Main Brief which referenced extra-record evidence, including those various exhibits attached to that Main Brief"); *Application of Kenneth Scott Cobb, t/a Kennys Transp. Serv.*, 2012 Pa. PUC LEXIS 1802, at *24 (Nov. 16, 2012) (Initial Decision) (Barnes, J.) (granting motion to strike the applicant's brief "for attempting to introduce new facts and documents into evidence not previously offered or admitted into the record at the hearing of September 5, 2012"), *became final without further action*, Docket No. A-2011-2280175 (Order entered Jan. 7, 2013); *see also* 52 Pa. Code § 5.501(a)(2) (stating that briefs must contain "[r]eference to the pages of the record or exhibits where the evidence relied upon by the filing party appears").

[3] As explained in Section III.A. of the Company's Main Brief, the Complainant's Main Brief is replete with copies of or references to extra-record evidence, including some of which is reproduced or referenced again in his Reply Brief. All of the Complainant's extra-record evidence cannot be relied upon by the Complainant in either of his briefs and cannot form the basis of any findings of fact.

5.431(b). Petitions to reopen the record can be granted "if there is reason to believe that conditions of fact or law have so changed as to requires, or that the public interest requires, the reopening of the record." 52 Pa. Code § 5.571.

12. Here, the record closed at the conclusion of the evidentiary hearing on March 9, 2018. The Complainant made no motion to keep the record open or to reopen the record so that his extra-record evidence could be admitted. Moreover, in his Reply Brief, the Complainant never demonstrates good cause for introducing this extra-record evidence, nor does he show changes in fact or law that would warrant the reopening of the record to admit such evidence. As a result, the Complainant's extra-record evidence cannot be admitted into the record.

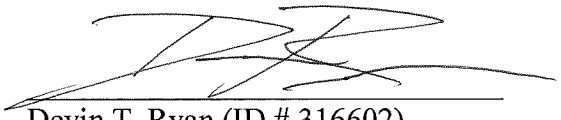
13. In conclusion, the Complainant's Reply Brief is not an opportunity for the Complainant to try to remedy his case by presenting new evidence. For example, Complainant's Reply Brief Exhibit 5 is additional testimony from the Complainant's witness, Mr. Bathgate, who tries to rehabilitate his flawed testimony and opinions. Similarly, the Complainant attempts to introduce testimony in other proceedings before the Commission and the Maine Public Utilities Commission. However, the Complainant's opportunity to present these materials, if at all, was before the evidentiary hearing ended and before the record closed. After receiving the Complainant's Reply Brief, PPL Electric has absolutely no means of responding to this new evidence. Thus, the Complainant's actions have denied the Company of due process.

14. Based on the foregoing, the extra-record evidence and arguments relying upon this extra-record evidence in the Complainant's Reply Brief should be stricken and disregarded by the ALJ.

III. CONCLUSION

WHEREFORE, PPL Electric Utilities Corporation respectfully requests that Administrative Law Judge Elizabeth H. Barnes: (1) strike the extra-record evidence and arguments relying upon this extra-record evidence in the Reply Brief of Alan V. Schmukler; and (2) disregard said portions of the Reply Brief in the disposition of the above-captioned matter.

Respectfully submitted,



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Date: June 6, 2018

Attorneys for PPL Electric Utilities Corporation

APPENDIX "A"

BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

Alan Schmukler	**:**	
v	**:**	**Docket No. C-2017-2621285**
PPL Electric Utilities Corporation	**:**	

REPLY BRIEF

Judge Elizabeth Barnes c/o

PA Public Utility Commission

Office of Administrative Law Judge

P.O. Box 3265, Harrisburg, PA 17105-3265

May 9th, 2018

CONTENTS

Exhibit # 3 - p. 81

~~**Exhibit # 4 - p. 107**~~

~~**Exhibit # 5 - p. 109**~~

Introduction

Format - For most of this Reply Brief, Complainant uses the format of briefly stating the Respondent position, followed by the Complainant's response, and bold typing the heading of each.

Respondent's challenges are covered almost entirely by Complainant's initial Brief. Therefore Complainant cites information from his Brief, rather than reproducing all that information here. Complainant responses to Respondent challenges appear throughout the Reply Brief.

When referring to his exhibits in this Reply Brief Complainant states:

"SEE EXHIBIT ____" and the number. This is to distinguish those exhibits from his original exhibits (loose leaf binder) which Complainant just indicates by the word "exhibit" and the number .

Respondent Challenges Answered by Complainant

Respondent witness Christopher Davis testified that the new smart meter does not generate electrical power, does not produce additional harmonics over and above what is already coming into the meter.

Complainant witness William Bathgate testified that in addition to the microwave radiation emitted by Defendant's AMI meter, the meter also created high frequency voltage transients due to its "switched mode power supply" (SMPS) and that these voltage transients were superimposed on the house wiring, creating electromagnetic fields that extended into the rooms of any home with an AMI meter.). (Hearing Transcript p.56 1-5, p.59, p.62, 22-25, p.65,66 -20-24 and Complainant Exhib 26).

~~Also: Mr. Bathgate states below (and SEE EXHIBIT 5 with notarized copy), that the Respondent's Landis-Gyr meter produced 640 times the transient voltage limit allowed by the FCC .~~

Here is an oscilloscope trace of the Landis+Gyr meter. The Red trace is the normal 60 cycle power. The yellow trace is the added voltages induced by the Switched Mode Power supply. In this trace peak to peak voltage is 1600 Millivolts. The maximum permitted excess transient voltage above the normal 60 cycle power is 250 Microvolts as shown in the FCC Conducted emissions chart included here. The PPL Landis+Gyr meter produced 640 times the allowed limit by the FCC. The PPL meter from Landis+Gyr is a residential Class B computing device with a circuit in excess of 9 KHz so the FCC conducted emissions rules apply. See FCC OEC bulletin No. 62

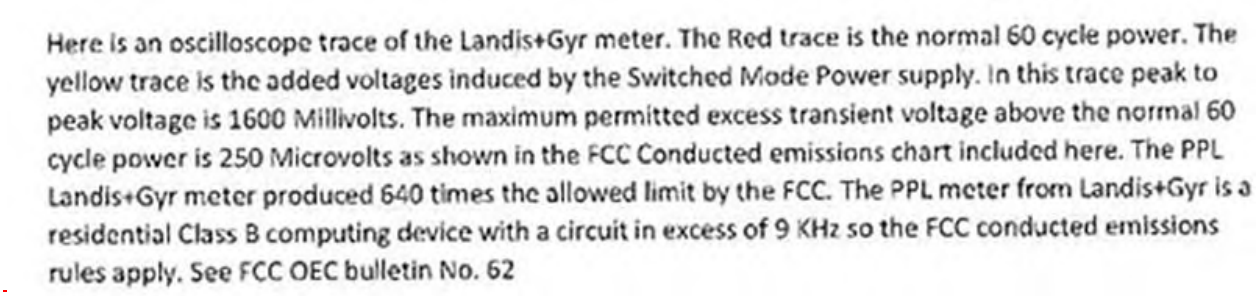
Respondent states: Mr. Bathgate performed his calculations using a completely different meter—an Itron meter that is attached to his house in Michigan. (Tr. 81-83). Mr. Bathgate never established that he would get the same results or even similar results from the Company's Landis+Gyr meter. The alleged meter fire cited by Mr. Bathgate is irrelevant. The purported incident involved an Itron AMI meter installed by a different electric utility, not the Landis+Gyr AMI meter that PPL Electric is installing. (Tr. 101)

~~Complainant: Mr. Bathgate's responses below are part of a larger notarized exhibit. (SEE EXHIBIT 5) in this Reply Brief:~~

In my testimony PPL asked about the other meters I had tested and I did speak to the Landis+Gyr meter I had in my possession which was the same model used by PPL. Enclosed is a test I performed on the same meter used by PPL. This was a test conducted in an isolated environment with no other electrical devices in the circuit. This home has an Analog meter fed by the utility company. The transformer on the pole is not shared with another neighbor. The test setup is shown in the enclosed picture. In the center of this large grey box is where the PPL meter was mounted. This test is about as isolated a test that can be performed.

Enclosed is the circuit board of the PPL meter and you can see the bright blue Varistor on the circuit board that has been discussed in this report, the gray wire is a 240 input to the Varistor circuit (the bright blue component). For PPL to state that their meter is vastly different is a specious argument. All AMI meters have the same basic fundamental functions, otherwise changing from one meter manufacturer to a different one would be impossible and all the AMI meters are plug compatible with each other.

Here is an oscilloscope trace of the Landis+Gyr meter. The Red trace is the normal 60 cycle power. The yellow trace is the added voltages induced by the Switched Mode Power supply. In this trace peak to peak voltage is 1600 Millivolts. The maximum permitted excess transient voltage above the normal 60 cycle power is 250 Microvolts as shown in the FCC Conducted emissions chart included here. The PPL Landis+Gyr meter produced 640 times the allowed limit by the FCC. The PPL meter from Landis+Gyr is a residential Class B computing device with a circuit in excess of 9 KHz so the FCC conducted emissions rules apply. See FCC OEC bulletin No. 62



Respondent witness Larson testified that the "new digital meter, as compared to the analog meter," can better withstand damage from a surge "because of the padding materials that are utilized when building transformers." (Tr. 245) In fact, these "padding materials are tested to withstand up to 6,000 volts." (Tr. 245)

~~**Complainant witness** William Bathgate responds below, stating *"that there is no padding material in any meter, AMI or otherwise.* (the notarized version of this is part of an exhibit: **SEE EXHIBIT 5** in this Reply Brief.)~~

Mr. Larson referred to "the padding materials that are utilized when building transformers." That is the most confounding statement ever heard, since there is no padding material in any meter AMI or otherwise.

You can see the main circuit board picture above of the AMI meter and there is no padding material. So this statement is not factual and is only a distraction to the commission. If Mr. Larson has photos of this padding it would best be represented by some type of artifact or photo to prove this very questionable statement and its effects to the electrical characteristics of the transformer. No "Padding" material of any kind would deter the laws of electricity in response to a surge voltage. The common utility transformer mounted on a pole would not do anything to suppress a voltage surge, the pole mounted transformer is a step down transformer and any higher than normal line surge fed into the transformer would directly increase the proportional voltage sent to the residential meter and the power panel in the home. I cannot image any padding material in the transformer to do anything other than better protect the internal windings of the transformer in the event the transformer fell off the back of a truck hitting the pavement.

With regards to the discussion about surge protection within the Landis+Gyr it uses the same circuit as all AMI meters. This component is called a Varistor. This is a small electronic component mounted on the circuit board that is rated for a maximum of 300 Volts AC surge. This can easily happen when a tree branch crosses over the power lines in a storm because the surge voltage in very high voltages is sustained for a lengthy period. Included here is the typical Varistor used in the PPL meter. It has been noted that this 300 Volt Max limit is in the component specifications. All AMI meters have this component. The issue is that this device failure mode on the circuit board is catastrophic, the component in a utility meter adds a 240 volts AC or more with a potential of up to 2,000 amps of power directly entering the circuit boards which are not designed for more than 12 volts DC and less than 500 Milliamps. The same circuits are in all AMI meters and the observations made of meter failures are consistent to the design characteristics present in all AMI meters. To state the PPL meter is so vastly different than any other AMI meter is a preposterous statement only meant to distract the commission from very serious design faults in the AMI meter program. Included is the detail for background on a Varistor and the failure mode of such a device.

FCC as Authority?

The Respondent referred numerous times in their brief to the FCC as an authoritative source on safety parameters. However the complainant has presented evidence in his brief that Harvard University ethicists described the FCC as a "captured agency" stating, "How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates". (complainant Brief p. 10-11) The author of that article, Norm Alster, states:

"Industry controls the FCC through a soup-to-nuts stranglehold that extends from its well-placed campaign spending in Congress through its control of the FCC's congressional oversight committees to its persistent agency lobbying."

https://ethics.harvard.edu/files/center-for-ethics/files/capturedagency_alster.pdf

Note: This article is authenticated as evidence, as it was introduced into evidence by Martin L. Pall PhD, testifying as an expert witness in Laura Sunstein Murphy v. PECO Energy Company Docket No. C-2015-2475726 (Appendix E).

Complainant further provided a letter in his brief from the EPA stating that the FCC exposure guidelines don't protect from "*exposures that are chronic/prolonged and non-thermal*", which perfectly describes the emissions from the Respondent's AMI smart meter.

“FCC does not claim that their exposure guidelines provide protection for exposures that are chronic/prolonged and non-thermal.”

http://www.emrpolicy.org/litigation/case_law/docs/noi_epa_response.pdf

(complainant Brief p. 11) This letter was also authenticated, as it was presented as evidence by Martin L. Pall PhD in his expert testimony during the hearing for Laura Sunstein Murphy v. PECO Energy Company Docket No. C-2015-2475726 (Appendix B).

Complainant also presented the recent investigative journalism article from the **Nation magazine**, ***“How Big Wireless Made Us Think That Cell Phones Are Safe: A Special Investigation.”*** The article states that there has been a massive disinformation campaign by the wireless industry to hide the danger of cell phone radiation. That included, funding industry friendly research, hiding negative research results, “war-gaming” research that shows harm, discrediting scientists whose views conflict with the industry’s position and co-opting of regulatory agencies. (Complainant Brief P.198-205)

https://www.thenation.com/article/how-big-wireless-made-us-think-that-cell-phones-are-safe-a-special-investigation/

Complainant further presents this **letter from Dr. De-Kun Li**, MD, PhD, MPH, **in which he dismisses the validity of current FCC safety guidelines.**

Note: This letter is authenticated, as it was presented as evidence by expert witness Martin L. Pall PhD in his testimony during: Laura Sunstein Murphy v. PECO Energy Company Docket No. C-2015-2475726 (Appendix C).

Dr. De-Kun Li:

"I will address two questions raised in the attached letter. But first, here is some background information:

1. Currently there are no national or international "standards" for safety levels of radiofrequency (a range of 3 kHz to 300 GHz) devices. What FCC is currently using are "guidelines" which have much lower certainty than a "standard". One can go to many governmental agencies' websites like NIOSH, EPA, FDA, etc. to verify this. Therefore, for anyone to claim that they meet "FCC" standards gives a false impression of safety certainty compared to "guidelines" which implies that a lot is "unknown."

2. The current FCC "guideline" was adopted by FCC based on EPA's recommendation in 1996. EPA made the recommendation "with certain reservation". There was a letter by Norbert Hankin, Center for Science and Risk Assessment, Radiation Protection Division at EPA describing the current FCC

~~*guidelines (The letter can be found through a Google search). According to Hankin's letter, the FCC current guidelines were solely based on "thermal effect" of radiofrequency, a level at which radiofrequency can cause heat injury. As we know, heat injury is not what the public is concerned about regarding radiofrequency safety. Their concerns are about cancer, miscarriages, birth defects, low semen quality, autoimmune disease, etc. Hankin's letter, specifically emphasized that the EPA recommended guidelines that FCC is currently using do not apply to non-thermal effects or mechanisms (e.g., cancer, birth defects, miscarriage, autoimmune diseases, etc) which are the focus of the public's concern. Hankin's letter states "Therefore, the generalization by many that the guidelines protect human beings from harm by any or all mechanisms is not justified."*~~

~~Further, Martin L. Pall PhD lists 62 reviews on Non-thermal Health Effects of Microwave Frequency EMFs which provide up to 1500 citations. These are all effects which would not be included in FCC guidelines. This list is provided in Appendix D of his evidence in the hearing for: Laura Sunstein Murphy v. PECO Energy Company Docket No. C-2015-2475726. This list is authenticated since Martin Pall was testifying as an acknowledged expert witness.~~

Re: Expert Witness William Bathgate

Respondent asserted that Complainant's electrical engineering witness, Mr. Bathgate, was unreliable and fatally flawed because his opinions are based on a fundamental misunderstanding of the basic physics of RF fields.

~~**Complainant declares** that Mr. Bathgate has 40 years experience as an electrical engineer and has worked with and designed systems like the AMI. He understands the physics of it completely. His response about ionizing versus non-ionizing radiation was more nuanced than Respondent would admit. He averred that when non-ionizing radiation was of sufficient intensity so that it could heat a particular quantity of fluid (1Kilogram of soapy liquid) to a particular temperature (rising 1 degree Celsius) it acted in a manner similar to ionizing radiation as per heating. This is an indication of molecules' movement and excitement to create detrimental health effects. This is the FCC guideline for the FCC specification, not the Nuclear Regulatory Commission (NRC) specification. (See EXHIBIT 5 with Mr. Bathgate's notarized statement to this effect.)~~

~~Furthermore, if a pilot who had flown commercially for 40 years offered an opinion about aerodynamics that you disagreed with, it wouldn't nullify his 40~~

~~years expertise as a pilot. (Transcript p.103, 1-15, p.106-20-25, p.107, 1-9, p.33, 9-22, p.34, 14-25, p.35, 1-4)~~

ACT 129

Respondent stated: PPL Electric is legally required to install the RF Mesh meter on the Complainant's property by **Act 129** and Commission orders.

Complainant: Complainant denies that act 129 required mandatory installation of smart meters, and denies that it required installation of smart meters regardless of disability and potential harm to the customer. **Complainant explains this is detail and cites appropriate laws in Complainant's Brief p.228-236.**

In addition, *Section 2807(f) of the Public Utility Code prescribes that EDCs, like PPL Electric, must file smart meter plans and "shall furnish smart meter technology" in any of the following situations: (1)* ***"upon request from a customer*** *that agrees to pay the cost of the smart meter at the time of the request";*

The word "request" indicates that Respondent was intended to OFFER the AMI meters to customers who would agree to pay the cost, not that the meters are would be presented as mandatory.

That document also goes on to state:

The Commission also "recognize[d] that deployment of smart meters on a piecemeal or individual basis could involve greater costs than a systematic system-wide deployment." Id., pp. 9, 14.[1]

Respondent wrongly concludes from this statement that: "Therefore, PPL Electric must install the new smart meters for every customer in its service territory, including the Complainant." However that's not what the Commission stated. It just stated that piecemeal deployment "could involve greater costs". It did not state that meters should be forcibly installed for every customer regardless of disability or inability to comply due to health, privacy or safety concerns. ~~What's more, accommodating the small numbers of people who require accommodation for disabilities isn't the same as total piecemeal deployment.~~ Furthermore, the people requiring accommodation mostly already have analog meters, so no deployment is

necessary. Respondent's decision was based on profit, not a ruling from Act 129 or the General Assembly.

Complainant also argues that since the implementation order was written, new evidence of harm from RF fields have been discovered and therefore Respondent and the PUC must take these into account and modify the program in keeping with its directive to supply "safe" service. ~~This new evidence includes, but is not limited to, the NTP 10 year study, results of which were fully confirmed by independent analysis, and the Ramazzini Institute study which further confirmed the findings of the NTP study. (p.35 Complainant Brief). Complainant refers the court also to the Bioinitiative 2012 report which was also released subsequent to Act 129 with 1800 new studies.~~ Other exhibits in his Brief were also developed after Act 129 was passed.)

Respondent stated: In addition, nothing in Act 129 permits a customer to "opt-out" of a smart meter installation. Indeed, the Commission previously has found in several cases that Act 129 contains no such opt-out language.

Complainant: Since Act 129 was never intended to be a mandatory deployment of smart meters but rather a voluntary offering "upon request", it did not require an opt out provision. By analogy, if you go to a theater to watch a movie and opt out of watching it to the end, the theater owners cannot compel you to stay because there was no opt out clause in your movie ticket. One doesn't require an opt out clause in situations where participation is voluntary, as Act 129 was intended to be for consumers. (Complainant Brief p. 228-236). Consider also that the Commission used this phrase (bolded):

The Commission recognizes that deployment of smart meters on a piecemeal or individual basis could involve greater costs than a systematic system-wide deployment. The General Assembly recognized this as well when it included the proviso that the customer requesting the smart meter must agree to pay for the cost of the smart meter. ***However, the Commission does not believe it was the intent of the General Assembly for this customer to pay the entire cost of the smart meter and its supporting infrastructure. Such a requirement would be so cost-prohibitive that no customer would request a smart meter.*** (Complainant Brief p. 232.)

Clearly, the intent of Act 129 was to make the smart meter appealing, so the consumer would ***request*** it. Rather than follow that directive, and use their

marketing skills to sell the benefits of the smart meter, the Respondent took the undemocratic and dictatorial stance that they would forbid non-compliance with the threat of cutting off electric service. That was not in the spirit of the Commission's order, nor does it bode well in a free market system where products are offered in the marketplace, and consumers have a choice. The Respondent wants the fruits of a capitalist system without following its rules.

Respondent states that Mr. Bathgate has no medical qualifications or expertise – and could not offer any opinion about transients and health effects.

Complainant: Mr. Bathgate did not testify as to medical issues, only that the transients produced by Respondent's AMI meter due to its switched mode power supply (SMPS) created transients on house wiring which produced electromagnetic fields that the occupants were exposed to. He didn't say how the fields would affect health.

Respondent recites Christopher Davis's qualifications and resume. *Dr. "Christopher Davis is a highly experienced scientific researcher and teacher in Physics, Electrical Engineering, Electromagnetics, and Radio Frequency Electromagnetics"*

Complainant does not challenge Davis's qualifications, but rather his veracity and reliability. His testimony that low level non- ionizing radiation is totally harmless flies in the face of the scientific evidence and the opinion of medical and scientific experts worldwide, working independently of the wireless industry~~, including those involved in the U.S. government sponsored NTP study~~. ~~(Complainant's Brief p. 33-71)~~ Further, Davis testifies regularly for the Respondent and is compensated to do so.

Respondent stated 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 Electric Statement No. 1, p. 7, lines 21-23)

Complainant: The 84 seconds are broken up into thousands of millisecond transmissions throughout the day and night. Respondent's own witness, Christopher Davis, stated that the AMI meter emits 1,720 transmissions per day, which is once every 1.2 minutes. (Transcript: p. 262 -11,12). So even by the Defendant's lower estimate, the Complainant is subjected to an incessant stimulus, day and night, that he is hypersensitive to, and from which he cannot escape. Complainant's witness Mr. Bathgate testified that the AMI meter actually transmits closer to every 10 seconds, or 8640 times a day (day and night). (Transcript –p.97-11-16)

Respondent's witness Christopher Davis states: *"In addition, there are many sources of RF signals in the everyday environment, and the background levels of RF fields at Complainant's residence are many times higher than the fields from the AMI meter."*

Complainant: However, Christopher Davis acknowledged in the hearing that he never actually measured the radiation at Complainant's house but rather "calculated" it theoretically and that radiation falls off with distance. (Transcript p. 272, 1-20)

What's more, Complainant has directly measured the RF transmissions of the AMI meter since it was installed. In between each transmission of the AMI meter, the RF level goes down to 0.06 or 0.18 mw/m^2 which is the actual background radiation, and that is much lower than the regular emissions from the meter.

Respondent states that 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: There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL Electric will cause or contribute to the development of illness or disease. (PPL Electric Statement No. 2, p. 21, lines 16-19)

Complainant: However, Mark Israel reported having no special training or supervised education, nor that he personally conducted any studies in the highly specialized field of the biological effects of non-ionizing radiation. He was therefore not qualified to testify as an expert or to evaluate research in this field.

~~Complainant refers the court to the abundant evidence by experts, and governments who recognize EHS as a legitimate disability as provided in~~

~~Complainant's Brief (Complainant Brief p. 73-223).~~ Mark Israel claims to have found no credible evidence of EHS, yet such evidence clearly exists, so it is clear that Mark Israel is either extremely unobservant, or he has cherry picked the evidence to support Respondent's position.

~~Complainant also refers the court to Mark Israel's testimony in the case of Maria Povacz Vs. Peco Energy Company : Docket No. : C-2015-2475023~~

~~Israel admits he never talked to any people who complained of electromagnetic hypersensitivity (p. 1783-22-25, p1784 1-3.)~~

~~Israel acknowledges he never attended national meetings devoted to the subject of the biological effects of electromagnetic energy. (p. 1585)~~

~~Israel acknowledges he never treated anyone with EHS (p.1783, 22-25)~~

~~Israel admits he never read any books on electromagnetic energy, or took any courses in electromagnetic energy. P.1584, 21-23, 14-25/ p. 1570, 1-8)~~

~~Israel admits that the research he did through his laboratory did not include any research on the effects of electromagnetic energy. (P.1580 - 10-14)~~

~~Israel admits that he never published any original research in electromagnetic energy. (P.1580, 7-9)~~

~~Israel acknowledges that he's not an epidemiologist, not a biochemist, and has no expertise in physics. (p. 1575 – 1-25)~~

~~Israel acknowledges that he's a paid consultant for Respondent (1573- 21-23)~~

Respondent states that "*Mark Israel noted the lack of any actual medical records supporting the Complainant's claimed IEI symptoms. The Complainant submitted one letter from a family medicine practitioner and three letters from homeopathy (alternative medicine) practitioners in California and India, who mentioned that the Complainant was diagnosed previously as electromagnetically sensitive. (Complainant's Exhibit 1)*

Complainant has testified that EHS is diagnosed clinically from the patient's reported symptoms, as there are no lab tests, xrays etc to test for it. There is no standard treatment offered for it.

Regarding Complainant's Doctors' Letters

Respondent states: *"These are conclusory one-page letters apparently obtained specifically for use in this case. There is very similar, sometimes nearly identical language in all of the letters, which calls into question the independence and veracity of the statements.*

Complainant: Respondent calls into question the independence and veracity of four doctors, from different geographic locations and who practice different medical specialties and all of whom are highly skilled and of impeccable reputation. To make the picture more clear, Complainant here presents brief bio's of the doctors whose letters he submitted to the court.

~~**Complainant's Doctors:**~~

~~**Dr. Michael McGee** is a family medicine doctor in New Holland, Pennsylvania and is affiliated with multiple hospitals in the area, including Lancaster General Hospital and WellSpan Ephrata Community Hospital. He received his medical degree from Sidney Kimmel Medical College and has been in practice for more than 20 years.~~

~~https://health.usnews.com/doctors/michael-mcgee-230104~~

~~**Dr. Manish Bhatia** is recipient of the Raja Pajvan Dev Award for Excellence in the field of Medicine (2015) from Maharaja Sawai Man Singh II Museum Trust.~~

This is the foremost award in the field of medicine in Rajasthan, given for excellence in medicine in general, not homeopathy.

Dr. Manish Bhatia is Professor, Swasthya Kalyan Homeopathy Medical College, Jaipur with teaching experience of 15+ years. Member, Advisory Board, *Homeopathy Links* (European journal). Member, Board of Studies, Faculty of Homeopathy, Jayoti Vidapeeth Woman's University, Jaipur. Director, *Asha Homeopathy*, Civil Lines, Jaipur. Founder Member, *Asha Narayana*, an NGO working in health sector. *Author of: Lectures on Organon of Medicine vol 1&2* (English, Bulgarian and German editions) (Approved by Central Council of Homeopathy for BHMS and MD courses) ,Coauthor: *Homeopathy and Mental Health Care.*

http://eventindia.vithoulkas.com/speaker/dr-manish-bhatia/

Dr. Leela D'Souza-Francisco, MD (Hom) , CIH, Cardiology. She is currently working in Integrated Hospital Care as Consultant Homeopath and Homeopathic Cardiologist at Holy Family Hospital, Bandra (West), Mumbai. Her experience includes intensive graduate medical training at India's leading homeopathic medical institution in Mumbai, CMP Homeopathic Medical College, completed in 1990. She completed her MD (Hom) from MUHS, Nashik in 2008. Her present

~~interests include management of in-patients in homeopathic hospitals, and clinical research in classical homeopathy. She has been in practice for over 20 years.~~

~~https://www.linkedin.com/in/leela-d-souza-francisco-b96ab516/~~

~~**Manfred Mueller ND** is a German-born U.S. homeopath. Since 1995 Manfred Mueller has both been an integrative medicine **consultant for the Program on Integrative Medicine for the University of North Carolina School of Medicine**, at Chapel Hill, NC, USA. and has taught an annual Introduction to Homeopathy" class for their course "Principles and Practices of Alternative and Complementary Medicine". Manfred Mueller was President of the North American Society of Homeopaths (NASH) from 2005-2015, was a past board member of the Homeopathic Action Alliance (HAA) and former board member of the Council for Homeopathic Education (now called ACHENA).~~

~~www.TheHomeopathicCollege.org www.HomeopathicAssociates.com.~~

RE: HEARSAY – Arguments and Exceptions

The Respondent proffered a motion of Limine at the hearing that was so encompassing that it even included complainant's introduction. It was based on

the assertion that Complainant's evidence was hearsay. In their brief they have again asked for exclusion of evidence based on hearsay. Therefore Complainant will address those concerns here:

~~**Complainant's exhibits** which find harm from non-ionizing radiation and those which find that electromagnetic sensitivity is a genuine disorder/ disability~~ **are ~~authenticated by expert witness Andrew A. Marino~~**~~, who gave direct expert testimony in:~~

~~Maria Povacz v Peco Energy Company (C-2015-2475204)~~ **~~SEE EXHIBIT #1~~**

Exceptions to Hearsay

Complainant also claims exceptions under:

Exceptions to Hearsay: 902, 803, 804, 807. Complainant gives examples of some of his exhibits and how they apply. Complainant asserts that taken together, the exceptions listed below cover all his original exhibits and other document evidence.

1. **Federal Rule of Evidence 807 - Residual Exceptions to Hearsay**

The amended rule provides:

A statement not specifically covered by Rule 803 or 804 but having equivalent circumstantial guarantees of trustworthiness, is not excluded by the hearsay rule, if the court determines that:

(A) the statement is offered as evidence of a material fact;

(B) the statement is more probative on the point for which it is offered than any other evidence which the proponent can procure through reasonable efforts; and

(C) the general purposes of these rules and the interests of justice will best be served by admission of the statement into evidence**.**

Regarding item B of 807:

The expert witnesses Complainant required were not practicably available to him. Due to the issues in this case involving highly specialized areas of physics and medical science, the witnesses required were scientists and doctors of international repute, whom Complainant did not know personally, and many of whom were living in other countries. As Complainant was a stranger to them, he could not reasonably expect them to spend the hours needed to prepare and then present testimony under oath, on a given day and time, and testify for an indeterminate number of hours, and endure rigorous cross examination at a hearing, all without

pay. As the Complainant is living on very limited income (social security), he could not afford to compensate them for their services.

Therefore, the documents submitted by the Complainant were the most probative evidence available. As to their reliability, the research studies referenced by the complainant (URL links and citations to full articles were published in peer reviewed journals, such as the American Journal of Epidemiology and the International Journal of Oncology (Complainant's exhibits especially #~~11,~~ 16, 18).

There is a great deal of overlap in the conclusions from these studies, and they were done by scientists and doctors in different countries. There are now over 2000 studies linking non-ionizing radiation to physiological effects. (http://www.bioinitiative.org/)

The studies Complainant referenced were done by scientists and doctors working **independent of the wireless industry** and most were also independent of government agencies. Complainant asserts that this adds to the reliability of their results. Further, The Respondent has not proven that any of Complainant's documents are not genuine, or are not correct representations of original documents. Rather by calling them hearsay, the Defendant has merely implied that

they *might not* be genuine. Complainant provided sufficient links and citations to verify that they are genuine.

2. **Rule 902. Evidence That Is Self-Authenticating – Exception to Hearsay**

   The following items of evidence are self-authenticating; they require no extrinsic evidence of authenticity in order to be admitted:

   Official Publications. A book, pamphlet, or other publication purporting to be issued by a public authority.

   Newspapers and Periodicals. Printed material purporting to be a newspaper or periodical.

   Trade Inscriptions and the Like. An inscription, sign, tag, or label purporting to have been affixed in the course of business and indicating origin, ownership, or control.

~~Complainant exhibit #9 – Research: "Microwave Frequency Electromagnetic Fields Produce Widespread Neuropsychiatric Effects". This was published as an official publication in the peer-reviewed Journal of Chemical Neuroanatomy and~~

~~made available by Science Direct. (Sleep disturbance and cognitive dysfunction from EMF's)~~

~~https://www.sciencedirect.com/science/article/pii/S0891061815000599~~

Complainant exhib. 2B - This is the correspondence that the Complainant and his partner had with Comcast regarding stopping WIFI in 2011. Their response is on Comcast stationery and dated. Most people want their WIFI turned on, not off. This provides part of the history of Complainants assertions about his electromagnetic sensitivity.

Article by Gloria Vogel – All insurers have abandoned the RF market. This is a website with news on financial markets. (Complainant's exhib. 12)

http://www.talkmarkets.com/content/stocks--equities/a-coming-storm-for-wireless?post=143501

3. RULE 803. EXCEPTIONS TO HEARSAY

The following are not excluded by the rule against hearsay, regardless of whether the declarant is available as a witness:

(1) *Present Sense Impression***.** A statement describing or explaining an event or condition, made while or immediately after the declarant perceived it.

(3) *Then-Existing Mental, Emotional, or Physical Condition.* A statement of the declarant's then-existing state of mind (such as motive, intent, or plan) or emotional, sensory, or physical condition (such as mental feeling, pain, or bodily health), but not including a statement of memory or belief to prove the fact remembered or believed unless it relates to the validity or terms of the declarant's will.

(1& 3 apply to Complainant's introduction presented with the exhibits.)

(4) *Statement Made for Medical Diagnosis or Treatment***.** A statement that:

(A) is made for — and is reasonably pertinent to — medical diagnosis or treatment; and

(B) describes medical history; past or present symptoms or sensations; their inception; or their general cause.

(A & B apply to Complainant's notes from doctors)

(6) *Records of a Regularly Conducted Activity***.** A record of an act, event, condition, opinion, or diagnosis if:

(A) the record was made at or near the time by — or from information transmitted by — someone with knowledge;

(B) the record was kept in the course of a regularly conducted activity of a business, organization, occupation, or calling, whether or not for profit;

(C) making the record was a regular practice of that activity;

(Records of a Regularly Conducted Activity applies to Complainant's exhibit16)

~~**The Bioinitiative Report** (Complainant exhib. 16) was originally published 2007 and updated in 2012 and 2017. **It is an official publication of Bioinitiative 2012.** Its credibility is enhanced by it being managed by scientists and doctors who are independent of the wireless industry and often of government agencies. It presents and reviews one of the largest collections of research studies on the physiological effects of non- ionizing radiation.~~

~~**(Note: The Bioinitiative 2012 Report was admitted into evidence by Dr. Lennart Hardell who testified as an expert witness in: *State Of Maine Public Utilities Commission* *December 13, 2013 Docket No. 2011-00262.* . Thus the**~~

~~**Bioinitiative 2012, also cited by the Complainant, has been authenticated by an expert.)**~~

~~http://bioinitiative.info/bioInitiativeReport2012.pdf~~

~~http://www.bioinitiative.org/table-of-contents/~~

~~Complainant exhib. #4 - **The Americans with Disabilities Act (ADA) Recognizes Electromagnetic Sensitivity as a Disability.** Exhibit # 4 provides a link to the United States Access Board, a federal agency.~~

~~https://www.access-board.gov/research/completed-research/indoor-environmental-quality/recommendations-for-accommodations~~

~~"According to the Americans with Disabilities Act (ADA) and other disability laws, public and commercial buildings are required to provide reasonable accommodations for those **disabled by chemical and/or electromagnetic sensitivities.** These accommodations are best achieved on a case-by-case basis."~~

~~**(8)** *Public Records*.~~

(8) *Public Records.* A record of a public office if:

(A) the record describes the facts of the action taken or matter observed;

(B) the recording of this action or matter observed was an official public duty; and

(C) the opponent does not show that the source of the information or other circumstances indicate a lack of trustworthiness.

Some of complainant's exhibits involved government documents and letters written by experts to government agencies:

Complainant's Evidence: Eg. Dr. David Carpenter's signed letter to the New York Public Service Commission (Complainant exhibit #10). Eg. Statement of the Board of the American Academy of Environmental Medicine to the Commissioners of the Public Utilities Commission , State of Calif. (Complainant exhibit 14). ~~Recognition of Electromagnetic Sensitivity as a Disability under the ADA (Complainant exhibit #4).~~ Complainant's relevant employment records at the Philadelphia Commission on Human Relations (PCHR) which bear signature of three different levels of supervisory people (Complainant exhib #3). Diagnosis from my medical record at NIH, concluding delayed phase sleep disorder (Complainant exhib. 1B). International EMF Scientist Appeal –is a letter to the Secretary General of the U.N. (Complainant exhib. 13). As of March 15, 2018,

237 EMF scientists from 41 nations have signed the appeal. This is an official document of EMFscientist.org.

https://emfscientist.org/index.php/emf-scientist-appeal

The IARC classification of non- ionizing radiation as a class 2B carcinogen (Complainant exhib. 17) is a government document (WHO).

Daniel Hirsch's Comments on the CCST Draft Report (Complainant exhib. #15) was part of the government record from the Calif. PUC debate on that report. PUC Docket 2011 -00262

~~http://ccst.us/projects/smart2/documents/letter8hirsch.pdf~~

~~http://www.mainecoalitiontostopsmartmeters.org/wp-content/uploads/2013/04/EV21-CCST-Corr.-4-8-13-PUC-465.pdf (see p.5)~~

~~The NTP 10 year study of cell phone radiation that was conducted by a U.S. federal government agency and since then has had its results confirmed by an independent review and a similar study from the Ramazzini Institute. This information is now in the public domain and is common knowledge among scientists involved in studying the biological effects of non-ionizing radiation.~~

~~**The report of the Independent Review of the NTP study from the website of the National Toxicology Program NTP :**~~

https://ntp.niehs.nih.gov/update/2018/4/cell-phone/index.html

Conclusions of the NTP study from the website of the National Institute of Health.

NTP Study Conclusions

https://www.nih.gov/news-events/news-releases/high-exposure-radiofrequency-radiation-linked-tumor-activity-male-rats

The full document of the Ramazzini Institute study, obtained directly from the Ramazzini Institute:

file:///C:/Users/Alanh/Documents/Belpoggi-Heart-and-Brain-Tumors-Base-Station-2018.pdf

Hearsay continued: Complainant at a Disadvantage

Complainant acknowledges that legal battles are often uneven, as one side may have more resources than the other. In this case the complainant is engaging pro se against a multinational corporation. He has not the resources to engage either legal counsel or expert witnesses. He is fighting to maintain his health and his life.

The Respondent is fighting over the disposition of two smart meters. The Complainant is already at a great disadvantage as his health is being undermined by the Respondent's AMI meter, even as he pursues this complaint. If the Respondent's hearsay argument is granted, the Complainant will be deprived of every tool he has to make his argument. The battle will not just be uneven, but totally slanted toward the Respondent.

Hearsay and Reliability

Respondent in arguing hearsay, does not argue that the Complainant's documents are not genuine, or that they are not true copies of original documents, or that they are factually incorrect. By arguing hearsay, they are essentially saying that Complainant's evidence *might not* be reliable. But complainant has presented evidence from many sources and numerous countries, which all find similar conclusions, ~~that electromagnetic sensitivity (EHS) is a genuine disability,~~ that people with EHS suffer harm from exposure to electromagnetic radiation, including the RF radiation and induced EM fields produced by Respondent's AMI smart meter. Complainant's evidence from many sources confirms that non-ionizing radiation can produce biological effects that are harmful to people and animals, and that people with EHS are particularly susceptible. There is great

redundancy in the evidence and most of the studies the Complainant offered were done independent of the wireless industry. Thus, they have a higher degree of reliability.

At the same time the reliability of the testimony of the Respondent's expert witnesses is highly questionable.

Christopher Davis and Mark Israel both work for the Complainant and both claim that low level non-ionizing radiation is totally harmless. The research from experts and governments around the world contradict this absolutist position. Most of their statements are directly at odds with the latest research in the field of biological effects of non-ionizing radiation.

~~**Mark Israel** acknowledged he has never treated or even talked with someone suffering from electromagnetic sensitivity (EHS). He has no credentials in this specialized field, and he acknowledges he's never read any books on electromagnetic fields, or attended any national conferences on the subject, nor done any independent research on it, yet he claims that EHS doesn't exist and that the thousands of people suffering with this disability are just reacting to some other environmental stimulus. (Mark Israel's testimony in the case of Maria Povacz Vs. Peco Energy Company : Docket No. : C-2015-2475023 / p. 1783-22-25, p1784 1-~

~~3/ p. 1585 / P1584. 21-23 /p.1783, 22-25 / P.1584, 14-25 1570, 1-8 / P.1580 – 10-14/p.1580, 7-9/)~~

Respondent's other witness, Christopher Davis, was asked during the hearing:

"Would you permit a five-year-old child to sleep with a cell phone in transmit mode next to its head?"

He replied, "I would" (Transcript p. 280, 17-21)

You would have to travel very far to find a legitimate scientist who would agree with that position. Christopher Davis in a Youtube video was asked about studies that show that people who use cell phones on the right side get brain cancer on the right side. His response was:

"Most people don't know which side they use their cell phone on."

He confirmed this at the hearing, saying: "But the point is that they don't often remember exactly which side of the head they've used their phone on" . (Transcript – P.274, 23-25).

I another video presentation Davis was asked about all the other scientists who found non-ionizing radiation to be harmful, to cause pathology. His response was:

"There are scientists out there who want to keep this issue alive, because they get "more money for research." He confirmed this at the hearing (Transcript p. 275, 15-23). That's how he debunked all the worldwide research showing harm from non-ionizing radiation.

Considering all of the above, Complainant now asks the court, whose presentation is more reliable, the Complainant's or the Respondent's?

~~Request to Admit Evidence~~

~~**Complainant requests the court to allow into evidence Complainant's original exhibits # 11 & # 9**~~

~~**Re: Exhibit #11**~~

~~**A.** Among the most recent, confirmative and respected studies on cell phone radiation is the **U.S. National Toxicology (NTP)** 10 year, 25 million dollar study (Complainant's exhibit 11) which found that rats exposed to cell phone radiation (which is similar to AMI meter radiation) developed Gliomas (brain cancer) and Schwannomas (cancer of the heart). It also found that none of the control rats developed those tumors.~~

~~Researchers considered those findings so important that they originally released preliminary results publicly. Complainant's exhibit 11 contained links to those preliminary results from Microwave News, a long established and respected website. The defendant challenged the completeness of the exhibit and the court ruled to disallow it. Subsequent to that, an independent panel reviewed the NTP study and confirmed the accuracy of its results and recommended even stronger warnings, requesting that the findings be reclassified from "some evidence" to "clear evidence" of carcinogenic activity. Furthermore, the Ramazzini Institute in Italy recently concluded its own very large study on the effect of cell phone radiation, and they also found that rats exposed to cell phone radiation developed Schwannoma tumors (heart cancer) as well as Glial cell tumors. The Ramazzini Institute results were consistent with those obtained in the NTP study. The NTP study is now considered a landmark study.~~

~~The Complainant has repaired the format of his original presentation and here provides:~~

~~Conclusions of the NTP study from the website of the National Institute of Health :~~

~~1. The report of the Independent Review of the NTP study from the website of the National Toxicology Program NTP :~~

Independent Review

https://ntp.niehs.nih.gov/update/2018/4/cell-phone/index.html

2. Conclusions of the NTP study from the website of the National Institute of Health.

NTP Study Conclusions

https://www.nih.gov/news-events/news-releases/high-exposure-radiofrequency-radiation-linked-tumor-activity-male-rats

3. The full document of the Ramazzini Institute study, obtained directly from the Ramazzini Institute:

Ramazzini Institute Study

file:///C:/Users/Alanh/Documents/Belpoggi-Heart-and-Brain-Tumors-Base-Station-2018.pdf

https://www.sciencedirect.com/science/article/pii/S0013935118300367

For the above reasons, Complainant requests the court to allow this study and the above links into evidence. Exhibit # 11

B. In his exhibit #9 Complainant presented a study from the **Journal of Chemical Neuroanatomy** - *Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression* - It states (p.2, table 4), that **sleep disturbance / insomnia is the number one symptom reported following microwave EMF exposure.**

https://www.sciencedirect.com/science/article/pii/S0891061815000599

The author of this study, Martin L. Paul, cited it as evidence in:

Laura Sunstein Murphy v. PECO Energy Company

Docket No. C-2015-2475726 (Appendix 1) during the hearing in which he was recognized as an expert witness. Thus the Complainant has authenticated this study based on the author's expert testimony in another case. (SEE EXHIBIT 2 in this reply brief)

NOTE: At the hearing, Defendant counsel argued that this exhibit was an incomplete version of the study and that it was somehow confusing, and based on that it was excluded it. (Hearing Transcript p.151- 23-25, p. 152 1-25 + 19-20)

In his exhibit #9, Complainant had provided a link to the entire study from Science Direct, a highly reputable website. Furthermore, this study was published under a

~~Creative Commons license, meaning it was available for anyone to read without charge. The Defendant could have verified it with the click of a mouse. In the modern world, scientists and others send links to studies all the time, and often introduce those studies with abstracts. The reference to insomnia was in table 4 and was not presented conditionally. I ask the court to visit this website and verify that the entire study is there, easily available and to allow it into evidence.~~

~~https://www.sciencedirect.com/science/article/pii/S0891061815000599~~

~~**For the above reasons, Complainant requests the court to allow this study and his original exhibit #9 into evidence.**~~

Complainant Responds to Other Respondent Challenges

Complainant believes his hearsay exceptions stated above cover all of his exhibits. However he will comment on other Respondent challenges below:

Respondent: Exhibit 1B – National Institutes of Health discharge papers from 1981 showing a final diagnosis of “Phase lag sleep disorder”. “The 1981 NIH

discharge summary does not mention RF fields or any form of electromagnetic fields," nor does it "include a diagnosis of electromagnetic sensitivity or mention it in any way." (PPL Electric Statement No. 2, p. 15, lines 5-13)

Complainant: The purpose of the National Institutes of Health discharge papers was to show the court that Complainant was diagnosed with phase lag sleep disorder, which is a circadian rhythm or sleep/wake cycle disorder. The sleep/wake cycle is mediated by melatonin levels. Complainant presented numerous studies in his Brief showing that non-ionizing electromagnetic fields including the RF fields and induced magnetic fields of the AMI meter reduce melatonin levels. Lowered melatonin levels can cause insomnia. Ie. Complainant is suggesting one possible mechanism by which the AMI meter severely disrupts his sleep. (Complainant Brief P.182-197).

Respondent: Exhibit 1C – A document entitled "Therapeutics for Circadian Rhythm Sleep Disorders" written by Ehren R. Dodson, Ph.D., and Phyllis C. Zee, Ph.D. The exhibit is an incomplete copy of unpublished manuscript.

Complainant: The abstract of this article is on Pub Med, a well known website. The original is available for anyone with the fee. The document states simply that the primary synchronizing agents of the circadian system are light and melatonin.

Doctors often prescribe melatonin for insomnia based on that. That information is so ubiquitous that it hardly needs proving.

Respondent: Exhibit 2 – A copy of Mr. Schmukler's email correspondence in September 2007 with George Lechter, CEO of Technology Alternatives Corp, about the purchase of a new computer monitor, as well as a webpage print out about the location and contact information of "Safe Technologies Corporation". The exhibit only establishes that the Complainant purchased a new computer monitor, not that he suffers from any diagnosed medical condition or that his alleged symptoms are caused by RF fields.

Complainant – The exhibit shows that Complainant purchased, back in 2007, a computer monitor from a company that makes radiation-free monitors. Most people in 2007 were not looking for or willing to pay extra for a radiation free monitor. This document established that Complainant had need of such a monitor as far back at 2007. Ie. he was electromagnetically sensitive.

Respondent: Exhibit 2B – Written correspondence sent by the Complainant and his wife to a Comcast representative about an October 23, 2011 work order. At most, the exhibit only indicates that the Complainant requested copies of work orders from Comcast about the hardwire Internet installed in his home.

Complainant: Complainant submitted correspondence with Comcast to indicate that he had requested the WIFI radiation be shut off in 2011, and that a hard wire connection be installed as in its stead. Most people want the convenience of Wifi, unless they happen to be suffering from EHS as is the Complainant.

Respondent: Exhibit 3 – Job performance reports about the Complainant from 1987 through 1991 related to his work at the Philadelphia Commission on Human Relations. The exhibit details the Complainant's job performance several decades ago. The exhibit has nothing to do with the RF fields from the AMI meters being used by PPL Electric.

Complainant: Complainant went from outstanding performance reviews to a critical one because he refused to use the computers due to his EHS. It would have been easier for him to do his work on a computer, if he wasn't symptomatic with

EHS. Complainant was Electromagnetically Sensitive as far back as 1991. His sensitivity included ELF fields from the computers as well as RF fields and other EM fields such as those emitted by the Respondent's AMI smart meter.

Respondent: Exhibit 5 – An excerpt from a document entitled "EMR Reduces Melatonin in People" by Dr. Neil Cherry.

Complainant: That exhibit is no longer needed. Complainant has submitted other studies showing that electromagnetic radiation reduces melatonin in people. (Complainant Brief P.183-197)

~~Further, David O. Carpenter, M.D. testified as an expert in: *Maine PUC Docket No. 2011-00262, Pre-filed Testimony of Dr. Carpenter, p. 14, lines 10-39; p. 15-16; and p. 17)* Dr. Carpenter referenced and briefly summarized 15 positive, peer reviewed, published studies finding adverse EHS effects including **sleep disturbances,** increased incidents of headaches, **cognitive impairment**, decreased reaction time; concentration problems; altered working memory; dizziness; increased incidence of tinnitus; thyroid & liver dysfunction; and skin and joint problems.~~

Further, in his exhibit #9 Complainant presented a study from the **Journal of Chemical Neuroanatomy** - *Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression* - It states (p.2, table 4), that **sleep disturbance / insomnia is the number one symptom reported following microwave EMF exposure.**

https://www.sciencedirect.com/science/article/pii/S0891061815000599

The author of this study, Martin L. Paul, testifying as an expert witness, cited it as evidence in direct testimony in: Laura Sunstein Murphy v. PECO Energy Company (Docket No. C-2015-2475726) in which he was recognized as an expert witness. Thus the Complainant has authenticated this study based on the author's expert testimony in another case.

Further: Martin L. Pall, in direct testimony in this same case (Laura Sunstein Murphy v. PECO Energy Company Docket No. C-2015-2475726) provides this chart (Exhibit #2) comparing effects from cell phone radiation and reported symptoms from smart meters. **NOTE that insomnia is one of the most prominent symptoms in each category. SEE EXHIBIT 2** in this reply brief.

Martin L. Pall goes on to state:

"The many different neurological/neuropsychiatric effects and the cardiac effects found from smart meter exposure are similar to effects reported following many

~~*different non-thermal microwave exposures, giving increased credence to these observations following smart meter exposure."*~~

~~*The U.S. smart meter study also strongly suggests that* **electromagnetic hypersensitivity (EHS), which they call ES, also appears to be greatly exacerbated by smart meter exposures.** *Table 2 above shows a variety of neurological, neuropsychiatric and cardiac effects of exposure to smart meters. These effects are similar to those experienced by people living near cellular antennae.*~~

~~Direct Testimony Of Martin L. Pall, Ph.D. On Behalf Of Complainant Laura Sunstein Murphy (p.21, 1-13)~~

Respondent: Exhibit 6 challenged.

Complainant: Complainant presented the same information with full sourcing in his brief (Complainant Brief p.103-218)

Respondent: Exhibit 10 – A letter written by Dr. David O. Carpenter to the New York State Public Service Commission dated August 12, 2016. The exhibit is based on the incorrect assumption that "while the cell phone is used only intermittently a smart meter environment is continuous", which is directly contradicted by the evidence of Dr. Davis that the AMI meters being used by PPL Electric use RF fields for a total of only 84 seconds per/day.

Complainant: Christopher Davis's testimony that smart meters only emit for 84 seconds is disingenuous since the 84 seconds occur as thousands of millisecond bursts day and night. The Complainant testified in court that, using a handheld meter, he detected an RF transmission from the neighbor's smart meter every seven to twelve seconds (Transcript p.242, 5-7). Complainant's witness William Bathgate testified that, using a spectrum analyzer, he found that this model smart meter transmits every 4 - 10 seconds. (Transcript p.97, 11-17).

Respondent: Exhibit 12 – A document titled "*A Coming Storm For Wireless*" by Gloria Vogel. The exhibit is a media story about insurance coverage in the United Kingdom. The exhibit addresses the possibility of occupational injuries to

communications antenna workers, not RF fields from the AMI meters being used by PPL Electric.

Complainant: The article addresses exposure to RF fields which are low level non-ionizing radiation, the same type of radiation emitted by the AMI meter, and which the Respondent claims are harmless. Lloyds of London and other insurers have pulled out of the RF market due to liability.

~~**Lloyd's of London excludes liability coverage for RF/EMF claims**~~

~~**(SEE EXHIBIT #0 in this Reply Brief)**~~

~~Lloyd's of London excludes any liability coverage for claims,~~

~~*"Directly or indirectly arising out of, resulting from or contributed to by electromagnetic fields, electromagnetic radiation, electromagnetism, radio waves or noise." (Exclusion 32)*~~

~~The full policy document is found at this link, and the relevant portion is imaged in:~~ ~~**SEE EXHIBIT #0**~~ ~~of this Reply Brief~~

~~http://emrabc.ca/wp-content/uploads/2015/03/InsuranceAEWordingCanadav17Feb2015.pdf~~

Respondent states: (original Exhibit 13) – A document titled "International EMF Scientist Appeal". The exhibit does not addresses RF fields from the AMI meters being used by PPL Electric.

Complainant: The heading of the document states: **"Scientists Call for Protection from Non-ionizing Electromagnetic Field Exposure".** That quite well includes the RF and other EM fields emitted by Respondent's AMI meter. This is signed by 236 scientists from 41 nations, which constitute a considerable proportion of the experts in the field of biological effects of non-ionizing radiation. (Complainant's Brief p.39)

Respondent: Exhibit 14 – A letter/petition to the California Public Utilities Commission (CPUC) dated January 19, 2012. The exhibit is an advocacy petition sent in 2012 to the then-Chairman of the CPUC, seeking a halt to the installation of Smart Meters in California.

Complainant: This is a statement by the American Academy of Environmental Medicine delivered to a government commission. It opposes the installation of smart meters due to RF radiation.

Respondent: Exhibit 15 – Comments prepared by Daniel Hirsch. The exhibit does not address the RF fields from the AMI meters being used by PPL Electric. Further, the conclusions in the proposed exhibit are based on significant mistakes about RF exposures from AMI meters, as described in the direct testimony of Dr. Davis in this case. (PPL Electric Statement No. 1, p. 11, lines 4-12)

~~**Complainant:** Daniel Hirsch is an expert in this field and he analyzed a previous estimate comparing radiation from cell phones to that of smart meters. He concluded that smart meters expose people to between 50-160 times the radiation of a cell phone. Christopher Davis never claimed to have done such a careful study or comparison. Davis also didn't address the specific claims made by Daniel Hirsch. (Complainant's Brief p.205-216)~~

Respondent: Exhibit 16 – A document titled "BioInitiative 2012". The exhibit contains selected portions of the actual report and, therefore, lacks authenticity and reliability. Moreover, the exhibit does not address the RF fields from the AMI meters being used by PPL Electric, Dr. Israel would not rely on this document to

reach a medical conclusion about RF fields and health. (PPL Electric Statement No. 2, p. 20, lines 5-11)

~~**Complainant: The Bioinitiative 2012 Report was introduced into evidence by Dr. Lennart Hardell who testified as an expert witness in:** *State Of Maine Public Utilities Commission December 13, 2013 Docket No. 2011-00262*. I.e. **Thus that report also used by the Complainant, has been authenticated.**~~

~~The Bioinitiative 2012 report is the most comprehensive collection of studies on the biological effects of non-ionizing radiation, with now over 2000 studies. Complainant presented a link to the entire website and printed the entire conclusions of the report in his Brief. (Complainant Brief p. 9 & p. 133). The RF fields addressed by the Bioinitiative 2012 include all low level non-ionizing radiation including such as are emitted by the AMI meter. The report demonstrates that such fields have a negative impact on health. Dr. Israel is not qualified to comment on electromagnetic radiation since he has no training or special education in this field.~~

Respondent: Exhibit 17 – A World Health Organization press release entitled, "IARC Classifies Radiofrequency Electromagnetic Fields as Possibly Carcinogenic to Humans" dated May 31, 2011. The exhibit does not address RF fields from the AMI meters used by PPL Electric.

Complainant: If the Respondent doesn't know by now that their meter emits Radiofrequency Electromagnetic Fields, then they should stop installing them. **Respondent:** Exhibit 18 – A document characterizing the results of research. The exhibit does not address RF fields from AMI meters used by PPL Electric. Moreover, the exhibit addresses health conditions other than those alleged by Complainant.

Complainant: If the Respondent doesn't know by now that their meter emits Radiofrequency Electromagnetic Fields, then they should stop installing them. The research addresses, among other things, cell phone radiation, which is quite similar to smart meter radiation, except that smart meters emit radiation day and night and can't be shut off by the resident. ~~The research shows that non- ionizing radiation can cause brain tumors.~~ It obviously affects living things. The Complainant testified under oath that it greatly aggravates his insomnia. He also provided evidence that such radiation lowers melatonin levels, which are critical for sleep.

Respondent: Exhibit 22 – A document entitled, "Smart Meter Opt out status in some states and municipalities," which lists and summarizes various web pages. The exhibit addresses opt-out provisions in other states and, therefore, is not relevant to the installation of AMI meters in Pennsylvania.

Complainant: This exhibit calls attention to the fact that other states have successfully instituted opt out provisions and Pennsylvanian could do the same. That would render this Complainant and others by people similarly situated, unnecessary, saving both Complainants and the courts the cost in time, effort and money needed to process such complaints.

Respondent: Exhibit 23 – An article entitled, "Judge Rules Electric Utility's Smart Meter Opt Out Fees Violate State Law; PSREC Refuses to Reconnect" by Josh Hart dated April 16, 2015.

Complainant: If and when Pennsylvania has opt out legislation, the issue of opt out fees will arise. According to that decision such fees are not allowed under Calif law. Although this was Calif., the reasoning by which the judge arrived at the decision, would apply to cases in Pennsylvania as well. You may not discriminate

against someone ~~with a disability~~ by charging them an extra fee for the same service.

Respondent: Exhibit 24 – An excerpt from the article, "Fifty Years Later: The Significance of the Nuremberg Code" by Dr. Evelyne Shuster, published in the *New England Journal of Medicine*, November 13, 1997. The exhibit is a selective and incomplete extract from the original and, therefore, lacks reliability and authenticity. Moreover, the Nuremberg Code, which concerns the consent of experiment subjects, has no relevance to the issues in this case.

Complainant: Placing millions of smart meters on homes (with no safety studies) without consent of the populace, constitutes an illegal experiment on a population and is thus a violation of the Nuremberg Code. Complainant asserts that, where there is risk, there must be choice. ~~Dr. Andrew Goldsworthy makes a similar argument: Enforced environmental radiation violates the Nuremberg Code. (Complainant Brief P.174) Complainant's presentation of the relevant sections of the Nuremberg code is accurate. The Nuremberg code is available here: file:///C:/Users/Alanh/AppData/Local/Temp/nuremberg.pdf~~

RE: Fire Risk from Smart Meter

Respondent: The Complainant Has Failed to Prove that the New AMI Meter Is Unsafe and Would Cause Fires.

Complainant: Complainant addresses this in detail in his Brief (Complainant Brief p. 228-228) and that includes testimony from Complainant expert witness William Bathgate and also Respondent witness Scott Larsen. Larsen stated:

1. The Respondent cannot shut off the AMI meter remotely in the case of overheating.

2. Response time in case of overheating of the AMI meter is 2 hours.

3. Defendant witness Scott Larsen responded to a question from the judge by stating: "As far as what's concerned there, the meter itself is not designed as a protection device. So our surge protection is not the first and foremost when we look at designing a meter." (Transcript - p.244, 3-19)

The Neighbor's Meter

> **Respondent states:** The Complainant cannot contest the installation of the ami meter on his neighbor's property without violating the neighbor's due process rights

Complainant: The Respondent's feigned concern for the neighbor's due process rights is the height of hypocrisy. His neighbor was never given a choice regarding installation of the AMI meter on her house. (Transcript p. 224, 16-25, p.225, 1-8)

If she had refused consent, Respondent would have installed it anyway, barring her filling a complaint. Or, if she refused and didn't file a complaint, Respondent would have sanctioned her as in threatening to cut off her electric service.

~~Furthermore, Respondent never gave the neighbor information about smart meter RF radiation or transient currents on her wiring and the possible dangers thereof, as established by research including the NTP and Ramazzini Institute studies and 1800 studies collected by the Bioinitiative 2012 and other groups. Respondent never even informed the neighbor that there was a controversy in the scientific~~

~~community about the safety of Respondent's AMI meter and that the type of radiation it emitted had been shown to cause cancer and other ailments.~~

The Respondent violated the neighbor's due process by installing an AMI meter without her *informed* consent. Therefore removing it could only make her whole.

~~Further, Complainant is requesting reasonable accommodation according to the American's with Disabilities Act (ADA). When public transportation facilities are modified to accommodate people with disabilities (as in busses or curbs made wheel chair accessible), permission is not required from all the other passengers on that bus. If a curb is made wheel chair accessible at the curb of someone's property, they cannot demand it be restored.~~

Respondent's witness Mark Israel denied the existence of Electromagnetic Sensitivity (EHS).

~~**Complainant** notes that Dr. William Rea testified as an expert in: Maine PUC Docket No. 2011-00262, Pre-filed Testimony of Dr. Rea p. 6, lines 17-21 and p. 7, lines 3-13. Dr. William Rea, Director of the Environmental Health Center in Dallas, Texas, and President of the American Environmental Health Foundation, who has written five medical textbooks on hypersensitivities and conducted a~~

~~published study to evaluate electromagnetic field sensitivity, testified about his treatment of individuals with EHS symptoms. Dr. Rea testified that there are plausible scientific explanations and many peer reviewed studies that support a causal link between EHS and exposure to electromagnetic radiation. He has treated many who reported that they began experiencing EHS symptoms, including fibromyalgia, confusion, short term memory loss and severe fatigue, before they were aware that a smart meter had been installed on their home.~~

~~Also, Mark Israel is not professionally qualified to deny the existence of EHS as explained above.~~

Respondent witness Christopher Davis has repeatedly stated that radiation from their AMI smart meter is safe.

~~**Complainant** makes note of testimony from Dr. Lennart Hardell who testified as an expert witness in: *Maine PUC Docket No. 2011-00262, Commission Hearing of 10-30-13, p.25, lines 19-25 and p. 26, lines 1-5)*~~

~~Dr. Hardell stated during the Commission Hearing that he believes:~~

~~" …there should be a moratorium on the building of smart meters, and we should actually not use that technology because there are other types of technologies to use for meter reading. And of course, if they are looking into public health, this is a development in the wrong direction. So for public health reasons, these techniques should be actually banned and not used at all."~~

~~(Maine PUC Docket No. 2011-00262, Commission Hearing of 10-30-13, p.25, lines 19-25 and p. 26, lines 1-5)~~

~~He notes that The BioInitiative 2012 Report has been prepared by 29 authors from ten countries, ten holding medical degrees (MDs), 21 PhDs, and three MsC, MA or MPHs. Among the authors are three former presidents of the Bioelectromagnetics Society [BEMS], and five full members of BEMS. One distinguished author is the Chair of the Russian National Committee on Non-Ionizing Radiation. Another is a Senior Advisor to the European Environmental Agency. As in 2007, each author is responsible for their own chapter.200~~

~~He points out just sixty-seven of the peer-reviewed, published studies reporting adverse biological effects at low intensity, non-thermal levels from RFR that are listed and described on the first of two colored charts presented in the Bioinitiative report. He compares those exposure levels to the following:~~

~~(1) current FCC Maximum Permitted Exposure (MPE) limits that govern Smart Meters in the United States~~

~~(2) calculated RF exposure levels produced by a single Smart Meter at various distances~~

~~*(198 vide Maine PUC Docket No. 2011-00262, Pre-filed Testimony Dr. Hardell, p. 2, lines 12-14; Dr. Carpenter, p. 2 lines 19-22 199 vide Maine PUC Docket No. 2011-00262, Pre-filed Testimony Dr. Hardell, p. 21, lines 1-8 200 vide Maine PUC Docket No. 2011-00262, Pre-filed Testimony of Dr. Hardell, p. 21, lines 9-21 and p. 22, lines 6-7 201 sequential p, 112-121 in the 1479-page PDF version of the full Bioinitiative , 2012 report)*~~

~~This comparison identifies what biological effect arises from exposure to RFR power density levels like those produced by smart meters and indicates the following regarding these exposures:~~

~~(1) **The current FCC Maximum Permitted Exposure (MPE) limits are so high that they provide no protection for the public from the biological effects found in any of the 67 studies.**~~

~~(2) **New biologically based RFR exposure limits proposed in the Bioinitiative 2012 Report are 1 million times lower than current FCC limits** and would protect against the biological effects found in nearly all of the 67 studies.~~

~~(3) **A single smart meter on a home can produce RFR exposure levels that caused the biological effects found in either most or many of the 67 studies**, depending on the distance from the smart meter.~~

~~(4) **A single Smart Meter on a nearest neighbor's home can produce RFR exposure levels that caused the biological effects found in many of the 67 studies.** A given home may have one to eight nearest neighbors, each with a smart meter, multiplying the total exposure in the given home.~~

RE: Petition for Relief

Complainant fully believes his argument meets the demands to prevail in this case. However, he asks the Judge and the Commissioners to convert his formal

complaint to a petition for relief, if the Judge and the Commission would otherwise not find that he has not met his burden of proof in this formal complaint regarding PPL's violation of Section 1501, for technical legal reasons.

By converting his formal complaint to a petition for relief from the PUC's interpretation of Act 129, which, according to the Commission, requires PPL to deploy AMI meters to all its residential customers, regardless of medical condition of any of the customers, the Commission and Judge Barnes may grant me an accommodation because of my medical condition which has worsened considerably just from the AMI deployment at my neighbor's home.

If the Commission were to force an AMI meter on Complainant's home, as well, by enforcing the misinterpretation of Act 129, that deployment would undoubtedly result in even more severe health effects for him, perhaps even fatal in nature, due to his EHS.

The Commission has held in the Mattu case (C-2016-2547322), that, by converting a formal complaint into a petition for relief, the Commission was able to grant Mattu the relief he was seeking in the formal complaint procedure, even if the formal complaint procedure did NOT reach the same relief result.

The Mattu case can be distinguished from the Complainant's, as he did bring expert opinion in his formal complaint procedure. Mattu did not. Mattu was represented by counsel. The Complainant is pro se. But there are other more important differences.

Complainant is asking here, which Mattu did not do, for a conversion of his formal complaint into a petition for relief, before the final closing of his case briefs, if the relief his is seeking can be granted by that means, but not through a formal complaint, as it was in the Mattu final decision. **SEE EXHIBIT #3**

~~EXHIBIT #0~~

~~**Lloyd's of London exclusion of electromagnetic fields from coverage.**~~

located in the Province of British Columbia, or into a multi-unit building located in the Province of British Columbia.

For the purposes of this exclusion the following definitions are added to the Policy:

Multi-unit building means a building containing more than one unit, whether that unit is used for residential, industrial or any other purpose.

Building envelope means the assemblies, components, and materials of a building which are intended to separate and protect the interior space of a building from the adverse effects of exterior climactic conditions.

Infiltration of precipitation means, but is not limited to, the actual, alleged, threatened, or possible infiltration, migration, presence, accumulation, condensation or dispersal of water or moisture on, in, or into the building envelope.

27. Wilful or dishonest acts of directors
in respect of INSURING CLAUSES 1 and 2 only, arising out of any wilful, malicious, reckless or dishonest act or omission by any director, partner or officer of the company named as the Insured in the Declarations or any subsidiary, unless such person had already ceased to be a director, partner or officer of the company named as the Insured in the Declarations and all subsidiaries at the time of their first wilful, malicious, reckless or dishonest act or omission, or unless specifically covered under INSURING CLAUSE 1 SECTION A (e). We will not provide any cover for any director, partner or

transit.

32. Electromagnetic fields
directly or indirectly arising out of, resulting from or contributed to by electromagnetic fields, electromagnetic radiation, electromagnetism, radio waves or noise.

33. Flood
in respect of INSURING CLAUSES 7 and 8 only, caused by flood, including waves, tides, tidal waves, or the rising of, the breaking out, or the overflow, of any body of water whether natural or manmade, but this EXCLUSION does not apply to:
a) ensuing loss or damage which results directly from fire, explosion, smoke or leakage from fire protective equipment; or
b) ensuing damage to contents of every description while in transit.

34. Fines
for fines, penalties, civil or criminal sanctions and for punitive, multiple or exemplary damages unless insurable under the applicable law.

35. Insolvency
arising out of or relating directly or indirectly from your insolvency or bankruptcy, or the insolvency or bankruptcy of any third party. Furthermore, no coverage is provided under INSURING CLAUSE 8 if you become insolvent or bankrupt.

36. Land or water
arising directly or indirectly from damage to land or water within or

Certain Underwriters at Lloyds

Insurance for Architects & Engineers

GMA has a market for A & E insurance designed to provide a broad range of coverages for Architects and Engineers.

Instead of buying many different policies to cover the architects and engineers exposure, this program is fully tailored to provide complete coverage in a cost effective package. This program takes into account the unique exposures of these professions. It even provides unambiguous coverage for breach of client contract!

Application: A&E Application US v2.1 (264 KB)

~~EXHIBIT #1~~

Expert Report of Andrew A Marino

August 8, 2016

This report was prepared by Andrew A. Marino at the request of Stephen G. Harvey, counsel for Maria Povacz, Laura Sunstein Murphy, Diane and Stephen Van Schoyck, Cynthia Randall, and Paul Albrecht as Complainants in litigation before the Pennsylvania Utility Commission with PECO as the Respondent. For convenience of presentation on complex subject matter, the report is presented in question and answer format.

Q. What is the purpose of your report?

A. My first purpose is to express my professional opinion that there is a basis in established science for Complainants' concern regarding risks to human health caused by man-made electromagnetic energy in the environment, including the type of electromagnetic energy emitted by smart meters, and to describe the scientific basis of my opinion with particularly.

My second purpose is to express and explain my professional opinion that it would be unreasonable to involuntarily and chronically expose the Complainants to the electromagnetic energy emitted by smart meters. Scientific evidence indicates that the neurological syndrome of electromagnetic hypersensitivity exists. There is a reasonable basis to believe that the symptomatology of the Complainants and its relation to smart-meter electromagnetic energy is factual. There is a basis in established science to support the Complainants' concerns that future exposure to smart-meter energy will worsen their already precarious medical conditions. Ample scientific evidence indicates that the aforementioned exposure would be a risk to the health of the Complainants.

Q. Why do you conclude that there is a basis in established science for serious concern regarding risks to human health caused by man-made electromagnetic energy in the environment, including the type of electromagnetic energy emitted by smart meters?

A. Because both methods in experimental biology for assessing whether a factor or condition is a possible health risk, namely experimental studies and epidemiological studies, individually and together, indicate that man-made environmental electromagnetic energy is a health risk. Numerous peer-reviewed scientific studies in experimental biology involving the effects of man-made electromagnetic energy, including the type produced by smart meters, have shown that such energy causes a wide range of biological effects on the endocrinological, immunological, cardiovascular, hematological and neural systems of the body, and on growth and healing. The results of these studies are the best evidence obtainable by means of the scientific method regarding the possible existence of health risks to humans. Consequently these studies directly support the conclusion that exposure to man-made electromagnetic energy is a health risk to humans. In addition, many independent epidemiological studies indicate that man-made environmental electromagnetic energy is associated with a broad range of human diseases and disorders, especially cancer. It is difficult for me to imagine what further evidence would be needed to establish that there is a basis in established science for serious concern regarding risks to human health caused by man-made electromagnetic energy in the environment, including the type of electromagnetic energy emitted by smart meters.

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EDUCATION

Ph.D., Biophysics, Syracuse University, Syracuse, NY, 1968

J.D., Law, Syracuse University College of Law, 1974

POSITIONS HELD

Research Biophysicist, Veterans Administration Medical Center, Syracuse, New York, 1964-1981

Assistant Professor, Department of Orthopaedic Surgery, SUNY Upstate Medical Center, Syracuse, New York, 1972-1981

Assistant Professor, Department of Orthopaedic Surgery, Louisiana State University Medical Center, Shreveport, Louisiana, 1981-1985

Associate Professor, Department of Orthopaedic Surgery, Louisiana State University Medical Center, Shreveport, Louisiana, 1985-1989

Professor: Department of Neurology, Louisiana State University Health Sciences Center, Shreveport, Louisiana, 2010 to 2014

Department of Cellular Biology and Anatomy, Louisiana State University Medical Center, Shreveport, Louisiana, 1989 to 2014

Department of Orthopaedic Surgery, Louisiana State University Health Sciences Center, Shreveport, Louisiana, 1989-2010

Manager: ABR Analytics, 2014 to present

BAR MEMBERSHIP:

New York, 1975-present

Louisiana, 1995-present

BOOKS

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~~EXHIBIT # 2~~

MURPHY STATEMENT NO. 1

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Laura Sunstein Murphy	:	
	:	
v.	:	Docket No. C-2015-2475726
	:	
PECO Energy Company	:	

DIRECT TESTIMONY OF
MARTIN L. PALL, Ph.D.
ON BEHALF OF COMPLAINANT
LAURA SUNSTEIN MURPHY

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Review

Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression

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ABSTRACT

Non-thermal microwave/lower frequency electromagnetic fields (EMFs) act via voltage-gated calcium channel (VGCC) activation. Calcium channel blockers block EMF effects and several types of additional evidence confirm this mechanism. Low intensity microwave EMFs have been proposed to produce neuropsychiatric effects, sometimes called microwave syndrome, and the focus of this review is whether these are indeed well documented and consistent with the known mechanism(s) of action of such EMFs. VGCCs occur in very high densities throughout the nervous system and have near universal roles in release of neurotransmitters and neuroendocrine hormones. Soviet and Western literature shows that much of the impact of non-thermal microwave exposures in experimental animals occurs in the brain and peripheral nervous system, such that nervous system histology and function show diverse and substantial changes. These may be generated through roles of VGCC activation, producing excessive neurotransmitter/neuroendocrine release as well as oxidative/nitrosative stress and other responses. Excessive VGCC activity has been shown from genetic polymorphism studies to have roles in producing neuropsychiatric changes in humans. Two U.S. government reports from the 1970s to 1980s provide evidence for many neuropsychiatric effects of non-thermal microwave EMFs, based on occupational exposure studies. 18 more recent epidemiological studies, provide substantial evidence that microwave EMFs from cell/mobile phone base stations, excessive cell/mobile phone usage and from wireless smart meters can each produce similar patterns of neuropsychiatric effects, with several of these studies showing clear dose–response relationships. Lesser evidence from 6 additional studies suggests that short wave, radio station, occupational and digital TV antenna exposures may produce similar neuropsychiatric effects. Among the more commonly reported changes are sleep disturbance/insomnia, headache, depression/depressive symptoms, fatigue/tiredness, dysesthesia, concentration/attention dysfunction, memory changes, dizziness, irritability, loss of appetite/body weight, restlessness/anxiety, nausea, skin burning/tingling/dermographism and EEG changes. In summary, then, the mechanism of action of microwave EMFs, the role of the VGCCs in the brain, the impact of non-thermal EMFs on the brain, extensive epidemiological studies performed over the past 50 years, and five criteria testing for causality, all collectively show that various non-thermal microwave EMF exposures produce diverse neuropsychiatric effects.

Contents

EXHIBIT # 3

PENNSYLVANIA

PUBLIC UTILITY COMMISSION

Harrisburg, PA 17105-3265

Public Meeting held August 31, 2017

Commissioners Present:

Gladys M. Brown, Chairman

Andrew G. Place, Vice Chairman

David W. Sweet

John F. Coleman, Jr.

Robert M. Mattu **C-2016-2547322**

v.

West Penn Power Company

OPINION AND ORDER

BY THE COMMISSION:

Before the Pennsylvania Public Utility Commission (Commission) for consideration and disposition is the Petition for Reconsideration (Petition), filed by West Penn Power Company (West Penn Power), on August 29, 2017, seeking reconsideration

of the Commission's Opinion and Order entered July 14, 2017 (*July 2017 Order*),[2] relative to the above-captioned proceeding.

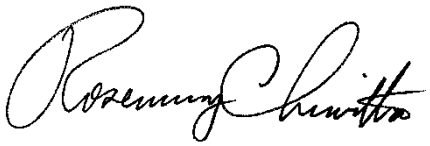
Pursuant to Rule 1701 of the Pennsylvania Rules of Appellate Procedure, Pa. R.A.P. Rule 1701, the Commission must act to grant a petition for reconsideration within thirty days of the date of entry of the order for which reconsideration is sought, or otherwise lose jurisdiction to do so if a petition for review is timely filed. The thirty-day period within which the Commission must act upon this Petition in order to preserve jurisdiction ends on September 13, 2017. Accordingly, we shall grant reconsideration, within the meaning of Pa. R.A.P. Rule 1701(b)(3), pending review of, and consideration on, the merits of the Petition; **THEREFORE,**

[2] The *July 2017 Order* was issued as a Tentative Opinion and Order that was served on the public advocates (*i.e.*, the Office of Consumer Advocate and the Office of Small Business Advocate) and the Commission's Bureau of Investigation and Enforcement (collectively Statutory Parties). The *July 2017 Order* provided the Statutory Parties thirty days, or until August 14, 2017, to intervene and request additional proceedings. If no Statutory Parties requested additional proceedings within the permitted time period, the *July 2017 Order* would become a Final Order without further action of the Commission. Since no Statutory Party requested additional proceedings before the Commission prior to the directed deadline, the *July 2017 Order* became final on August 14, 2017.

IT IS ORDERED:

That the Petition for Reconsideration, filed on August 29, 2017, by West Penn Power Company, is hereby granted, pending further review of, and consideration on, the merits.

BY THE COMMISSION,



Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: August 31, 2017

ORDER ENTERED: August 31, 2017

PENNSYLVANIA

PUBLIC UTILITY COMMISSION

Harrisburg, PA 17105-3265

Public Meeting held June 14, 2017

Commissioners Present:

Gladys M. Brown, Chairman

Andrew G. Place, Vice Chairman

John F. Coleman, Jr., Joint Statement, dissenting

Robert F. Powelson, Joint Statement, dissenting

David W. Sweet

Robert M. Mattu

C-2016-2547322

v.

West Penn Power Company

TENTATIVE OPINION AND ORDER

BY THE COMMISSION:

Before the Pennsylvania Public Utility Commission (Commission) for consideration and disposition is the Initial Decision (I.D.) of Administrative Law Judge (ALJ) Katrina L. Dunderdale, issued on March 29, 2017, in the above-captioned proceeding. Exceptions have not been filed. However, we have exercised our right to review the Initial Decision pursuant to Section 332(h) of the Public Utility Code (Code), 66 Pa. C.S. § 332(h). For the reasons stated below, we shall reverse the Initial Decision, consistent with this Tentative Opinion and Order.

Background

This proceeding involves a formal complaint (Complaint) which was filed by Robert M. Mattu (Complainant) against West Penn Power Company (West Penn Power) regarding West Penn Power's vegetation management at his property. The Complainant owns and lives on a property that has a 138 kV transmission line on a right-of-way that measures approximately 200 feet long by 100 feet wide. While the Complainant has no problem with West Penn Power's plan to maintain its right-of-way by clearing it of brush and incompatible trees by physically removing the vegetation, he objects to West Penn Power's proposed plan to treat the vegetation with herbicides. Specifically, the Complainant is concerned that the

chemicals might contaminate the two wells that serve his house in an area that has no municipal or public water service. Additionally, the Complainant believes that the use of herbicides could be harmful to the fish pond located on his property. His home, gardens, fish pond, and two water wells that serve his home are less than twenty-five yards down a slope from the right-of-way.

History of the Proceeding

On April 26, 2016, the Complainant filed his Complaint against West Penn Power alleging it is unreasonable, inadequate, or unsafe for West Penn Power to spray herbicide chemicals on his property near his two water wells and fish pond. As relief the Complainant requested that the Commission order West Penn Power to refrain from spraying chemicals as long as the water wells remain his only source for water at his Service Address. Complaint at ¶¶ 4-5.

On June 14, 2016, West Penn Power filed its Answer to the Complaint (Answer) in which it admitted its interstate transmission line crosses over the Complainant's property but denied the herbicides it proposed to use present any real or potential threat to the Complainant. Answer at 1-4.

On August 31, 2016, an initial hearing was held. The Complainant was represented by counsel, who presented the testimony of the Complainant and offered no exhibits. West Penn Power was represented by counsel, who presented the testimony of one witness and offered one exhibit (West Penn Power Exhibit A) which was admitted into the record. During the hearing, it became clear additional information would be needed from the Parties.

On October 25, 2016, a further hearing was held. The Complainant appeared and was represented by counsel and offered no exhibits. West Penn Power was represented by counsel, presented the testimony of three witnesses, and offered fifteen exhibits, all of which were admitted into the record. Additionally, the Complainant and West Penn Power elected to submit briefs.

On December 14, 2016, both Parties filed Main Briefs. West Penn Power filed a Reply Brief on December 21, 2016.

On March 29, 2017, we issued the Initial Decision of ALJ Dunderdale, in which the ALJ denied the Complaint. I.D. at 19.

Discussion

Legal Standards

As the proponent of a rule or order, the Complainant in this proceeding bears the burden of proof pursuant to Section 332(a) of the Code. 66 Pa. C.S. § 332(a). To establish a sufficient case and satisfy the burden of proof, the Complainant must show that West Penn Power is responsible or accountable for the problem described in the Complaint. *Patterson v. The Bell Telephone Company of Pennsylvania*, 72 Pa. P.U.C. 196 (1990). Such a showing must be by a preponderance of the evidence. *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600 (Pa. Cmwlth. 1990), *alloc. denied*, 529 Pa. 654, 602 A.2d 863 (1992). That is, the Complainant's evidence must be more convincing, by even the smallest amount, than that presented by West Penn Power. *Se-Ling Hosiery, Inc. v. Margulies*, 364 Pa. 45, 70 A.2d 854 (1950). Additionally, this Commission's decision must be supported by substantial evidence in the record. 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).

Additionally, any finding of fact necessary to support the Commission's adjudication must be based upon substantial evidence. Mill v. Pa. Pub. Util. Comm'n, 447 A.2d 1100 (Pa.Cmwlth. 1982); Edan Transportation Corp. v. Pa. Pub. Util. Comm'n, 623 A.2d 6 (Pa.Cmwlth. 1993); 2 Pa.C.S.A. § 704. More is required than a mere trace of evidence or a suspicion of the existence of a fact sought to be established. Norfolk and Western Ry. v. Pa. Pub. Util. Comm'n, 489 Pa. 109, 413 A.2d 1037 (1980); Erie Resistor Corp. v. Unemployment Compensation Bd. of Review, 166 A.2d 96 (Pa.Super. 1960); Murphy v. Dep't. of Public Welfare, White Haven Center, 480 A.2d 382 (Pa.Cmwlth. 1984).

The ALJ made seventy-three Findings of Fact and reached nine Conclusions of Law. I.D. at 3-13, 18-19. We shall adopt and incorporate herein by reference the ALJ's Findings of Fact and Conclusions of Law, unless they are reversed or modified by this Opinion and Order, either expressly or by necessary implication.

ALJ's Initial Decision

In her Initial Decision, ALJ Dunderdale explained that the Complaint centers on making a determination of whether West Penn Power's vegetation management program is compliant with our statute, regulations, and orders within the scope of "service" as outlined in Section 1501 of the Code. The ALJ also explained that public utility service includes undertaking proper vegetation management because minimizing the opportunity for service outages caused by vegetation is critical to the provision of safe and reliable electricity. The ALJ further explained that the Complainant did not take issue with West Penn Power's entire vegetation management program, but instead sought to have us direct West Penn Power to conduct its vegetation management program on his property without the use of herbicides. Therefore, the ALJ emphasized that the overarching issue in this proceeding is whether we can and should prohibit West Penn Power from using herbicides on its transmission right-of-way that crosses the land of the Complainant. I.D. at 14-15.

The ALJ addressed the Complainant's contention that the pre-mixed herbicide cocktail West Penn Power proposed to use is inherently dangerous and

that applying it up the hill from his water wells can be reasonably expected to result in the herbicides traveling into his water wells. The ALJ found that West Penn Power provided evidence sufficient to rebut the Complainant's contention. Specifically, the ALJ pointed to West Penn Power's documentation that the chemicals in the herbicide will be diluted into an oil-based medium, which reduces their potency and toxic impacts. Further, the ALJ pointed to the testimony of West Penn Power's witness that there are more health concerns from the premium grade oil base than from the chemicals themselves, which is why the chemicals are not used around open water sources Therefore, the ALJ ruled that West Penn successfully demonstrated that its proposal to apply the herbicide cocktail, in conjunction with its practice of trimming incompatible vegetation down to stumps, is reasonable and does not violate Section 1501 of the Code. I.D. at 16.

The ALJ also opined that it was not unreasonable for the Complainant to expect, and for West Penn Power to provide, reasonable and adequate assurance that the water the Complainant uses and the food he grows for consumption are safe to ingest and consume. Nonetheless, the ALJ determined that West Penn Power acted responsibly when it developed its vegetation management plan (VMP) and that the Complainant failed to carry his burden of proving that the specific situation in the matter before us warrants directing West Penn Power to undertake

additional safeguards. Therefore, the ALJ concluded that West Penn Power's use of herbicides for vegetation management does not interfere with the Complainant's safe use of his residence. The ALJ highlighted West Penn Power's willingness to test the Complainant's water sources before and immediately after applying the herbicides and its willingness to test the water sources a third time at a later date. The ALJ reasoned that West Penn Power's willingness to test the water sources was an excellent suggestion that may mitigate the Complainant's fears that his water and property are contaminated by the proposed use of herbicides. Thus, the ALJ determined that West Penn Power did not violate the Code relating to the manner in which it reassured the Complainant about the safety and efficacy of the proposed herbicide application and recommended that the Complaint be denied. I.D. at 17-18.

Disposition

On consideration of the positions of the Parties and the record evidence, we shall reverse ALJ Dunderdale's Initial Decision consistent with the discussion herein. At the outset, we emphasize that the analysis of the ALJ was

thorough and we find that her decision approving West Penn Power's proposed actions was consistent with both Commission precedent and West Penn Power's VMP. At the same time, however, we are of the opinion that simply finding West Penn Power's planned method of clearing vegetation from right-of-way to be consistent with its VMP is not sufficient to provide an equitable result in the instant case. In our view, the VMP, filed as part of a larger Biennial Inspection, Maintenance, Repair and Replacement Plan required for all electric distribution companies (EDCs), is far too general to address each factual situation which will arise when keeping transmission line rights-of-way clear. We consistently have found that vegetation management falls within our purview, and the Commonwealth Court has supported this finding. *See PECO Energy Company v. Township of Upper Dublin*, 922 A.2d 996, 1005-06 (Pa. Cmwlth. 2007); *Megan Mohn v. PPL Electric Utilities Corp*., Docket No. C-2012-2301470 (Order entered October 11, 2012); *Yanling Chen and Jianming Hu v. Metropolitan Edison Company*, Docket No. C-2013-2397061 (Order entered November 5, 2015); *Gene R. Wagner v. West Penn Power Company*, Docket No. C-2014-2434494 (Final Order entered April 30, 2015); *Richard and Sandy Lehet v. PPL Electric Utilities Corporation*, Docket No. C-2014-2449983 (Order entered October 28, 2015); *Marlene Broman v. West Penn Power Company*, Docket No. C-2013-2356237 (Order Entered April 23, 2014); *Jan and Joyce Spirat v. Metropolitan Edison*

Company, Docket No. C-2013-2367044 (Order entered September 11, 2014); and *Sarah Bernardi v. West Penn Power Co.*, Docket No. C-2014-2453852 (Order entered May 5, 2016). We strongly support timely vegetation maintenance that is vital to providing reliable and safe service to the citizens of the Commonwealth, but we recognize that there will be exceptions to the utility's preferred methods of keeping the right-of-way clear.

Our review of West Penn Power's Commission-approved VMP indicates that it is vague and lacking in sufficient detail to provide the owners of transmission rights-of-way and adjacent landowners any guidance in determining the circumstances under which the landowners may anticipate the manner in which the rights-of-way will be cleared. It says, in effect, that the utility will keep the rights-of-way cleared of growth that might interfere with safe and reliable electric service, using methods consistent with industry practices. The manner of clearing the growth and the circumstances under which the different methods are used are not delineated. The result is that the utility's defense in any complaint regarding herbicide use is inevitably that the method is consistent with its Commission-approved VMP; and that it therefore, is not a violation of a statute, regulation, or order of the Commission.

However, there is a point where the use of herbicides is simply not consistent with the landowner's ability to fully utilize the property, especially where, as is the case here, the source of water is shallow wells close to the right-of-way. Under appropriate circumstances, a landowner should be able to seek an exception to the utility's proposed use of herbicides, and if the utility still refuses, the landowner should be able to seek relief from the Commission. At that point, the landowner should file a petition for relief rather than a complaint. The reason that this Commission has not previously sustained complaints against utilities is that no violations of a statute, regulation or order of the Commission were found. Rather, the landowners were seeking an exception to the utility's proposed method of clearing the right-of-way. In fact, that is the nature of the request before us today.

This Commission has a history of treating pleadings by what is reflected in their content instead of by what they are labelled. For example, we have treated preliminary objections as motions for judgment on the pleadings and we have treated letters as petitions for withdrawal of pleadings or as exceptions. *See e.g., Utility Workers Union of America System Local 537 v. Pennsylvania-*

American Water Company, Docket No. C-2012-2287204, 2012 Pa. PUC LEXIS 944 (Order entered June 21, 2012) (preliminary objections properly treated as a motion for judgment on the pleadings); *Katz v. PPL Electric Utilities Corporation*, Docket No. F-2010-2211384, 2011 Pa. PUC LEXIS 825 (Initial Decision issued March 16, 2011); *Cuff v. PECO Energy Company*, Docket No. C-2013-2370894, 2013 Pa. PUC LEXIS 618 (Initial Decision issued August 29, 2013); *Reynolds v. PPL Electric Utilities Corporation*, Docket No. C-2011-2255268, 2012 Pa. PUC LEXIS 8 (Order entered January 5, 2012); *Boatin v. Verizon North, Inc.*, Docket No. C-2008-2066888 , 2009 Pa. PUC LEXIS 1020 (Initial Decision issued January 29, 2009); *Application of Ram & Sita Company t/a S Day & Night Travelers*, Docket No. A-2014-2426793, 2014 Pa. PUC Lexis 513 (Initial Decision issued October 17, 2014); *Re East Norriton Water Company*, Docket Nos. A-00015790, Folder 200, P-810315, 1982 Pa. PUC LEXIS 79 (Order entered July 16, 1982) (answer treated as a protest); and *Re: Application of Renzenberger, Inc.*, Docket No. A-00116249 F.3, 2003 Pa. PUC LEXIS 12 (Order entered February 7, 2003) (motion to dismiss treated as a petition for declaratory order). Other agencies do the same.[3] As long as the parties' rights are not negatively affected,

[3] *See e.g., Len Vando v. PA Dept. of Banking and Securities*, 2017 Pa. O.O.R.D. LEXIS 30 (January 11, 2017) (simple request treated as a Right to Know request); and *Upper Allegheny Joint Sanitary Authority v. DER*, 1989 EHB 303 (Pa. Environmental Hearing Board treated a motion for summary judgment as a motion for judgment on the pleadings).

and due process has been provided, there is no bar to changing the designation of a document to more accurately reflect its content and purpose. 52 Pa. Code § 1.2.

Here, the Parties have fully litigated a case filed as a complaint, although the prayer for relief, *i.e.*, a Commission directive to West Penn Power to not use herbicides on the right-of-way, is a request that is more suited to a petition for relief than to a complaint. The burden of proving entitlement to the requested relief lies with the proponent of the case in both complaints and petitions for relief, meaning that there would be no change in the burden of proof if the case had been brought as a petition for relief instead of a complaint. 66 Pa. C.S. § 332(a). Both parties had an opportunity to present their own cases, having been given notice and an opportunity to be heard. As the requirements of due process have been met, there is no prejudice to either side by treating this complaint as a petition for relief under 52 Pa. Code § 5.41.

In the matter before us, the Complainant has established the following relevant facts:

- West Penn Power has maintained a 100-foot right-of-way across Mr. Mattu's land since 1968. (Finding of Fact 4).

- Public water is not available to Mr. Mattu's residence, and his sole source of water is provided by two shallow wells. (Findings of Fact 5, 6 and 7).

- Both wells are located approximately 70 feet downhill from the right-of-way. (Finding of Fact 9).

- The well that is approximately 15 feet deep is served by a natural spring at the base of the hillside carrying the right-of-way. (Finding of Fact 12).

- The property also contains a fish pond located partly under the transmission line and less than 100 feet downhill from the area targeted for herbicide use. (Finding of Fact 13).

- The residence is located approximately 70 feet downhill from the transmission line. (Finding of Fact 14).

- Mr. Mattu does not object to clearing the right-of-way, only to the use of herbicides. (Finding of Fact 24).

- The pre-mix of herbicide must not be applied in or on water primarily because the oil carrier itself would harm or negatively impact water sources. (Finding of Fact 63; Tr. at 329-332).

- The herbicide Garlon is identified as a hazardous material which works by attaching to the plant's metabolism to prevent growth and regrowth, has low toxicity if ingested, low toxicity if inhaled, low toxicity with prolonged skin contact, and has low cation exchange capability.[4] (Finding of Fact 64; Tr. at 231; West Penn Power Exh. 7-8).

In addition, the record in this proceeding demonstrates that West Penn Power determines, on a case-by-case basis, the specific VMP, including herbicides,

[4] We note that the evidence submitted does not claim "no" toxicity or "no" cation exchange capability and that water at risk of being contaminated is the Complainant's only source of water for the residence.

to use on rights-of-way. In fact, following several site visits, West Penn Power determined that the original herbicide work plan would be adjusted for herbicide application to the stumps and proposed the grinding of tree stumps as a concession to the Complainant because the Complainant did not want any herbicides applied due to his water wells and pond. Tr. at 215, 223-225, 268-269. West Penn Power has not performed the vegetation management at this property because of the filing of the Complaint. *Id.*

We believe that the use of herbicides, which are by their very nature hazardous, can be properly used in some circumstances. However, in the present case, the Complainant has established that his circumstances require more care in choosing and applying vegetation management methods than many other landowners' circumstances. We note that our decision to grant this Petition for Relief is fact-specific and not intended to create a bright line test by which future cases should be evaluated. Rather, we find that the totality of the circumstances here, in this specific case, is sufficient to grant the Complainant relief by directing West Penn Power to maintain its right-of-way where it crosses the Complainant's land by means which do not include the use of herbicides. Given this unique fact pattern, the use of herbicides would be unreasonable. Our decision in this case does not bar West Penn Power from utilizing other vegetation management

methods including grinding tree stumps or assessing the vegetation growth within this right-of-way on a shorter time frame. We note that this is consistent with the methods used to maintain this portion of the right-of-way in past vegetation management cycles.

Because our Regulation at 52 Pa. Code § 5.41(b) requires that petitions for relief be served on the public advocates – and this was not done here – this determination will be used as a tentative opinion and order specifically for the purpose of allowing the public advocates an opportunity to intervene. If no intervention is received from the public advocates within thirty days of the entry date of this tentative opinion and order, it shall become final.

In light of the above, this Complaint in the nature of a Petition for Relief is tentatively granted, and West Penn Power shall use methods not involving herbicides on the right-of-way crossing the Complainant's land.

Conclusion

Based on the forgoing, we shall reverse the Initial Decision and grant the Petition for Relief, consistent with this Tentative Order and Opinion; THEREFORE,

IT IS ORDERED:

1. That the Petition for Relief filed on April 26, 2016, is granted consistent with this Tentative Order and Opinion.

2. That the Initial Decision of Administrative Law Judge Katrina L. Dunderdale, issued March 29, 2017, is reversed.

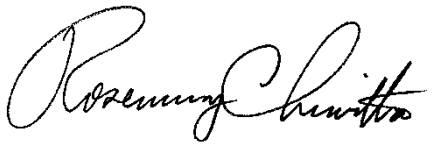
3. That West Penn Power Company is directed to forgo the use of herbicides on the right-of-way crossing Robert M. Mattu's land without his permission.

4. That a copy of this Tentative Opinion and Order be served on the Office of Consumer Advocate, the Office of Small Business Advocate and the Bureau of Investigation and Enforcement.

5. That all Statutory Advocates described in Ordering Paragraph No. 4 shall have thirty (30) days from the entry date of this Tentative Opinion and Order to file for intervention and request for additional proceedings.

6. That if no Statutory Advocate has filed a notice of intervention and request for additional proceedings within thirty (30) days of the entry date of this Tentative Opinion and Order, then this Tentative Opinion and Order shall become final without further action of the Commission.

BY THE COMMISSION,



Rosemary Chiavetta

Secretary

(SEAL)

ORDER ADOPTED: June 14, 2017

ORDER ENTERED: July 14, 2017

~~EXHIBIT #4~~

~~Martin L. Pall Chart~~

~~NOTE that insomnia is one of the most prominent symptoms in each catgegory.~~

~~Q. Have you compared reported health symptoms of smart meter exposure to other studies (p.20)~~

~~A. (Martin Pall) Yes. The comparison is shown in Table 2 below.~~

~~Table 2 – Comparison of health symptoms from smart meter and cell phone antenna studies.~~

A. Yes. The comparison is shown in Table 2 below.

Table 2 – Comparison of health symptoms from smart meter and cell phone antenna studies.

Neuropsychiatric study Appendix I	**Conrad 2013 U.S. smart meter study**	**Lamech 2014 Australian smart meter study**	**Santini 2003 cell phone antenna exposures**
Sleep disturbance/ insomnia Headache Fatigue/tiredness Depression/depressive symptoms Dysesthesia (vision/ hearing/olfactory dysfunction) Concentration/attention /cognitive dysfunction Dizziness/vertigo Memory changes Restlessness/tension/ anxiety/stress/ agitation/feeling of discomfort Irritability Loss of appetite/ body weight Skin tingling/burning/ inflammation/ dermographism Nausea	Fatigue Insomnia Concentration attention difficulty Headache Agitation Dizziness Ear ringing, tinnitus Head pressure Eye, vision Numbness Skin tingling, burning	Insomnia Headache Tinnitus Fatigue Cognitive disturbances Dysesthesias (abnormal sensation) Dizziness	Fatigue Irritability Sleep disturbance Headache Memory loss Depressive symptoms Memory loss Concentration difficulty Feeling of discomfort Skin problems Visual disturbance Dizziness Nausea
Not included	Tachycardia, arrhythmia, high and low blood pressure	Not studied	Cardiovascular problems

EXHIBIT #5

To: Alan Schmukler

From: William Bathgate

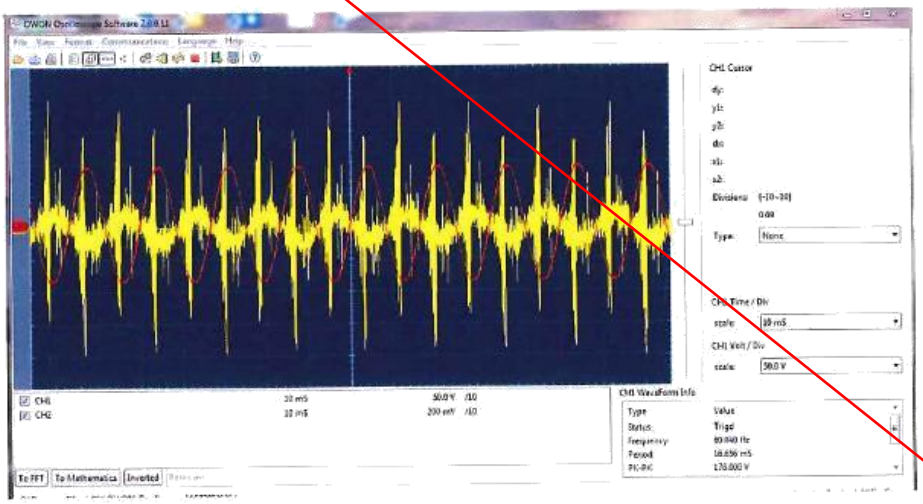
Reference: Affidiavit

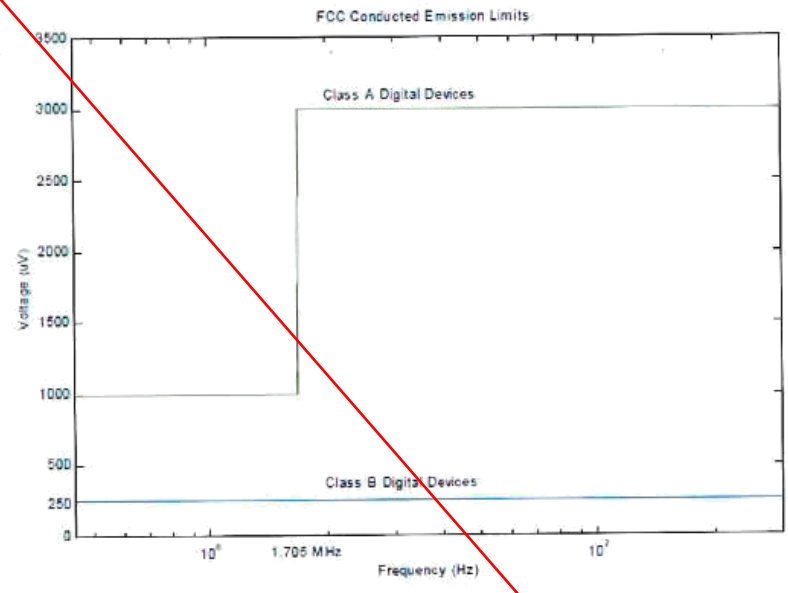
Date: May 7, 2018

Notarized statements and photos from William Bathgate

In my testimony PPL asked about the other meters I had tested and I did speak to the Landis+Gyr meter I had in my possession which was the same model used by PPL. Enclosed is a test I performed on the same meter used by PPL. This was a test conducted in an isolated environment with no other electrical devices in the circuit. This home has an Analog meter fed by the utility company. The transformer on the pole is not shared with another neighbor. The test setup is shown in the enclosed picture. In the center of this large grey box is where the PPL meter was mounted. This test is about as isolated a test that can be performed.

Here is an oscilloscope trace of the Landis+Gyr meter. The Red trace is the normal 60 cycle power. The yellow trace is the added voltages induced by the Switched Mode Power supply. In this trace peak to peak voltage is 1600 Millivolts. The maximum permitted excess transient voltage above the normal 60 cycle power is 250 Microvolts as shown in the FCC Conducted emissions chart included here. The PPL Landis+Gyr meter produced 640 times the allowed limit by the FCC. The PPL meter from Landis+Gyr is a residential Class B computing device with a circuit in excess of 9 KHz so the FCC conducted emissions rules apply. See FCC OEC bulletin No. 62





In the United States the Federal Communications Commission (FCC) is charged with the regulation of radio and wire communication. Radio frequency devices are the primary concern in EMC. A radio frequency device is defined by the FCC as any device that is capable of emitting radio frequency energy by radiation, conduction or other means whether intentionally or not. Radio frequencies are defined by the FCC to be the range of frequencies extending from 9 kHz to 3000 GHz. Some examples of radio frequency devices are digital computers whose clock signals generate radiated emissions, blenders that have dc motors where arcing at the brushes generates energy in this frequency range, and televisions that employ digital circuitry. In fact nearly all digital devices are considered radio frequency devices.

With the advent of computers and other digital devices becoming popular, the FCC realized that it was necessary to impose limits on the electromagnetic emissions of these devices in order to minimize the potential that they would interfere with radio and wire communications. As a result the FCC set limits on the radiated and conducted emissions of digital devices. Digital devices are defined by the FCC as any unintentional radiator (device or system) that generates and uses timing pulses at a rate in excess of 9000 pulses (cycles) per second and uses digital techniques . All electronic devices with digital circuitry and a clock signal in excess of 9 kHz are covered under this rule, although there are a few exceptions.

The law makes it illegal to market digital devices that have not had their

conducted and radiated emissions measured and verified to be within the limits set for by the FCC regulations. This means that digital devices that have not been measured to pass the requirements cannot be sold, marketed, shipped, or even be offered for sale.

Although the penalties for violating these regulations include fines and or jail time, companies are more concerned with the negative publicity that would ensue once it became known that they had marketed a product that fails to meet FCC regulations. Furthermore, if the product in question were already made available to the public, the company would be forced to recall the product. Thus it is important that every unit that a company produces is FCC compliant. Although the FCC does not test each and every module, they do perform random tests on products and if a single unit fails to comply, the entire product line can be recalled.

The FCC has different sets of regulations for different types of digital devices. Devices that are marketed for use in commercial, industrial or business environments are classified as Class A digital devices. Devices that are marketed for us in residential environments, notwithstanding their use in commercial, industrial, or business environments are classified as Class B digital devices. In general the regulations for Class B devices are more stringent than those for Class A devices. This is because in general digital devices are in closer proximity in residential environments, and the owners of the devices are less likely to have the abilities and or resources to correct potential problems. The following table shows a comparison of the Class A and Class B conducted emissions limits, where you can clearly see that the regulation for Class B devices are more strict than those for Class A devices. A comparison for radiated emissions will be shown later. Personal computers are a subcategory of Class B devices and are regulated more strictly than other digital devices. Computer manufacturers must test their devices and submit their test results to the FCC. No other digital devices require that test data be sent to the FCC, rather the manufacturer is expected to test their own devices to be sure they are electromagnetically compatible and the FCC will police the industry through testing of random product samples.

With regards to the discussion about surge protection within the Landis+Gyr it uses the same circuit as all AMI meters. This component is called a Varistor. This is a small electronic component mounted on the circuit board that is rated for a maximum of 300 Volts AC surge. This can easily happen when a tree branch crosses over the power lines in a storm because the surge voltage in very high voltages is sustained for a lengthy period. Included here is the typical Varistor used in the PPL meter. It has been noted that this 300 Volt Max limit is in the component specifications. All AMI meters have this component. The issue is that this device failure mode on the circuit board is catastrophic, the component in a utility meter adds a 240 volts AC or more with a potential of up to 2,000 amps of power directly entering the circuit boards which are not designed for more than 12 volts DC and less than 500 Milliamps. The same circuits are in all AMI meters and the observations made of meter failures are consistent to the design characteristics present in all AMI meters. To state the PPL meter is so vastly different than any other AMI meter is a preposterous statement only meant to distract the commission from very serious design faults in the AMI meter program. Included is the detail for background on a Varistor and the failure mode of such a device.

Hazards [edit]

While a MOV is designed to conduct significant power for very short durations (about 8 to 20 microseconds), such as caused by lightning strikes, it typically does not have the capacity to conduct sustained energy. Under normal utility voltage conditions, this is not a problem. However, certain types of faults on the utility power grid can result in sustained over-voltage conditions. Examples include a loss of a neutral conductor or shorted lines on the high voltage system. Application of sustained over-voltage to a MOV can cause high dissipation, potentially resulting in the MOV device catching fire. The National Fire Protection Association (NFPA) has documented many cases of catastrophic fires that have been caused by MOV devices in surge suppressors, and has issued bulletins on the issue.[citation needed]

A series connected thermal fuse is one solution to catastrophic MOV failure. Varistors with internal thermal protection are also available.

There are several issues to be noted regarding behavior of transient voltage surge suppressors (TVSS) incorporating MOVs under over-voltage conditions. Depending on the level of conducted current, dissipated heat may be insufficient to cause failure, but may degrade the MOV device and reduce its life expectancy. If excessive current is conducted by a MOV, it may fail catastrophically, keeping the load connected, but now without any surge protection. A user may have no indication when the surge suppressor has failed. Under the right conditions of over-voltage and line impedance, it may be possible to cause the MOV to burst into flames,[14] the root cause of many fires[15] and the main reason for NFPA's concern resulting in UL1449 in 1986 and subsequent revisions in 1998 and 2009. Properly designed TVSS devices must not fail catastrophically, resulting in the opening of a thermal fuse or something equivalent that only disconnects MOV devices.

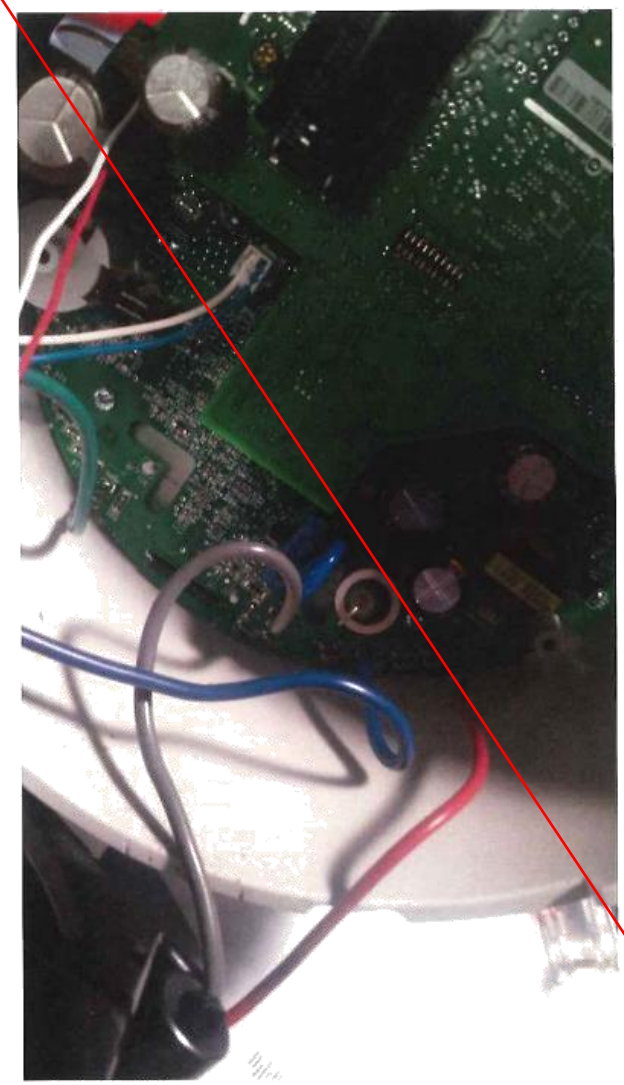
A 130 volt, 150 J MOV that has undergone catastrophic failure, apparently as a result of a lightning strike, showing evidence of heat and smoke. The 3 amp fast-blow fuse immediately in front of the varistor blew during the same event.

Limitations [edit]

A MOV inside a TVSS device does not provide equipment with complete power protection. In particular, a MOV device provides no protection for the connected equipment from sustained over-voltages that may result in damage to that equipment as well as to the protector device. Other sustained and harmful overvoltages may be lower and therefore ignored by a MOV device.

A varistor provides no equipment protection from inrush current surges (during equipment startup), from overcurrent (created by a short circuit), or from voltage sags (also known as a brownout); it neither senses nor affects such events. Susceptibility of electronic equipment to these other power disturbances is defined by other aspects of the system design, either inside the equipment itself or externally by means such as a UPS, a voltage regulator or a surge protector with built-in overvoltage protection (which typically consists of a voltage-sensing circuit and a relay for disconnecting the AC input when the voltage reaches a danger threshold).

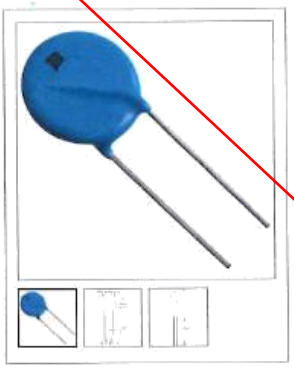
Enclosed is the circuit board of the PPL meter and you can see the bright blue Varistor on the circuit board that has been discussed in this report, the gray wire is a 240 input to the Varistor circuit (the bright blue component). For PPL to state that their meter is vastly different is a specious argument. All AMI meters have the same basic fundamental functions, otherwise changing from one meter manufacturer to a different one would be impossible and all the AMI meters are plug compatible with each other.



Mr. Larson referred to "the padding materials that are utilized when building transformers." That is the most confounding statement ever heard, since there is no padding material in any meter AMI or otherwise.

You can see the main circuit board picture above of the AMI meter and there is no padding material. So this statement is not factual and is only a distraction to the commission. If Mr. Larson has photos of this padding it would best be represented by some type of artifact or photo to prove this very questionable statement and its effects to the electrical characteristics of the transformer. No "Padding" material of any kind would deter the laws of electricity in response to a surge voltage. The common utility transformer mounted on a pole would not do anything to suppress a voltage surge, the pole mounted transformer is a step down transformer and any higher than normal line surge fed into the transformer would directly increase the proportional voltage sent to the residential meter and the power panel in the home. I cannot image any padding material in the transformer to do anything other than better protect the internal windings of the transformer in the event the transformer fell off the back of a truck hitting the pavement.

Product Index > Circuit Protection > TVS - Varistors, MOVs > Bourns Inc. MOV-20D471K



Product Overview	
Digi-Key Part Number	MOV-20D471K-ND
Quantity Available	5,621 Can ship immediately
Manufacturer	Bourns Inc.
Manufacturer Part Number	MOV-20D471K
Description	VARISTOR 470V 6.5KA DISC 20MM
Lead Free Status / RoHS Status	Lead free / RoHS Compliant
Moisture Sensitivity Level (MSL)	1 (Unlimited)
Manufacturer Standard Lead Time	15 Weeks
Detailed Description	470V 6.5kA Varistor 1 Circuit Through Hole Disc 20mm

Documents & Media	
Datasheets	MOV-20DzzzK Series Datasheet MOV Product Bulletin MOV14D_20D Product Bulletin
Environmental Information	MOV-20DzzzK Series Material Declaration
Mfg CAD Models	MOV-20D471K.stp
PCN Packaging	MOV Series Sep/2014 MOV Series Packaging Nov/2016
Online Catalog	MOV-xxDxxxK Series

Product Attributes		Select All
Categories	Circuit Protection TVS - Varistors, MOVs	
Manufacturer	Bourns Inc	
Series	-	
Packaging	Bulk	
Part Status	Active	
Maximum AC Volts	300V	
Maximum DC Volts	385V	
Varistor Voltage (Min)	423V	
Varistor Voltage (Typ)	470V	
Varistor Voltage (Max)	517V	
Current - Surge	6.5kA	
Energy	220J	
Number of Circuits	1	
Capacitance @ Frequency	850pF @ 1kHz	
Operating Temperature	-40°C ~ 85°C (TA)	
Mounting Type	Through Hole	

Commented [W1]:

In respondents testimony it is asserted that Complainant's electrical engineering witness, Mr. Bathgate, was unreliable and fatally flawed because his opinions are based on a fundamental misunderstanding of the basic physics of RF fields. However, Mr. Bathgate has 40 years' experience as an electrical engineer and has worked with and designed systems like the AMI. He understands the physics of it completely. His response about ionizing versus non-ionizing radiation was more nuanced than Respondent would admit. He averred that when non-ionizing radiation was of sufficient intensity so that it could heat a particular quantity of fluid (1 Kilo Gram of soapy liquid) to a particular temperature (rising temperature of 1 Degree Celsius) , it acted in a manner similar to ionizing radiation as per heating. This is an indicator of molecules movement and excitement to create detrimental health effects. This is the FCC guideline for the FCC specification, not the Nuclear Regulation Commission (NRC) specification. There was no mention of the NRC in the testimony. Further, if a pilot who had flown commercially for 40 years offered an opinion about aerodynamics that you disagreed with, it wouldn't nullify his 40 years

expertise as a pilot. (Transcript –p.103, 1-15, p.106-20-25, p.107, 1-9, p.33, 9-22, p.34, 14-25, p.35, 1-4)

This is my affidavit in response to the case of Alan v. Schmukler vs PPL.

Sincerely,

William S. Bathgate

William S. Bathgate
10909 Monticello Road
Pinckney, MI 48169
256-570-5434

State of Texas
County of Bell
This Instrument was acknowledged before me on MAY 7 2018, by William Bathgate
Notary

AMBER HUGHLING
Notary Public, State of Texas
My Commission Expires
March 23, 2019

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA)
) ss:
COUNTY OF DAUPHIN)

DEVIN T. RYAN, being duly sworn according to law, deposes and states that he is Counsel to PPL Electric Utilities Corporation and that in this capacity, he is authorized to and does make this affidavit for them, and that the facts set forth in the foregoing Answer are true and correct to the best of his knowledge, information and belief.

Devin T. Ryan, Esquire

Signed and sworn to before me on

June 6, 2018, by

Devin T. Ryan making statement.

Notary Public

My commission expires _____.

(SEAL)

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Denise L. Huber, Notary Public
City of Harrisburg, Dauphin County
My Commission Expires Aug. 10, 2021
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES