

John Kline  
5611 Stradford Drive  
Harrisburg, Pa. 17112

July 9, 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: John Kline v. PPL Electric Utilities Corporation**  
**Docket No. C-2017-2621072**

Dear Secretary Chiavetta:

Enclosed for filing is the Reply Brief of John Kline in the above referenced proceeding. Copies will be provided as indicated on the Certificate of Service.

Respectfully Submitted,

A handwritten signature in black ink that reads "John Kline". The signature is written in a cursive style with a long horizontal flourish at the end.

**John Kline**

cc: Honorable Elizabeth Barnes

## 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**

**Devin Ryan**

[dryan@postschell.com](mailto:dryan@postschell.com)

**Council for PP&L Electric Utilities Corporation**

**17 North Second Street**

**12th Floor**

**Harrisburg, PA 17101-1601**

Date: July 9, 2018



---

John Kline

**BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

John Kline,	:
	:
Complainant,	:
	:
v.	: Docket No. C-2017-2621072
	:
PPL Electric Utilities Corporation,	:
	:
Respondent.	:

---

**Reply Brief of John Kline**

---

**References**

**Public Utility Commission Cases**

- **D. Bervinchak - C-2016-2572824**
- **J. Bervinchak - C-2016-2577527**
- **R.-M. Elam - C-2017-2630795**
- **S. G. Chapman - C-2017-2617625**
- **J. Kline - C-2017-2621072**
- **D. Millan - C-2017-2623236**
- **R. N. Myers - C-2017-2620710**
- **A. V. Schmukler - C-2017—2621285**
- **D. & B. Zimmerman - C-2017-2615038**
- **A. McKnight C-2017-2621057**
- **Susan Kreider - C-2015-2469655 / P-2015-2495064**
- **Maria Povacz - C-2015-2475023**
- **Laura Murphy - C-2015-2475726**
- **Janette Bachman - C-2017-2623504**
- **C. Frompovich - C-2015-2474602**
- **Cynthia Randall & Paul Albrecht - C-2016-2537666**
- **Lynn Caesar - C-2017-2605462**
- **Mary Paul - C-2015-2475355**
- **K. R. Anthony - C-2018-3000490**
- **C. & P. Bamberger - C-2018-3000358**
- **B. Heffner - C-2018-3000471**
- **E. Hoffman-Lorah - C-2018-2644957**
- **E. Mallin - C-2018-2644068**

- G. Pink - C-2017-2637828
- A. Torres - C-2018-2641883

## Pennsylvania Statutes & Regulations

- Title 66 / CHAPTER 15 / SUBCHAPTER A / § 1502. Discrimination in service
- 66 Pa.C.S. § § 501 and 1501§ 57.28. Electric safety standards.
- 66 Pa. C.S. § 2807
- 225 Pa. Code Rule 607
- 234 Pa. Code Rule 581
- 231 PA Code Rule 1012.1. Admission Pro Hac Vice. Motion
- Pennsylvania Title 18 - CHAPTER 5 - GENERAL PRINCIPLES OF JUSTIFICATION § 507

## J. Kline - C-2017-2621072 – PUC / Pennsylvania and Federal Court Rulings

### (Testimony / Main Brief and Reply Brief)

- Pa. PUC docket # C-2015-2475023
- A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania
- Case 1:13-cv-00851-RJL Document 48 Filed 12/16/13, Klayman V. Obama
- SUPREME COURT OF THE UNITED STATES - UNITED STATES v. JONES
- United States v. KYLLO - certiorari to the united states court of appeals for the ninth circuit

## J. Kline - C-2017-2621072 – Legal Violations

### (Testimony / Main Brief and Reply Brief)

- Public Utility Code, 66 Pa.C.S. § § 501 and 1501 § 57.28. Electric safety standards
- Title 66 / CHAPTER 15 / SUBCHAPTER A / § 1502. Discrimination in service
- 14th amendment of the United States Constitution Section 1 (Exhibit Kline – K) Amendment XIV Section 1
- Violation of the (Exhibit Kline Y) - Federal Trade Commission Act - Section 5: Unfair or Deceptive Acts or Practices
- United States Constitution - Amendment IV
- CONSTITUTION OF THE COMMONWEALTH OF PENNSYLVANIA – Article 1 / Section 8
- The Electronic Communications Privacy Act (ECPA) page 23 Exhibit Kline – F
- The Stored Communications Act (SCA) page 24 Exhibit Kline – F
- The Computer Fraud and Abuse Act (CFAA) page 28 Exhibit Kline – F
- The Federal Trade Commission Act (FTC Act) page 29 Exhibit Kline – F

Table of Contents

	Page
Statement of Case.....	1
Summary of Argument.....	3
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION III. QUESTIONS PRESENTED.....	7
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION V. SUMMARY OF ARGUMENT.....	7
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION VI. ARGUMENT.....	10
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION PPL Electric’s Installation of the New AMI Meter Is Required by Law.....	12
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION Installing the New AMI Meter Would Not Constitute Unsafe or Unreasonable Service.....	13
Motion to Impeach the Professional Expert Witness.....	14
Motion to Have Dr. Davis’ testimony Suppressed.....	19
Renner pro hac vice.....	22
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION The Complainant Has Failed to Demonstrate that the New AMI Meter Causes, Contributes to, or Exacerbates Any Adverse Health Effect.....	23
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION There Is No Reliable Medical Basis to Support the Complainant’s Allegations that the AMI Meters Cause Adverse Health effects.....	24
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION The Complainant’s Exhibits Cannot Support Any Findings of Fact.....	27
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION The Complainant Has Failed to Prove that the New AMI Meter Is Unsafe and Would Cause Fires.....	58
In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION The Complainant Has Failed to Prove that the New AMI Meter Is a Privacy and Cybersecurity Risk.....	59

**In response to MAIN BRIEF OF PPL ELECTRIC UTILITIES CORPORATION**  
**PPL ELECTRIC HAS A LEGAL RIGHT TO TERMINATE SERVICE IF IT IS DENIED REASONABLE ACCESS TO ITS**  
**METER.....62**

**Conclusion.....63**

## STATEMENT OF THE CASE

**On August 23, 2017 John Kline Filed the above-captioned Formal Complaint**

**On August 24, 2017, PPL Electric was served with the above-captioned Formal Complaint.**

**On September 13, 2017, PPL Electric filed its Answer to the Complaint.**

**On October 3, 2017, a Notice was issued scheduling an in-person hearing for January 31, 2018, before Administrative Law Judge Elizabeth H. Barnes (the "ALJ").**

**On October 4, 2017, the ALJ issued the First Prehearing Order, which set forth certain procedural rules in this proceeding.**

**On December 18, 2017, PPL Electric filed a Motion for Admission Pro Hac Vice of Curtis S. Renner, Esquire, as additional counsel on behalf of the Company.**

**On December 21, 2017, PPL Electric filed a letter requesting that the January 31, 2018 hearing be rescheduled for March 29, 2018, because the Company's expert witnesses were unavailable for the hearing on January 31, 2018.**

**On December 22, 2017, the ALJ issued the Second Prehearing Order, which, among other things, rescheduled the evidentiary hearing for March 29, 2018, and directed the parties to exchange all exhibits, reports, and statements by March 15, 2018.**

**On January 8, 2018, the ALJ issued an Interim Order granting the Motion for Admission Pro Hac Vice.**

**On February 14, 2018, PPL Electric filed a Notice and Withdrawal of Appearance.**

**On February 20, 2018, PPL Electric filed a letter requesting that any expert testimony and exhibits be presented in written form in advance of the hearing and exchanged by the parties on or before March 15, 2018.**

**On March 15, 2018, PPL Electric and the Complainant exchanged their exhibits, reports, and statements.**

**On March 26, 2018, the Complainant sent additional exhibits (i.e., Complainant's Exhibits CCC through FFF) via email to PPL Electric.**

**On March 27, 2018, the Complainant sent additional exhibits (i.e., Complainant's Exhibits GGG and E1HH) via email to PPL Electric.**

**On March 28, 2018, PPL Electric filed a Motion in Limine to exclude the Complainant's exhibits.**

**The parties engaged in discovery at various points in the proceeding before the evidentiary hearing.**

**On March 29, 2018, an in person evidentiary hearing was held as scheduled at 10:00 AM.**

**On March 29, 2018 Judge Barnes denied the Motion in Limine to exclude the Complainant's exhibits**

**On March 30, 2018, the ALJ issued a Briefing Order setting forth requirements for the briefs to be submitted in this proceeding.**

**On May 16, 2018 PPL Electric Utilities and John Kline submitted their main brief**

**On May 24, 2018 John Kline requested an extension to file his reply brief**

**On May 25, 2018 Judge Barnes granted the extension to file the reply brief until July 2, 2018.**

**Only July 1, 2018 John Kline requested an additional extension to file his reply brief due to exigent circumstances**

**On July 2, 2018 Judge Barnes granted the extension to file the reply brief until July 9, 2018.**

## Summary of Argument

The Complaint should be granted in its entirety because John Kline sustained his burden of proof that installing the new AMI meter would violate the Public Utility Code and Commission regulation. Act 129 was never meant to be mandatory but instead was meant to be an “opt in” bill that was incorrectly implemented by the Pennsylvania Public Utility Commission. There have been many bills introduced to amend this illegal mandate but they have all been blocked by Robert Godshall, Chairman of the House Consumer Affairs Committee. The following bills are currently on the floor for the current session.

Senate of Pennsylvania  
Session of 2017 - 2018 Regular Session

From: [Senator Donald C. White](#)  
To: All Senate members  
Subject: Smart Meter Technology Bills

I plan to re-introduce three bills (Senate Bills 364, 365, and 366 from last session) to address consumer concerns related to smart meter technology.

Act 129 of 2008 requires electric distribution companies to develop energy efficiency and conservation plans and requires electric distribution companies to deploy smart meter technology throughout their service territories according to a 15-year depreciation schedule. Smart meter technology transmits usage data to both an electric distribution company and the consumer on an hourly basis.

The three bills include:

1. Repeal of smart meter mandate
2. Consumer consent to share smart meter information
3. Consumer "opt-out" of smart meter usage

Introduced as [SB443](#)

Description: 1. **Repeal of smart meter mandate**

The first bill would amend Title 66 (Public Utilities) to repeal a mandate imposed on electricity companies to install smart meter technology on the buildings of their customers.

While smart meters may have their advantages, I have heard from many constituents that believe their usage should not be mandated. This bill would simply remove language requiring energy companies to provide smart meters. Electric companies can continue to offer the technology as an option to their consumers.

**Description: 2. Consumer "opt-out" of smart meter usage**

**The third bill would amend Title 66 (Public Utilities) to permit consumers to “opt-out” of having smart meter technology deployed on their property.**

**Many of my constituents have expressed their concern of having smart meter technology placed in their homes or businesses without their consent. Their concerns range from securing sensitive and personal information to the health impacts of radio frequency (RF) waves.**

**This legislation would provide consumers the ability to “opt-out” of having a smart meter and require the Pennsylvania Public Utility Commission to create a fair surcharge system to be paid by consumers. My bill is similar to laws recently passed in Maine, Nevada and California.**

**Description: 3. Consumer consent to share smart meter information**

**The second bill will ensure customer consent is required before an electric distribution company may share customer meter data or provide meter access to a government agency. The bill will amend Title 66 (Public Utilities) to add “government agencies” to the list of specifically enumerated third parties where customer consent is required in order for an electric distribution company to provide access to customer meters and meter data.**

**Part of the mandate is the requirement that, with customer consent, power companies provide direct meter access or meter data to third parties including electric generation suppliers and providers of conservation and load management services. While it makes sense for certain third parties to have access to data necessary to ensure that consumers are billed properly for the services they receive, I am concerned about this information being shared with government agencies without prior consent.**

**Co-sponsors of these bills are Senators WHITE, FOLMER, VULAKOVICH, ALLOWAY, VOGEL, WARD, HUTCHINSON, WAGNER, BAKER and MARTIN. Included in this list is Scott Wagner the current Republican nominee for Governor of Pennsylvania in the 2018 election. It is obvious that our legislature is taking the concerns of its citizens seriously; however the PUC, the utility companies and Robert Godshall continue to put the health and wellbeing of thousands of Pennsylvania citizens at risk. Standard-setting bodies with documented conflicts of interests, continue to stifle reform!**

**First, John Kline has demonstrated that the new AMI meter can cause, contribute to, or exacerbate an illness. Evidence was presented from reliable Government, Medical and Scientific sources that should allow us to make a reasonable choice to protect our safety. My family and I have had made a number of choices such as not having a microwave, Corded phones, limiting use of Wi-Fi, television, etc. and will continue to take additional precautions. Yet, PPL Electric Utilities claim that we should have to prove and illness to not**

have a smart meter installed is in of itself criminal. It takes away all of our choices and freedoms regarding the dangers of radioactive microwaves (Radio Frequency –RF) and puts the entire population at risk. Outdated exposure standards, have PPL and other Utility companies coercing the complainants to endure exposure which amounts to involuntary human experimentation. In addition health risks from the type of electromagnetic energy emitted from smart meters are heightened in the very young, the very old, and in those with pre-existing diseases and disorders. Lack of definitive proof that a technology is harmful does not mean the technology is safe, yet the Utility Companies and wireless industry has succeeded in selling this logical fallacy to the citizens. In truth, the safety of wireless technology has been an unsettled question since the industry’s earliest days. The upshot is that, over the past 30 years, billions of people around the world have been subjected to a massive public-health experiment: Use a cell phone / Wi-Fi today, find out later if it causes cancer or genetic damage. Meanwhile, big corporations obstructed a full and fair understanding of the current science, aided by government agencies that have prioritized commercial interests over human health and news organizations that have failed to inform the public about what the scientific community really thinks. In other words, this public-health experiment has been conducted without the informed consent of its subjects.

“The absence of absolute proof does not mean the absence of risk,” Annie Sasco, the former director of epidemiology for cancer prevention at France’s National Institute of Health and Medical Research, told the attendees of the 2012 Childhood Cancer conference.

Second, the Company’s professional paid witnesses offered questionable and inaccurate testimony and offered no substantial proof that Radio Frequency (“RF”) is safe. Most complainants in this process including us simply do not have the financial resources to challenge the big corporation’s expert witnesses, nor can we afford to bring in our own experts. This has been a costly consequence for complainants since the presentation of evidence in advance, at these hearings allows the Utility Companies ample time to prepare its own experts. Since the utilities have far more resources than the person filing the complaint, they can easily hire experts to prepare studies that, at the very least, cast doubt upon the “guilt” of their product. Therefore, we should not be penalized for presenting sound, legitimate evidence form reliable sources. Respected scientists often reach different conclusions regarding the same data. So when there is disagreement within the scientific community regarding such evidence, the ALJ should not take it upon them self to disallow all testimony simply because it is not presented by an expert. Even when causation cannot be proved, that does not necessarily mean that respondent did not act in a reprehensible manner in exposing the public to risk. For example, problems often develop with drugs long after they have been approved for market. These hearings reveal whether corporations knowingly continued to install unsafe equipment after it became clear that problems existed. Assessment of evidence and causal inferences depend on accumulating all potentially relevant evidence and making a subjective judgment about the strength of the evidence. Making reasoned judgments after accumulating all potentially relevant evidence, not just the evidence of the corporations experts, is the role of the ALJ. The “preponderance of the evidence” standard should be based on the strength or weakness of each individual piece of evidence.

Third, John Kline has shown that the new AMI meter is otherwise unsafe and could cause fires. “Typical gauge electrical wiring that provides electricity to buildings (60 Hz power) is not constructed or intended to

carry high frequency harmonics that are increasingly present on normal electrical wiring. The use of smart meters will place an entirely new and significantly increased burden on existing electrical wiring because of the very short, very high intensity wireless emissions (radio frequency bursts) that the meters produce to signal the utility about energy usage... "Reports detail that the meters themselves can smoke, smolder and catch fire, they can explode, or they can simply create over-current conditions on the electrical circuits... "Electrical wiring was never intended to carry this - what amounts to an RF pollutant - on the wiring. The higher the frequency, the greater the energy contained." "Faulty wiring, faulty grounding or over-burdened electrical wiring may be unable to take the additional energy load." PPL Electric Utilities has not presented sound evidence that this will not happen, in fact they even admitted that it is a possibility. Full argument is detail in this brief.

Fourth, John Kline has proven that the privacy and cybersecurity concerns are legitimate. According to the Department of Energy, smart meters may be able to reveal occupants' "daily schedules (including times when they are at or away from home or asleep), whether their homes are equipped with alarm systems, whether they own expensive electronic equipment such as plasma TVs, and whether they use certain types of medical equipment. Full argument is detailed in this brief.

Finally, John Kline has the right to protect himself, his family and property according to The statutes of Pennsylvania Title 18 - CHAPTER 5 - GENERAL PRINCIPLES OF JUSTIFICATION § 507 paragraph (e)

(e) Use of device (in this case the lock) to protect property.--The justification afforded by this section extends to the use of a device for the purpose of protecting property only if:

(1) the device is not designed to cause or known to create a substantial risk of causing death or serious bodily injury;

(2) the use of the particular device to protect the property from entry or trespass is reasonable under the circumstances, as the actor believes them to be; and

(3) the device is one customarily used for such a purpose or reasonable care is taken to make known to probable intruders the fact that it is used.

For these reasons, and as further explained in detail below, the Commission should grant the Formal Complaint of John Kline and allow the complainant to have an Analog meter of their choice installed.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

Page

**III. QUESTIONS PRESENTED.....3**

- 1. Whether the Complainant has failed to sustain his burden of proof that PPL Electric’s installation of a new AMI meter at his premises would violate the Public Utility Code, a Commission order, or a Commission regulation.**

**Answer – Negative – Answered below**

- 2. Whether the Company has a legal right to terminate a customer’s service if it is denied reasonable access to the customers’ premises to replace the Company-owned meter.**

**Answer – Negative – Answered below**

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

Page

**V. SUMMARY OF ARGUMENT.....6**

**PPL ELECTRIC UTILITIES CORPORATION claim that the Complaint should be denied in its entirety and with prejudice because the Complainant has failed to sustain his burden of proof that installing the new AMI meter would violate the Public Utility Code or any Commission regulation or order, is totally without merit. As stated in my main brief**

- 1. Title 66 / CHAPTER 15 / SUBCHAPTER A / § 1502. Discrimination in service.**

**No public utility shall, as to service, make or grant any unreasonable preference or advantage to any person, corporation, or municipal corporation, or subject any person, corporation, or municipal corporation to any unreasonable prejudice or disadvantage. No public utility shall establish or maintain any unreasonable difference as to service, either as between localities or as between classes of service, but this section does not prohibit the establishment of reasonable classifications of service.**

**The PA PUC, by making the installation of Smart meters mandatory for only some of the electric utility distribution companies in Pennsylvania is giving a preference or advantage to any person who is not**

required to have a smart meter installed because the live in area that has an electric utility distribution company with under 100,000 customers.(Exhibit Kline 2K) HB2200 states:

**(6) THE PROVISIONS OF THIS SUBSECTION SHALL NOT APPLY TO AN ELECTRIC DISTRIBUTION COMPANY WITH 100,000 OR FEWER CUSTOMERS.**

Since PPL Electric Utilities Corporation is the only electric distribution company in my/our area, it is a monopoly since I do not have a choice to switch to another company. Therefore there is Discrimination in service since not all Pennsylvania citizens are required to have these meters installed and I must, based on the geography where I own a home. I ask the court, how can a Pa law be mandated if it is not mandated to all citizens of Pennsylvania? In Lititz Pa., for example, there are some residents who are required to have a smart meter and their neighbors across the street do not, since they are serviced by a smaller distribution company. How can a regulation discriminate against any person or corporation just based on where they live or do business?

**2. Public Utility Code, 66 Pa.C.S. § § 501 and 1501**

**§ 57.28. Electric safety standards.**

**(A) (1) An electric utility shall use reasonable effort to properly warn and protect the public from danger, and shall exercise reasonable care to reduce the hazards to which employees, customers, the public and others may be subjected to by reason of its provision of electric utility service and its associated equipment and facilities.**

PPL Electric Utilities Corporation, by its own admission, in the Response to Interrogatories of John Kline, set 1 (Exhibit Kline – A), states that PPL Electric has not funded, sponsored, or been personally involved in any studies regarding the safety of the new automated metering infrastructure (“AMI”) meters. It is also not aware of any such studies, that the PA PUC was involved in. How has a reasonable effort been made if there has been no personal effort on PPL Electric Utilities Corporation part? This violates § 57.28. Electric safety standards.

Further, there is nothing in Act 129 that stipulates any type of consequence if a customer refuses a smart meter and that is because the law as written was never intended to be mandatory. If this was the intention then act 129 would have stated that a customer who refuses to have a smart meter installed would have their service terminated. As mention in my main brief, there are several law makers that clearly made statements that the smart meters were not mandatory. Yet the PUC took it upon them self to change the intention of the law and in essence allow PP&L and other distribution companies to terrorize, manipulate and threaten their customers who are in good standing. This overreach of power must not be allowed to continue.

In addition, installing the new AMI meter would absolutely constitute unsafe and unreasonable service.

First, in my testimony I did present a preponderance of and clear and convincing evidence that a smart meter installed at our home could present a risk to human health. I have a right to protect and defend my family and the fact that I do not currently have a smart meter installed on my home nullifies the

respondent's argument that I did not present any medical or scientific testimony that the smart meter is a risk to me specifically. The medical and scientific field will always recommend preventative ways and life style choices to limit our chances of becoming ill or hurt, yet the respondent is suggesting that I have the meter installed, become ill from it, pay a ridiculous amount of money for medical testing before I would have a case against the smart meter. That would be equivalent to the medical field or Government telling you to eat junk food and fried food all the time, never exercise, smoke and drink all you want and let's wait and see if you get ill. In addition the respondent's claim that I "submitted a number of hearsay documents as exhibits to try to prove that the new AMI meters cause adverse health effects, but those documents are not credible or competent evidence in support of his claims also has no merit and should be rejected. I have presented thousands of examples of studies that have helped me make the determination that these meters could be unsafe and detrimental to my family's health and they are from reputable government, scientific and medical sources. Mr. Ryan filed a motion in Limine regarding the evidence and it was denied by the Honorable Elizabeth H. Barnes and the evidence was allowed. In addition, in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint.

Second, the respondent's claim that the Company's expert witnesses offered thorough and persuasive testimony has no merit and should be rejected. As stated in my main brief, in the Request to Impeach the Professional Expert Witness, the testimony of these experts should be considered suspect, they were selected on account of their ability to express a favorable opinion, which, there is great reason to believe is in many instances the result alone of the compensation received and the bias growing out of it. I will address further details regarding their testimony later in my reply.

Third, the respondent's claim that I have failed to show that the new AMI meter is otherwise unsafe and would cause fires and that the Company also has established protocols to dispatch personnel if there is an issue with the meter's temperature. Therefore, the new AMI meter can actually help prevent fires also has no merit and should be rejected. In his Testimony Mr. Larson from PPL Electric Corporation stated that (Transcript page 87) "the meter itself is not a fire hazard in any way. A lot of issues that have occurred in the past, the root cause came down to loose connections within the meter base. So there would be rapid heat built on the loose connections within the meter base. However he did not present any evidence to prove this.

"Typical gauge electrical wiring that provides electricity to buildings (60 Hz power) is not constructed or intended to carry high frequency harmonics that are increasingly present on normal electrical wiring... The use of smart meters will place an entirely new and significantly increased burden on existing electrical wiring because of the very short, very high intensity wireless emissions (radio frequency bursts) that the meters produce to signal the utility about energy usage. "Reports detail that the meters themselves can smoke, smolder and catch fire, they can explode, or they can simply create over-current conditions on the electrical circuits... "Electrical wiring was never intended to carry this - what amounts to an RF pollutant - on the wiring. The higher the frequency, the greater the energy contained."  
"Faulty wiring, faulty grounding or over-burdened electrical wiring may be unable to take the additional energy load."

In addition, Mr. Larson stated (Transcript Page 88) “We monitor the temperature in 15 minute intervals to make sure there is no rapid heat rise and then also we have alarms set within the meter programming.” “So once a certain threshold is ever hit then we could remedy the situation. Mr. Larson also stated that (Transcript Page 90) “the meter itself is set up to a threshold of 85 degrees Celsius. If that tolerance is hit, within - I believe its two hours, a signal is sent from the meter back to the head in the system. So once our head of the system reads it, we then issue that out to a trouble man to be able to deal with it.” During Cross examination he admitted that between the time when it reaches the temperature threshold and the 2 hour period when you send someone out, it could get extremely hot enough where it can actually cause a fire. He stated that “I guess there is a possibility.” (Transcript page 91) 80 degrees Celsius is hot enough to give someone serious burns if touched, after it reaches that threshold, the temperature could continue to rise exponentially and could cause a fire before anyone is ever notified. A customer’s house could burn down between the 2 to 3 hour time period when they decide to send someone out.

Fourth, respondent’s claim that my privacy and cybersecurity concerns are unfounded also has no merit and should be rejected. Even know the company claims that PPL Electric only collects the electric usage data required by Act 129 and the Commission’s orders and about significant events still gives hackers the ability to determine usage patterns and whether or not someone is home or the property is vacant based on history and a change in these readings. The security measures that the company has taken, including encrypting the data and adhering to strict cybersecurity protocols is a precautionary measure only and cannot guarantee that the meters cannot be hacked as proven in the Congressional Research Service published report on Smart Meter Data: Privacy and Cybersecurity (Exhibit Kline – F). This report covers several areas where my/our rights as US citizens can be violated by consumer data collected by residential smart meters. In My testimony, I also gave eight examples of large corporations that have all been hacked, even though their data was encrypted.

Finally, according to the companies own literature, the meter box is my property which I have a right to lock and protect. Therefore the respondent’s claim that the Commission should deny the Complaint with prejudice is unfounded.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

	Page
<b>VI. ARGUMENT.....</b>	<b>8</b>
<b>B. THE COMPLAINANT HAS FAILED TO SUSTAIN HIS BURDEN OF PROOF.....</b>	<b>10</b>

The argument that John Kline have failed to sustain his burden of proof that PPL Electric would violate the Public Utility Code or any Commission regulation or order by installing the new AMI meter. That PPL Electric is legally required to install the new AMI meter by Act 129 and several Commission orders, and the Complainant has failed to prove that installing the meter would constitute unsafe and unreasonable service in violation of 66 Pa. C.S. § 1501. Therefore, the Complaint should be denied in its entirety and with prejudice has no merit and should be rejected.

As stated above,

**1. Title 66 / CHAPTER 15 / SUBCHAPTER A / § 1502. Discrimination in Service.**

No public utility shall, as to service, make or grant any unreasonable preference or advantage to any person, corporation, or municipal corporation, or subject any person, corporation, or municipal corporation to any unreasonable prejudice or disadvantage. No public utility shall establish or maintain any unreasonable difference as to service, either as between localities or as between classes of service, but this section does not prohibit the establishment of reasonable classifications of service.

The PA PUC, by making the installation of Smart meters mandatory for only some of the electric utility distribution companies in Pennsylvania is giving a preference or advantage to any person who is not required to have a smart meter installed because they live in an area that has an electric utility distribution company with under 100,000 customers. (Exhibit Kline 2K) HB2200 states:

**(6) THE PROVISIONS OF THIS SUBSECTION SHALL NOT APPLY TO AN ELECTRIC DISTRIBUTION COMPANY WITH 100,000 OR FEWER CUSTOMERS.**

Since PPL Electric Utilities Corporation is the only electric distribution company in my/our area, it is a monopoly since I do not have a choice to switch to another company. Therefore there is Discrimination in service since not all Pennsylvania citizens are required to have these meters installed and I must, based on the geography where I own a home. I ask the court, how can a Pa law be mandated if it is not mandated to all citizens of Pennsylvania? In Lititz Pa., for example, there are some residents who are required to have a smart meter and their neighbors across the street do not, since they are serviced by a smaller distribution company. How can a regulation discriminate against any person or corporation just based on where they live or do business?

**2. Public Utility Code, 66 Pa.C.S. § § 501 and 1501**

**§ 57.28. Electric Safety Standards.**

**(A) (1) An electric utility shall use reasonable effort to properly warn and protect the public from danger, and shall exercise reasonable care to reduce the hazards to which employees, customers, the public and others may be subjected to by reason of its provision of electric utility service and its associated equipment and facilities.**

PPL Electric Utilities Corporation, by its own admission, in the Response to Interrogatories of John Kline, set 1 (Exhibit Kline – A), states that PPL Electric has not funded, sponsored, or been personally involved in any studies regarding the safety of the new automated metering infrastructure (“AMI”) meters. It is also not aware of any such studies, that the PA PUC was involved in. How has a reasonable effort been made if there has been no personal effort on PPL Electric Utilities Corporation part? This violates § 57.28. Electric safety standards.

Further, there is nothing in Act 129 that stipulates any type of consequence if a customer refuses a smart meter and that is because the law as written was never intended to be mandatory. If this was the intention then act 129 would have stated that a customer who refuses to have a smart meter installed would have their service terminated. As mention in my main brief, there are several law makers that clearly made statement that the smart meters were not mandatory. Yet the PUC took it upon them self to change the intention of the law and in essence allow PP&L and other distribution companies to terrorize, manipulate and threaten their customers who are in good standing. This overreach of power must not be allowed to continue.

In addition, installing the new AMI meter would absolutely constitute unsafe and unreasonable service.

First, in my testimony I did present a preponderance of and clear and convincing evidence that a smart meter installed at our home could present a risk to human health. I have a right to protect and defend my family and the fact that I do not currently have a smart meter installed on my home nullifies the respondent’s argument that I did not present any medical or scientific testimony that the smart meter is a risk to me specifically. The medical and scientific field will always recommend preventative ways and life style choices to limit our chances of becoming ill or hurt, yet the respondent is suggesting that I have the meter installed, become ill from it, pay a ridiculous amount of money for medical testing before I would have a case against the smart meter. That would be equivalent to the medical field or Government telling you to eat junk food and fried food all the time, never exercising, smoke and drink all you want and let’s wait and see if you get ill. In addition the respondent’s claim that I submitted a number of hearsay documents as exhibits to try to prove that the new AMI meters cause adverse health effects, but those Documents are not credible or competent evidence in support of his claims also has no merit and should be rejected. I have presented thousands of examples of studies that have helped me make the determination that these meters could be unsafe and detrimental to my family’s heath and they are from reputable government, scientific and medical sources. Mr. Ryan filed a motion in Limine regarding the evidence and it was denied by the Honorable Elizabeth H. Barnes and the evidence was allowed. In addition, in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

<b>1. PPL Electric’s Installation of the New AMI Meter Is Required by</b>	<b>Page</b>
<b>Law.....</b>	<b>11</b>

**Answer – Negative**

PPL Electric's argument that 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"; (2) "[i]n new building construction"; and (3) "[i]n accordance with a depreciation schedule not to exceed 15 years." 66 Pa. C.S. § 2807(f)(1)-(2) (emphasis added) is in whole based on the word "shall" which is a "false imperative and can actually mean "may, will or must." (Exhibit Kline 3A) is a posting from the Federal Aviation Administration website titled "What's the only word that means mandatory", states: We call "must" and "must not" words of obligation. "Must" is the only word that imposes a legal obligation on your readers to tell them something is mandatory. Also, "must not" are the only words you can use to say something is prohibited. Who says so and why? Nearly every jurisdiction has held that the word "shall" is confusing because it can also mean "may, will or must." Legal reference books like the Federal Rules of Civil Procedure no longer use the word "shall." Even the Supreme Court ruled that when the word "shall" appears in statutes, it means "may." The Commission has interpreted this law to require smart meter installation by making the claim that the General Assembly's intention was for the smart meter to be mandatory based on (in 66 Pa. C.S. §2807(f)(2),) the use of the word "shall" in the statute indicates the General Assembly's direction that all customers will receive a smart meter.

I respectfully ask the court, if this law was meant to be mandatory then how come it does not state in the law that customers who refuse a smart meter will be penalized by having their electricity turned off? In fact, nowhere in the law does it list any consequences for consumers, yet we are the ones getting penalized. In The Commonwealth of Pennsylvania, Legislative Journal dated WEDNESDAY, OCTOBER 8, 2008 (Exhibit Kline 2L), the date that HB 2200 was passed, it clearly states the intent of the law makers regarding the smart meter installations was that they were not mandated. Any reasonable person would be able to determine this by the following quotes:

Senator TOMLINSON (pg. 2626) – "It also contains language in there that we will have smart meters. It is not mandated, but it allows for the deployment of smart meters through a depreciation process, through new home construction process, and through the depreciation of 15 years, and for anyone who wants to purchase a smart meter which they feel will help them manage their electric load better."

Senator BOSCOLA (pg. 2627) – "We also made sure that smart meters would not be mandated for every single ratepayer. Not only is that a smarter approach to smart meter deployment, but it will also save electric customers hundreds of millions of dollars paying for something that will not provide a real benefit in their own households.

Senator FUMO (pg. 2629) – "In addition, we did not mandate smart meters, but we made them optional. We did say in new construction, where they really are practical, they will be put in" It is obvious by the quotes of these three Senators who voted for the bill, that their intention was not to make the smart meters mandatory yet the commission when implementing the law made it mandatory, but not for all, just for some which is discrimination in service and does not give those who do not have a choice but to use these seven distribution companies, equal protection under the law.

In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION

PPL ELECTRIC UTILITIES CORPORATION argument that I have failed to meet his burden of proof that installing the new AMI meter would constitute unsafe or unreasonable service has no merit and should be rejected. During these proceedings I have absolutely proven, backed up with sound detailed evidence, that the new AMI meter causes adverse health effects, causes fires, and raises privacy and cybersecurity concerns. I will substantiate these claims as presented with Exhibits 1, D, L through N2, P through R, Z, 2A, 2B, 2F, 21, 2J, 2T through 2W, 2Z, 3C, 3E, 3G, and 3H; in detail below in the order that they are addressed in PPL ELECTRIC UTILITIES CORPORATION main brief.

I will also address in more detail below the respondent’s claim that my claims are unsubstantiated, unreliable, and almost entirely predicated on exhibits that are hearsay and wholly lack merit. In addition the respondent claims that In contrast, PPL Electric presented substantial, credible, and reliable evidence that wholly rebutted the Complainant’s contentions. Therefore, the Complainant has failed to meet his burden of proof that installing PPL Electric’s new AMI meter would be unsafe or unreasonable service in Violation of Section 1501 of the Public Utility Code. This statement could not be further from the truth. I refer to John Kline’s main brief on page 5: Please take note to the underlined admission which is in addition to my original request.

**Official Motion to Impeach the Professional Expert Witness**

**225 Pa. Code Rule 607**

- Dr. Christopher C. Davis, Ph.D.
- Dr. Mark A. Israel, M.D

I request the impeachment of Dr. Christopher C. Davis, Ph.D. and Dr. Mark A. Israel, M.D based on the fact that they are biased because of financial interest and should be considered professional witnesses based on the amount of previous and future hearings they attended or will be attending, as professional witnesses. Both Witnesses testimonies should be disqualified due to their financial interest and previous relationships with the Respondent and other Electric Distribution companies in similar cases. Both witnesses have testified previously on behalf of the calling party; prior testimony gives rise to both an inference of friendliness to the party and an inference of bias in favor of the party based upon an expectation of future employment. Both witnesses derive a significant portion of their total income from litigated matters

- Dr. Christopher C. Davis, according to his testimony (transcript page 124 through 129) admitted to attending at least 10 trials as a witness, and has 7 or 8 more scheduled. Dr. Davis stated “I’m Compensated at \$400.00 per hour for his active work in these cases. And I do a great deal of background work in connection with these cases which I receive more compensation” This hearing lasted 5 hours which is \$2000.00 in compensation not including the time he took to prepare his testimony, research my exhibits and consult with PPL Electric regarding the case. He also made mention to that that his current employment allows him to be a consultant (transcript page 131) indicating that he work he does for these trials is professional consulting work. The amount of

compensation Dr. Davis would receive for 17 or 18 trials could derive a significant portion of his total income.

During his testimony Dr. Davis stated that the total number of trials that he attended or was scheduled to attend was 17 or 18. Below is the actual number of cases that I am aware of that Dr. Davis was either a witness or is scheduled to be a witness:

1. D. Bervinchak - C-2016-2572824
2. J. Bervinchak - C-2016-2577527
3. R.-M. Elam - C-2017-2630795
4. S. G. Chapman - C-2017-2617625
5. J. Kline - C-2017-2621072
6. D. Millan - C-2017-2623236
7. R. N. Myers - C-2017-2620710
8. A. V. Schmukler - C-2017—2621285
9. D. & B. Zimmerman - C-2017-2615038
10. A. McKnight C-2017-2621057
11. Susan Kreider - C-2015-2469655 / P-2015-2495064
12. Maria Povacz - C-2015-2475023
13. Laura Murphy - C-2015-2475726
14. Janette Bachman - C-2017-2623504
15. C. Frompovich - C-2015-2474602
16. Cynthia Randall & Paul Albrecht - C-2016-2537666
17. Lynn Caesar - C-2017-2605462
18. Mary Paul - C-2015-2475355

#### Hearings Scheduled

19. K. R. Anthony - C-2018-3000490
20. C. & P. Bamberger - C-2018-3000358
21. B. Heffner - C-2018-3000471
22. E. Hoffman-Lorah - C-2018-2644957
23. E. Mallin - C-2018-2644068
24. G. Pink - C-2017-2637828
25. A. Torres - C-2018-2641883

The total number of cases is considerably more the Dr. Davis admitted to under oath and several of these cases took multiple days so the financial compensation would be a much larger portion of his total income. This strengthens the case for my motion / Request to Impeach the Professional Expert Witnesses.

- Dr. Mark A. Israel, M.D according to his testimony (transcript page 155 through 157) admitted to attending 4 hearings in addition to this hearing plus 3 or 4 more. As far as future hearings schedules he stated ““It’s something in between two and three or six and seven, I don’t know.” Dr. Israel’s compensation is \$500.00 an hour including time in court and all research. This hearing lasted 5 hours which is \$2500.00 in compensation not including the time he took to prepare his testimony, research

my exhibits and consult with PPL Electric regarding the case. The amount of compensation Dr. Israel would receive for 15 or 16 trials could derive a significant portion of his total income.

During his testimony Dr. Israel stated that the total number of trials that he attended or was scheduled to attend was 15 or 16. Below is the actual number of cases that I am aware of that Dr. Israel was either a witness or is scheduled to be a witness:

1. D. Bervinchak - C-2016-2572824
2. J. Bervinchak - C-2016-2577527
3. R.-M. Elam - C-2017-2630795
4. S. G. Chapman - C-2017-2617625
5. J. Kline - C-2017-2621072
6. D. Millan - C-2017-2623236
7. R. N. Myers - C-2017-2620710
8. A. V. Schmukler - C-2017—2621285
9. D. & B. Zimmerman - C-2017-2615038
10. A. McKnight C-2017-2621057
11. Susan Kreider - C-2015-2469655 / P-2015-2495064
12. Maria Povacz - C-2015-2475023
13. Laura Murphy - C-2015-2475726
14. Janette Bachman - C-2017-2623504
15. C. Frompovich - C-2015-2474602
16. Cynthia Randall & Paul Albrecht - C-2016-2537666
17. Lynn Caesar - C-2017-2605462
18. Mary Paul - C-2015-2475355

#### Hearings Scheduled

19. K. R. Anthony - C-2018-3000490
20. C. & P. Bamberger - C-2018-3000358
21. B. Heffner - C-2018-3000471
22. E. Hoffman-Lorah - C-2018-2644957
23. E. Mallin - C-2018-2644068
24. G. Pink - C-2017-2637828
25. A. Torres - C-2018-2641883

The total number of cases is considerably more the Dr. Israel admitted to under oath and several of these cases took multiple days so the financial compensation would be a much larger portion of his total income. This strengthens the case for my motion / Request to Impeach the Professional Expert Witnesses.

The testimony of these experts should be considered suspect, they were selected on account of their ability to express a favorable opinion, which, there is great reason to believe is in many Instances the result alone of the compensation received and the bias growing out of it.

Dr. Davis

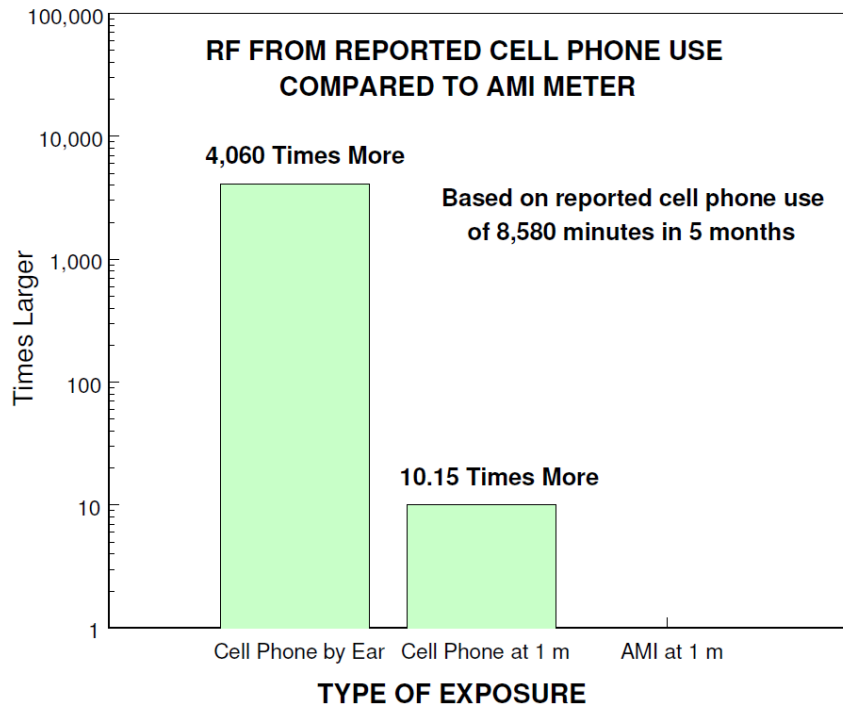
In addition to Dr. Davis misleading testimony regarding the number of cases, in the PUC Case Docket C-2017-2621057 (McKnight v PECO) admits he is unfamiliar with medical and biologic concepts. Dr. Davis testified that his knowledge of biology comes 'by osmosis' (Tr. 4/13 at 17:10-14 / Docket C-2017-2621057), and that he does not have formal training in biology other than a course in biophysics as a graduate student (Tr. 4/13 at 17:3-6 / Docket C-2017-2621057). And, when questioned about medical articles, he admits he would defer those questions to physicians such as Dr. Israel (Tr. 4/13 at 152:12 Docket C-2017-2621057). Yet when questioned in this case (PPL Kline Statement No. 1 Davis Direct pg. 9 line 7 -12) Dr. Davis claims to be an expert with this question - **BASED ON YOUR REVIEW OF THE SCIENTIFIC RESEARCH ON RF FIELDS AND BIOPHYSICAL MECHANISMS, IS THERE A CREDIBLE BIOLOGICAL MECHANISM BY WHICH RF FIELDS COULD CAUSE EFFECTS IN HUMANS OTHER THAN THROUGH TISSUE HEATING?**

**Answer - No, there is no reliable scientific basis for a mechanism by which RF fields could cause effects in the human body other than through heating, i.e. a thermal effect. How can Dr. Davis make this claim if he admits he is unfamiliar with medical and biologic concepts?**

**In addition, Dr. Davis' methods of doing any computation need to be called to question.**

**Dr. Davis stated (PPL Kline Statement No. 1 Davis Direct pg. 12 line 17 -19) As shown in his Exhibit CD6, the amount of RF exposure Mr. Kline received from using his cell phone over a 5-month period is more than 4,000 times higher than the RF from the meter over a 5-month period and (PPL Kline Statement No. 1 Davis Direct pg. 13 line 4 -10) Mr. Kline reported that over a 5-month period he used his cell phone for 8,580 minutes. Based on that amount of cell phone use and assuming he held his cell phone at his head, Mr. Kline would have to stay within 1 meter of his AMI meter for 1,692 years to get an equivalent amount of RF exposure from the AMI meter. If Mr. Kline used his cell phone with a headset or earphones, he would need to stay within 1 meter of his AMI meter for 4.23 years to get a level of RF exposure equivalent to the RF exposure he got from his cell phone use over 5 months.**

**Davis Exhibit CD6**



PPL Electric Exhibit CD-6 - J. Kline

How did Mr. Davis calculate these measurements? It should be simple mathematics that someone with a high school diploma or less can figure out. First let's look at the calculation for 4,060 times more with my cell phone by my ear.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
8,580	4,060.00	equals	34,834,800	60	Equals	580,580	24	Equals	24,191	365	Equals	66.27626

Dr Davis Calculation	1692	years	Actual Calculation	66.28	Years	Off by	1625.72	Years
----------------------	------	-------	--------------------	-------	-------	--------	---------	-------

Now let's look at the calculation for 10.15 times more with my cell phone 1 meter away using a headset or earphones which is how I usually use it.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
8,580	10.15	equals	87,087	60	Equals	1,451	24	Equals	60	365	Equals	0.165691

Dr Davis Calculation	4.23	years	Actual Calculation	0.166	Years	Off by	4.064	Years
----------------------	------	-------	--------------------	-------	-------	--------	-------	-------

How can these calculations be off by so much? Let's look at some other basic math.

Minutes Per Hour	X Hours Per Day		Hours Per Day	x Days Per Month		Hours Per Month	X Five Months		Minutes per 5 Months
60	24	equals	1440	30.42	equals	43804.8	5	Equals	219024

These figures are calculated based on me using my cell phone for 60 minutes per hour, 24 hours a day and 30.42 (average Days per Month) days per month for 5 months which comes out to 219,024 minutes of cell phone usage. I used the 219,024 minutes in the same calculator based on Dr. Davis' statements and testimony.

Calculation for 4,060 times more with my cell phone by my ear.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
219,024	4,060.00	equals	889,237,440	60	Equals	14,820,624	24	Equals	617,526	365	Equals	1691.852
			Dr Davis Calculation	1692	years	Actual Calculation	1692	Years	Off by	0	Years	

Calculation for 10.15 times more with my cell phone 1 meter away using a headset or earphones which is how I usually use it.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
219,024	10.15	equals	2,223,094	60	Equals	37,052	24	Equals	1,544	365	Equals	4.22963
			Dr Davis Calculation	4.23	years	Actual Calculation	4.23	Years	Off by	0	Years	

Dr. Davis offers no mathematical or scientific bases on how he came up with his calculations so It is obvious that he based his "Times More "calculations on me using my cell phone for 60 minutes per hour, 24 hours a day and 30.42 days per month (Average Days Per Month) for 5 months which comes out to 219,024 minutes of cell phone usage, in other words, constant use, rather than basing his calculations on the 8,580 minutes actually used. This also does not account for the position of my electric meter which is installed outside my bedroom wall less the 20 centimeters from my head when I am sleeping 8 hours a day. (Exhibit Kline 2R – 1 and Exhibit Kline 2R – 2)

This cannot be written off as a mistake, Dr. Davis has been accepted as an expert by PPL's Council and the ALJ and his calculations should be double and triple checked before presenting them in court under oath as truth and fact. If Dr. Davis can mislead the court by falsifying these calculations and essentially lying under oath, then there is no way his testimony should be accepted as PPL Electric presented as substantial, credible, and reliable evidence that wholly rebutted my contentions. In fact based on these falsehoods there is no way I or the court can or should accept any of Dr Davis' testimony as legitimate since other calculations and statements could be falsified as well. Therefore I request that all of Dr. Davis' testimony be excluded Evidence as unreliable

**Consider this my formal motion to Have Dr. Davis' testimony Suppressed**  
**234 Pa. Code Rule 581. Suppression of Evidence.**

To strengthen these accusations I would like point out to the court calculations Dr. Davis has made in other cases before the Commission. I will be using Dr. Davis claim that using a cell phone is 4,060 times higher than the RF from the meter

Docket C-2017-2621057 (McKnight v PECO) (Tr. 4/13 at 70:4-21; 155:24-156:3), he testified that 9 minutes of cell phone use was equivalent to 3 months in front of an AMI meter.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
9	4,060.00	equals	36,540	60	Equals	609	24	Equals	25	365	Equals	0.069521
Dr Davis Calculation			0.25	years	Actual Calculation			0.069521	Years	Off by	0.180479	Years

He also testified in (Docket C-2015-2475726, REBUTTAL TESTIMONY OF DR. CHRISTOPHER DAVIS, May 20, 2016 at 18:5-12) that 7 minutes of cell phone use was equivalent to 107 years in front of an AMI meter. In court, he states “I would never have made a statement that only 7 minutes of exposure would have amounted to that much exposure” (Tr. 4/13 at 156:10-12). But, the records are clear that he did make these statements, and under oath.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
7	4,060.00	equals	28,420	60	Equals	474	24	Equals	20	365	Equals	0.054072
Dr Davis Calculation			107	years	Actual Calculation			0.054072	Years	Off by	106.9459	Years

He also testified in (Mary Paul v PECO Docket C-2015-2475355, testimony Nov 16, 2016, Tr. 4/13 at 276:8-19) that 109 minutes of cell phone use was equivalent to 1480 years exposure of an AMI meter.

Minutes	Multiply Factor of		Minutes	/ Minutes Per Hour		Hours	/ Hours Per Day		Days	/ Days Per Year		Years
109	4,060.00	equals	442,540	60	Equals	7,376	24	Equals	307	365	Equals	0.841971
Dr Davis Calculation			1480	years	Actual Calculation			0.841971	Years	Off by	1479.158	Years

There is no rhyme or reason to any of these calculations and there is a significant conflict in information between all testimonies which suggests that all of these statements are fictitious in nature.

Dr. Davis and PPL Utilities also make claims that the meters are FCC compliant. As stated in my complaint and testimony, the science used to test create these guidelines is out of date. The current FCC guidelines stem from the 1996 telecommunications act and the science they were based on was decades old. 1996 was a time when one in five Americans had a cell phone. Now, nearly everyone has one cell phone or more plus iPads, Laptops and other communication devices. In addition there is Wi-Fi in almost every school, restaurant, hotel, office building, grocery store, home and some

cases entire cities (Smart Cities). Nothing has been done to update these guidelines to take into consideration the massive amount of RF's that are being generated. Dr. Davis was questioned about this in his testimony (PPL Electric Statement 1 (Kline Direct) pg. 9 line 18)

**Q. MR. KLINE CLAIMS THAT THE FCC'S RF EXPOSURE LIMITS ARE BASED ON OUTDATED SCIENCE. IS HE CORRECT?**

**A. No.** The FCC has described the process that it followed in adopting the national RF exposure standards and that includes ongoing coordination with other U.S. agencies, such as the Food and Drug Administration and the Environmental Protection Agency which monitor developments in research on RF fields.

How is this, a dispute to my claim? What does monitor developments mean? The fact is that nothing has been done to change the guidelines and Dr. Davis does not make any statement to dispute that. In fact in 2012 The Government Accountability Office (GAO) submitted a report to the FCC (Kline Exhibit 3C) asking them to re-visit and revise their standards. The FCC agreed to accept submissions from scientist worldwide and received well over 900 in a two year period. Yet it is still considered an open docket and nothing has been done.

**Dr. Israel**

In addition to Dr. Israel's misleading testimony regarding the number of cases there are other aspects of his testimony that should be considered suspect.

Dr. Israel may be an excellent pediatric and may know a lot about pediatric oncology, however, he cannot be considered an expert in the condition or situation of a patient with EHS or IEIEMF.

When ask **ARE YOU FAMILIAR WITH THE TERMINOLOGY "ELECTROMAGNETIC HYPERSENSITIVITY"?** (PPL Electric Statement No. 2) His reply was:

I am familiar with the terminology, which is sometimes used to characterize a wide-range of self-reported symptoms some people claim are caused by RF fields. These symptoms have been described as including headaches, dizziness, body aches, buzzing in ears, eye floaters, difficulty concentrating, memory loss, sleep disturbance, nervousness, fatigue, and lethargy, among others. A WHO working group has recommended that these symptoms be described as "Idiopathic Environmental Intolerance", in which "idiopathic" means "cause unknown." This is because, as pointed out by Rubin (2010), the theory of electromagnetic hypersensitivity "is controversial" and "most mainstream medical bodies maintain that there is not sufficient evidence to support this theory and that the symptoms experienced by sufferers are unrelated to the presence of electromagnetic fields." I therefore consider "Idiopathic Environmental Intolerance" (IEI) a more appropriate and medically neutral term to use in a medical evaluation.

Yet In case Docket C-2017-2621057 (McKnight v PECO) he testifies that:

His lifetime of medical experience however does NOT include:

1. Ever writing any books or papers on the topics of EHS or IEI-EMF (Tr. 4/13 at 183:8-10).
2. Ever seeing even a single patient with this syndrome (Tr. 4/13 at 183:5-7).

Dr. Israel does believe that people with EHS have real symptoms. (Tr. 4/13 at 285:24-25). However, he admits he does not have any idea what he would recommend to a patient with EHS or IEI-EMF, and states "I haven't thought about it." (Tr. 4/13 at 230:14-21), despite study of the subject for more 32 years (Tr. 4/13 at 230:14-17) and claims that this is "a big part of what I think about" (Tr. 4/13 at 183:15-20). These statements completely contradict each other.

In (PPL-Kline Transcript page 157 starting at line 17) Dr. Israel is asked how have these hearings benefited his jobs, His response:

A key part of all of those jobs is being well informed as to how people perceive what problems they might have, how people perceive their health and the problems they identify to their health, how they feel. So this is a very informative type of exercise. Yet In case Docket C-2017-2621057 (McKnight v PECO) He testifies that in his lifetime of medical experience however does NOT include ever seeing even a single patient with this syndrome.

In (PPL Electric Statement No. 2 pg. 6 line 16) he was asked:

Q. WHAT ARE YOUR FIELDS OF EXPERTISE THAT ARE RELEVANT TO THIS PROCEEDING?

A. Medicine and medical research, including particularly as related to RF fields and health.

Yet In case Docket C-2017-2621057 (McKnight v PECO) he testifies that:

His lifetime of medical experience however does NOT include:

1. Ever writing any books or papers on the topics of EHS or IEI-EMF (Tr. 4/13 at 183:8-10).
2. Ever seeing even a single patient with this syndrome (Tr. 4/13 at 183:5-7).

How can Dr. Israel make the claim of being an expert as related to fields and health when by his own admission he has never even seen a patient?

### Renner pro hac vice

Mr. Renner, the attorney who presents and questions the testimony of Dr. Davis and Dr. Israel, credibility should also come into question as to whether he should have been allowed to appear in these hearings. When PPL started receiving formal complaints regarding smart meters and the trial dates were set, Judge Barnes and other judges granted many pro hac vice motions on the day after the PPL lawyer filed a motion to admit Renner, who was admitted solely to present the testimony of Davis and Israel. This, even though the PPL lawyer, Mr. Ryan did not include a 20-day notice to plead in his filing of any of his motions to admit Mr. Renner pro hac vice. These motions were allowed in the following cases that I am aware of:

1. D. Bervinchak - C-2016-2572824
2. J. Bervinchak - C-2016-2577527
3. R.-M. Elam - C-2017-2630795

4. S. G. Chapman - C-2017-2617625
5. J. Kline - C-2017-2621072
6. D. Millan - C-2017-2623236
7. R. N. Myers - C-2017-2620710
8. A. V. Schmukler - C-2017—2621285
9. D. & B. Zimmerman - C-2017-2615038
10. K. R. Anthony - C-2018-3000490
11. C. & P. Bamberger - C-2018-3000358
12. B. Heffner - C-2018-3000471
13. E. Hoffman-Lorah - C-2018-2644957
14. E. Mallin - C-2018-2644068
15. G. Pink - C-2017-2637828
16. A. Torres - C-2018-2641883

**231 PA Code Rule 1012.1. Admission Pro Hac Vice.**

**(e) The court shall grant the motion unless the court, in its discretion, finds good cause for denial. Good cause may include one or more of the following grounds:**

- (1) the admission may be detrimental to the prompt, fair and efficient administration of justice,**
- (2) the admission may be detrimental to legitimate interests of the parties to the proceedings other than the client whom the candidate proposes to represent,**
- (3) the client who the candidate proposes to represent may be at risk of receiving inadequate representation and cannot adequately appreciate that risk,**
- (4) the candidate is not competent or ethically fit to practice law,**
- (5) the candidate is, in effect, practicing as a Pennsylvania attorney, in light of the nature and extent of the activities of the candidate in the Commonwealth, without complying with the Pennsylvania requirements for the admission to the bar. The court may weigh the number of other admissions to practice sought and/or obtained by the candidate from Pennsylvania courts, the question of whether or not the candidate maintains an office in Pennsylvania although the candidate is not admitted to practice in Pennsylvania courts, and other relevant factors,**
- (6) the number of cases in all courts of record in this Commonwealth in which the Pennsylvania attorney is acting as the sponsor prohibits the adequate supervision of the candidate,**

**With 16 cases on record the candidate is, in effect, practicing as a Pennsylvania attorney, in light of the nature and extent of the activities of the candidate in the Commonwealth, without complying with the Pennsylvania requirements for the admission to the bar.**

With 16 cases the number of cases in all courts of record in this Commonwealth in which the Pennsylvania attorney is acting as the sponsor prohibits the adequate supervision of the candidate

The admission is a violation of the PA Bar pro hac vice regulations therefore, and the testimonies of Dr. Davis and Dr. Israel should not be allowed.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

**The Complainant Has Failed to Demonstrate that the New  
AMI Meter Causes, Contributes to, or Exacerbates Any  
Adverse Health**

**Effect..... 14**

The statement made that The Complainant did not offer any expert scientific or medical testimony in support of his allegations about health risks from RF fields. Instead, all of his evidence on this issue consists of hearsay documents from anti-smart meter and anti-EMF websites, articles, and other documents that are not competent evidence of a link between adverse health effects and RF fields has no merit and should be rejected.

1) Pa. PUC docket # C-2015-2475023 ((Exhibit Kline 3D)

The ruling by Administrative Law Judge Darlene D. Heep. In the decision, Judge Heep said that “The preponderance of the evidence does suggest that some other aspect of the Peco smart meters is inimitably perceptible by and contrary to the health and well-being of the individual, Ms. Povacz.”

To address the statement that was made by PPL – “The Complainant did not offer any expert scientific or medical testimony in support of his allegations about health risks from RF fields. Instead, all of his evidence on this issue consists of hearsay documents from anti-smart meter and anti-EMF websites, articles, and other documents that are not competent evidence of a link between adverse health effects and RF fields.” They also point out that I have used “activist documents” - By making the statement that “all of his evidence on this issue consists of hearsay documents from anti-smart meter and anti-EMF websites, articles, and other documents” it is obvious that they are not taking seriously all of the official Government, Medical and Scientific data and information seriously and believe they can just write it off as non-legitimate, or they just use the same blanket defense for every case. They also put a negative spin on “activist documents” to make the claims that they are not legitimate. Activism means “a doctrine or practice that emphasizes direct vigorous action especially in support of or opposition to one side of a controversial issue “. Although the majority of my evidence was not from activists, I would argue what is better. Well document information from people who support the health and safety of everyone even know they receive no financial gain or information from paid witnesses who can continue to receive financial gain by giving opposing information that assists the corporations who are paying them? Should we discount the work of all activists? E.g. Martin Luther King and all the work he did for civil right? Susan B. Anthony and all the work she did for woman’s rights? I would answer no. This is just a way to attempt to delegitimize the evidence against them.

I have presented thousands of examples of studies that have helped me make the determination that these meters could be unsafe and detrimental to my family’s health and they are from reputable

government, scientific and medical sources. Mr. Ryan filed a motion in Limine regarding the evidence and it was denied by the Honorable Elizabeth H. Barnes and the evidence was allowed. In addition, in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

**There Is No Reliable Medical Basis to Support the  
Complainant’s Allegations that the AMI Meters Cause  
Adverse Health**

**effects..... 18**

**These claims made by Dr. Israel are bias and have no merit as it obvious that his research was completely one sided in favor of PPL ELECTRIC.**

**PPL Claim - Overall, as an expert in medicine and medical research, particularly as related to RF fields and health, Dr. Israel found, based on his medical education, training and experience, and his evaluation of the scientific research, and to a reasonable degree of medical certainty, that:**

- 1) There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL Electric will cause or contribute to the development of illness or disease. (PPL Electric Statement No. 2, p. 16, lines 12-15)**
  
- 2) There is no reliable medical basis to conclude that RF fields from the AMI meter being used by PPL Electric would cause, contribute to, or exacerbate any of the symptoms claimed by the Complainant, or any other adverse health effects. (PPL Electric Statement No. 2, p. 16, lines 19-21)**

**In PPL (Kline) Statement No. 2(Israel Direct) Pg. 7 line 18 Dr Israel is asked the following.**

**Q. HOW DID YOU CONDUCT YOUR MEDICAL EVALUATION IN THIS MATTER?**

**A. I conducted standard computerized searches for studies on RF fields and health effects published in peer-reviewed scientific journals. I identified, reviewed and evaluated these studies in the same manner as I evaluate scientific studies in the course of my professional activities. In any large body of laboratory research, such as the hundreds of studies conducted on RF fields, there are likely to be some contradictory findings, with some studies reporting biological effects that cannot be replicated or confirmed in other studies by independent researchers. Replication of claimed results is a key concept in scientific research and when effects are reported it is important to determine if these effects can be reproduced consistently by researchers from other laboratories. Findings reported in**

any particular study are not considered scientifically reliable in the absence of robust results that can be reproduced by other laboratories.

Standard computerized searches? As a medical professional and researcher, he makes no mention of going to the U.S. Department of Health & Human Services PubMed.gov which is the US National Library of Medicine National Institutes of Health. On this site I found over 200 studies that dispute Dr. Israel's claims (Exhibit Kline Q) all of these studies are published in peer-reviewed scientific journals yet Dr. Israel didn't go directly to the source. This same source has 193 studies conducted by Dr. Israel himself, none of which are in regards to RF/EMF/EHS that he claims to be the expert on. PPL Main Brief page 23 states that "Overall, as an expert in medicine and medical research, particularly as related to RF fields and health, Dr. Israel found, based on his medical education, training and experience, and his evaluation of the scientific research, and to a reasonable degree of medical certainty, that: 1) There is no reliable medical basis to conclude that RF fields from the AMI meters being used by PPL Electric will cause or contribute to the development of illness or disease." So if Dr. Israel is an expert particularly as related to RF fields and health why are none of the 193 studies, he has published related to this subject and how has he never seen or examined a patient with EHS? The answer would seem to be simple - \$500.00 per hour!

Dr. Israel also stated that In addition, several U.S. state public health authorities and Public Utility Commissions have investigated claims about health effects from smart meters. These include the Maine Center for Disease Control (2010), Vermont Department of Health (2012), Arizona Department of Health, Office of Environmental Health (2014), and North Carolina Department of Health and Human Services, Division of Public Health, Occupational and Environmental Epidemiology Branch (2015). These evaluations by State public health authorities and Public Utility Commissions conclude that RF fields from smart meters do not pose any public health risk. (PPL Electric Statement No. 2, p. 11)

What Dr. Israel fails to mention is that all of these states that have actually completed studies allow their citizens to Opt Out. In fact, every state that has gotten their health officials involved offer their customers some type of opt out.

US States that offer opt outs

Arizona, California, Colorado, Florida, Iowa, Georgia, Hawaii, Illinois, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Nevada, New Hampshire, New Jersey, New York, New Mexico, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington State.

He also ignores the fact that the Pennsylvania Utility Companies, The PUC or the Pennsylvania legislature failed to get the Pa Department of health involved for a comprehensive study on the safety of these meters. Instead, the PUC interpreted the law as mandatory without taking into account the health and welfare of their citizens which is a complete violation of our rights.

The Pennsylvania PUC - Your Rights and Responsibilities as a Utility Consumer state the following: As a residential utility customer, you have many important rights and responsibilities to ensure fair dealings between you and your utility company. This guide highlights your rights relating to

These rights and responsibilities include your right to:

\* Safe and reliable utility service.

In addition the Pennsylvania PUC Mission Statement States: The Pennsylvania Public Utility Commission balances the needs of consumers and utilities; ensures safe and reliable utility service at reasonable rates; protects the public interest; educates consumers to make independent and informed utility choices; furthers economic development; and fosters new technologies and competitive markets in an environmentally sound manner.

How has the PUC ensured fair dealings between you and your utility company, protected the public interest and allowed it’s consumers to make independent and informed utility choices when the thousands of consumers who object to these meters continue to get terrorized by the utility companies, get threatened with termination of service, get their power shut off, are put through the ringer during these type of proceedings and have had every case to date ruled against them no matter how much evidence was presented and how many expert witnesses were called. This whole process in itself is criminal and the utility companies spend hundreds of thousands of dollars in court proceedings, expert witnesses and lawyers not licensed to practice in Pennsylvania which is ultimately paid for by the customer that the PUC is supposed to protect! The ALJ has the ability to stop this complete and total abuse of Pennsylvania citizens buy putting a halt to the so called mandatory installations by giving the legislature time and the ability to do what is right for its constituents. Instead, all of our rights continue to get violated.

In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION

The Complainant’s Exhibits Cannot Support Any Findings of

Fact..... 24

PPL Electric Utilities argument:

“In support his allegations that the new AMI meters cause, contribute to, or exacerbate any illnesses, the Complainant submitted and relies on a number of exhibits, such as various documents, reports, articles, excerpts of articles, lists of studies, press releases, and letters. None of these documents can support any findings of fact because they are hearsay and lack scientific and evidentiary merit.

PPL Claim - First, the documents should not be relied upon by the ALJ because they are hearsay and are not subject to a hearsay exception. Specifically, the Complainant has presented many exhibits that were not written by him and were offered to prove the truth of the matter asserted. (,See Complainant’s Exhibits D, F, K through N2, P through R, T, X through Z, 2A, 2B, 2F, 2H 2J, 2S through 2Z, and 3A, 3C, and 3E through 3H; PPL Electric Motion in Limine 16-25) None of the authors of these statements were presented as witnesses to authenticate the veracity of their contents. Therefore, the documents are hearsay. Under Pennsylvania’s “Walker Rule,” it is well-established that “[hearsay evidence, properly objected to, is not competent evidence to support a finding.” Walker v. Unemployment Comp. Bd. of Review, 361 A.2d 366, 370 (Pa. Cmwlth. 1976) (citations omitted). Even if hearsay evidence is “admitted without objection,” the ALJ must give the evidence “its natural

probative effect and may only support a finding ... if it is corroborated by any competent evidence in the record;" as "a finding of fact based solely on hearsay will not stand."

**Kline Response - "The Company notes that expert witnesses can rely on hearsay in forming their opinions, where such Material is of a type customarily relied on by experts in their profession. However, the Complainant is not an expert witness, and he presented no expert witnesses, let alone ones who could rely on these materials. Moreover, although hearsay statements, such as articles, studies, and treatises, can be relied upon by expert witnesses in forming their opinions, the substance of those hearsay statements is not permitted to be entered into the record to prove the truth of the matter asserted."**

**In other words, if you are and average middle class citizen representing yourself Pro Se and cannot afford to hire an expert at \$400-\$500 an hour to present your evidence, then none of the information that is found on reliable government, medical and scientific sources should be allowed to stand. Only Multi-Million dollar corporations that can afford to pay experts have a leg to stand on and should be accepted as reliable. Fairness at its best!**

**I will state again that yes, Mr. Ryan filed a motion in Limine regarding the evidence and it was denied by the Honorable Elizabeth H. Barnes and the evidence was allowed. In addition, in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint.**

**Second, PPL Claim - the Complainant's exhibits about alleged health effects of RF fields completely lack scientific and evidentiary merit, and should be afforded no weight. Specifically, these exhibits contain the following flaws and mischaracterizations:**

**PPL Claim - Exhibit D - Charts purporting to show "Recover Act Selections for Smart Grid Investment Grant Awards - by State." The document is irrelevant because it concerns grants issued to other utilities besides PPL Electric and in other states besides Pennsylvania. The document also lacks authenticity because the document's author was not presented to authenticate the accuracy of the factual statements in the document.**

**Kline Response – This is public information used to verify that PPL Electric Utilities Corporation in its response to Interrogatories of John Kline, set 1, gave misleading and false information when answering question 8**

**John Kline to Respondent-1-8**

**Please document all funding PPL Electric Utilities Corporation received from Government or other entities to assist with, fund or promote the installation and implementation of the "Smart Meter" project in whole.**

### PPL Electric's Response:

The costs of deploying PPL Electric's smart meters are recovered through the Commission-approved Smart Meter Rider. Please see the attached copies of PPL Electric's tariff pages related to the Smart Meter Rider. Recovery of the costs of smart meter technology through a surcharge such as the Smart Meter Rider is expressly authorized by Section 2807(f)(4)(i) of the Public Utility Code.

PP&L did supply me with their smart meter rider phase-1 (Exhibit Kline C- 1) and their smart meter rider phase-2 (Exhibit Kline C- 2) however; nowhere in their answer did they disclose the federal funding received, totaling more than \$19,000,000 from the Federal recovery act. Please see (Exhibit Kline – D) - RECOVERY ACT SELECTIONS FOR SMART GRID INVESTMENT GRANT AWARDS - BY STATE and this is verified by (Exhibit Kline – E), PP&L smart grid grant which is taken from their own website.

Why did PP&L neglect to disclose this information? The website article states "A federal grant for a PPL Electric Utilities project to deploy "smart grid" technology to strengthen reliability, save energy and improve electric service for 60,000 Harrisburg area customers was approved Tuesday (10/27) by the U.S. Department of Energy". "The company will receive a \$19 million piece of the more than \$3.4 billion in stimulus funding".

"While some companies chose to focus on one piece of smart grid technology, PPL Electric Utilities proposed a project that would make the system smart from the substation to customers' doorsteps". Since smart meters and the smart grid work together, any reasonable person would determine that this funding was for the "implementation of the "Smart Meter" project in whole", as stated in my question.

It is essential that truthful answers be given under oath, whether in response to interrogatories or when giving oral testimony, I believe these misleading answers are indications of the credibility of PPL Electric Utility Corporation in this case.

### PPL Claim

Exhibit L - A document titled "International Appeal: Scientists Call for Protection from Non-ionizing Electromagnetic Field Exposure." The exhibit is irrelevant because it does not address RF fields from the AMI meters being used by PPL Electric. The document also lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Further, the document is inherently unreliable because it is an online petition that represents opinions by anti-EMF/RF advocates, not scientific information. Indeed, both of PPL Electric's expert witnesses testified that the document does not reflect the consensus view on RF fields and health. (Tr. 108, 135-36) Dr. Israel also testified that the exhibit does not provide a reliable scientific basis to reach a conclusion that the RF fields from AMI meters would cause, contribute to, or exacerbate any adverse health effects. (Tr. 136)

### Kline Response

**The premise that this represents opinions by anti-EMF/RF advocates has no merit and should be rejected. This can be found in the European Journal of Oncology and is an appeal by Doctors, Scientists and professionals with qualifications on the same level as PPL Electrics paid and bias witnesses, Dr. Davis and Dr. Israel (See list below) not opinions by anti-EMF/RF advocates. It was not intended as a scientific basis but rather to show the large number of Scientist and Medical Professionals around the world that disagree with the views of Dr. Davis and Dr. Israel.**

**“International Appeal: Scientists Call for Protection from Non-ionizing Electromagnetic Field Exposure.” - Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages; structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life.**

**These findings justify our appeal to the United Nations (UN) and, all member States in the world, to encourage the World Health Organization (WHO) to exert strong leadership in fostering the development of more protective EMF guidelines, encouraging precautionary measures, and educating the public about health risks, particularly risk to children and fetal development. By not taking action, the WHO is failing to fulfill its role as the preeminent international public health agency.**

**Collectively we also request that:**

- 1. Children and pregnant women be protected;**
- 2. Guidelines and regulatory standards be strengthened;**
- 3. Manufacturers be encouraged to develop safer technology;**
- 4. utilities responsible for the generation, transmission, distribution, and monitoring of electricity maintain adequate power quality and ensure proper electrical wiring to minimize harmful ground current;**
- 5. The public be fully informed about the potential health risks from electromagnetic energy and taught harm reduction strategies;**
- 6. Medical professionals be educated about the biological effects of electromagnetic energy and be provided training on treatment of patients with electromagnetic sensitivity;**
- 7. Governments fund training and research on electromagnetic fields and health that is independent of industry and mandate industry cooperation with researchers;**
- 8. Media disclose experts’ financial relationships with industry when citing their opinions regarding health and safety aspects of EMF-emitting technologies; and**
- 9. white-zones (radiation-free areas) be established.**

**Can the court rule that one Bias Witness Can overrule the consensus of all of these medical Doctors, scientists, Professors and professionals. Today, it carries 224 signatories from 41 nations; all have peer-reviewed research in the field, and none - to their credit - have been paid or co-opted by the multi-billion dollar Big Utility or Telecoms industry.**

## Signatories

### Armenia

**Prof. Sinerik Ayrapetyan, Ph.D.**, UNESCO Chair - Life Sciences International Postgraduate Educational Center, Armenia

### Australia

**Dr. Priyanka Bandara, Ph.D.**, Independent Env.Health Educator/Researcher, Advisor, Environmental Health Trust; Doctors for Safer Schools, Australia

**Dr. Peter French BSc, MSc, MBA, PhD, FRSM**, Conjoint Senior Lecturer, University of New South Wales, Australia **Dr. Bruce Hocking, MD, MBBS, FAFOEM (RACP), FRACGP, FARPS**, specialist in occupational medicine; Victoria, Australia **Dr. Gautam (Vini) Khurana, Ph.D., F.R.A.C.S.**, Director, C.N.S. Neurosurgery, Australia

**Dr. Don Maisch, Ph.D.**, Australia

**Dr. Elena Pirogova, Ph.D.**, Biomed Eng., B. Eng (Hon) Chem. Eng., Engineering & Health College; RMIT University, Australia

**Dr. Mary Redmayne, Ph.D.**, Department of Epidemiology & Preventive Medicine, Monash University, Australia

**Dr. Charles Teo, BM, BS, MBBS**, Member of the Order of Australia, Director, Centre for Minimally Invasive Neurosurgery at Prince of Wales Hospital, NSW, Australia

### Austria

**Dr. Michael Kundi, MD**, University of Vienna, Austria

**Dr. Gerd Oberfeld, MD**, Public Health Department, Salzburg Government, Austria

**Dr. Bernhard Pollner, MD**, Pollner Research, Austria

**Prof. Dr. Hugo W. Rüdiger, MD**, Austria

### Bahrain

**Dr. Amer Kamal, MD**, Physiology Department, College of Medicine, Arabian Gulf University, Bahrain

### Belgium

**Prof. Marie-Claire Cammaerts, Ph.D.**, Free University of Brussels, Faculty of Science, Brussels, Belgium **Dr. Andre Vander Vorst, PhD**, professor emeritus, University Louvain-la-Neuve, Belgium

### Brazil

**Vânia Araújo Condessa, MSc.**, Electrical Engineer, Belo Horizonte, Brazil

**Prof. Dr. João Eduardo de Araujo, MD**, University of Sao Paulo, Brazil

**Dr. Francisco de Assis Ferreira Tejo, D. Sc.**, Universidade Federal de Campina Grande, Campina Grande, State of Paraíba, Brazil

**Prof. Alvaro deSalles, Ph.D.**, Federal University of Rio Grande Del Sol, Brazil

**Prof. Adilza Dode, Ph.D., MSc.** Engineering Sciences, Minas Methodist University, Brazil

**Dr. Daiana Condessa Dode, MD**, Federal University of Medicine, Brazil

**Michael Condessa Dode**, Systems Analyst, MRE Engenharia Ltda, Belo Horizonte, Brazil **Prof. Orlando Furtado Vieira Filho, PhD**, Cellular&Molecular Biology, Federal University of Rio Grande do Sul, Brazil

### Canada

**Dr. Magda Havas, Ph.D.**, Environmental and Resource Studies, Centre for Health Studies, Trent University, Canada

**Dr. Paul Héroux, Ph.D.**, Director, Occupational Health Program, McGill University; InvitroPlus Labs, Royal Victoria Hospital, McGill University, Canada

**Dr. Tom Hutchinson, Ph.D.**, Professor Emeritus, Environmental and Resource Studies, Trent University, Canada

**Prof. Ying Li, Ph.D.**, InVitroPlus Labs, Dept. of Surgery, Royal Victoria Hospital, McGill University, Canada

**James McKay M.Sc.**, Ecologist, City of London; Planning Services, Environmental and Parks Planning, London, Canada

**Prof. Anthony B. Miller, MD, FRCP**, University of Toronto, Canada

**Prof. Klaus-Peter Ossenkopp, Ph.D.**, Department of Psychology (Neuroscience), University of Western Ontario, Canada **Dr. Malcolm Paterson, PhD**, Molecular Oncologist (ret.), British Columbia, Canada

**Prof. Michael A. Persinger, Ph.D.**, Behavioural Neuroscience and Biomolecular Sciences, Laurentian University, Canada

### China

**Prof. Huai Chiang**, Bioelectromagnetics Key Laboratory, Zhejiang University School of Medicine, China

**Prof. Yuqing Duan, Ph.D.**, Food & Bioengineering, Jiangsu University, China

**Dr. Kaijun Liu, Ph.D.**, Third Military Medical University, Chongqing, China

**Prof. Xiaodong Liu**, Director, Key Lab of Radiation Biology, Ministry of Health of China; Associate Dean, School of Public Health, Jilin University, China

**Prof. Wenjun Sun, Ph.D.**, Bioelectromagnetics Key Lab, Zhejiang University School of Medicine, China

**Prof. Minglian Wang, Ph.D.**, College of Life Science & Bioengineering, Beijing University of Technology, China

**Prof. Qun Wang, Ph.D.**, College of Materials Science & Engineering, Beijing University of Technology, China

**Prof. Haihui Zhang, Ph.D.**, School of Food & BioEngineering, Jiangsu University, China

**Prof. Jianbao Zhang**, Associate Dean, Life Science and Technology School, Xi'an Jiaotong University, China

**Prof. Hui-yan Zhao**, Director of STSCRW, College of Plant Protection, Northwest A & F University, Yangling Shaanxi, China

**Prof. J. Zhao**, Department of Chest Surgery, Cancer Center of Guangzhou Medical University, Guangzhou, China

#### Croatia

**Ivancica Trosic, Ph.D.**, Institute for Medical Research and Occupational Health, Croatia

#### Egypt

**Prof. Dr. Abu Bakr Abdel Fatth El-Bediwi, Ph.D.**, Physics Dept., Faculty of Science, Mansoura University, Egypt

**Prof. Dr. Emad Fawzy Eskander, Ph.D.**, Medical Division, Hormones Department, National Research Center, Egypt

**Prof. Dr. Heba Salah El Din Aboul Ezz, Ph.D.**, Physiology, Zoology Department, Faculty of Science, Cairo University, Egypt

**Prof. Dr. Nasr Radwan, Ph.D.**, Neurophysiology, Faculty of Science, Cairo University, Egypt

#### Estonia

**Dr. Hiie Hinrikus, Ph.D., D.Sc.**, Tallinn University of Technology, Estonia **Mr. Tarmo Koppel**, Tallinn University of Technology, Estonia

#### Finland

**Dr. Mikko Ahonen, Ph.D.**, University of Tampere, Finland **Dr. Marjukka Hagström, LL.M., M.Soc.Sc.**, Principal

Researcher, Radio and EMC Laboratory, Finland **Prof. Dr. Osmo Hänninen, Ph.D.**, Dept. of Physiology, Faculty of Medicine, University of Eastern Finland, Finland;

Editor-In-Chief, Pathophysiology, Finland **Dr. Dariusz Leszczynski, Ph.D.**, Adjunct Professor of Biochemistry, University of Helsinki, Finland;

Member of the IARC Working Group that classified cell phone radiation as possible carcinogen.

**Dr. Georgiy Ostroumov, Ph.D.** (in the field of RF EMF), independent researcher, Finland

#### France

**Prof. Dr. Dominique Belpomme, MD, MPH**, Professor in Oncology, Paris V Descartes University, ECERI Executive Director **Dr. Pierre**

**Le Ruz, Ph.D.**, CRIIrem, Le Mans, France **Dr Annie J Sasco, MD, MPH, MS, DrPH**, Fmr. Research Dir., French NIH (INSERM); Fmr. Chief, Unit of Epidemiology for Cancer Prevention at International Agency for Research on Cancer; Fmr. Acting Head, Programme for Cancer Control, World Health Organization; France.

#### Georgia

**Prof. Besarion Partsvania, Ph.D.**, Head of Bio-cybernetics Department of Georgian Technical University, Georgia

#### Germany

**Prof. Dr. Franz Adlkofer, MD**, Chairman, Pandora Foundation, Germany

**Prof. Dr. Hynek Burda, Ph.D.**, University of Duisburg-Essen, Germany

**Dr. Horst Eger, MD**, Electromagnetic Fields in Medicine, Association of Statutory Health Insurance Physicians, Bavaria, Germany

**Prof. Dr. Karl Hecht, MD**, former Director, Institute of Pathophysiology, Charité, Humboldt University, Berlin, Germany

**Dr.Sc. Florian M. König, Ph.D.**, Florian König Enterprises (FKE) GmbH, Munich, Germany **Dr. rer. nat. Lebrecht von Klitzing, Ph.D.**,

Dr. rer. nat. Lebrecht von Klitzing, Ph.D., Head, Institute of Environ.Physics; Ex-Head, Dept. Clinical Research, Medical University, Lubeck, Germany

**Dr. Cornelia Waldmann-Selsam, MD**, Member, Competence Initiative for the Protection of Humanity, Environment and Democracy e.V, Bamberg, Germany

**Dr. Ulrich Warnke, Ph.D.**, Bionik-Institut, University of Saarlandes, Germany

#### Greece

**Dr. Adamantia F. Fragopoulou, M.Sc., Ph.D.**, Department of Cell Biology & Biophysics, Biology Faculty, University of Athens, Greece

**Dr. Christos Georgiou, Ph.D.**, Biology Department, University of Patras, Greece

**Prof. Emeritus Lukas H. Margaritis, Ph.D.**, Depts. Cell Biology, Radiobiology & Biophysics, Biology Faculty, Univ. of Athens, Greece

**Dr. Aikaterini Skouroliaikou, M.Sc., Ph.D.**, Department of Energy Technology Engineering, Technological Educational Institute of Athens, Greece

**Dr. Stelios A Zinelis, MD**, Hellenic Cancer Society-Kefalonia, Greece

#### Iceland

**Dr. Ceon Ramon, Ph.D., Affiliate Professor**, University of Washington, USA; **Professor**, Reykjavik University, Iceland

## India

**Prof. Dr. B. D. Banerjee, Ph.D.**, Fmr. Head, Environmental Biochemistry & Molecular Biology Laboratory, Department of Biochemistry, University College of Medical Sciences, University of Delhi, India

**Prof. Jitendra Behari, Ph.D.**, Ex-Dean, Jawaharlal Nehru University; presently, Emeritus Professor, Amity University, India

**Prof. Dr. Madhukar Shivajirao Dama**, Institute of Wildlife Veterinary Research, India **Associate Prof. Dr. Amarjot Dhami, PhD.**, Lovely Professional University, Phagwara, Punjab, India

**Dr. Kavindra K. Kesari, MBA, Ph.D.**, Resident Environmental Scientist, University of Eastern Finland, Finland; Assistant Professor, Jaipur National University, India **Prof. Girish Kumar, Ph.D.**, Electrical Engineering Department, Indian Institute of Technology, Bombay, India **Dr. Pabrita Mandal PhD.**, Department of Physics, Indian Institute of Technology, Kanpur, India **Prof. Rashmi Mathur, Ph.D.**, Head, Department of Physiology, All India Institute of Medical Sciences, New Delhi, India **Prof. Dr. Kameshwar Prasad MD**, Head, Dept of Neurology, Director, Clinical Epidemiology, All India Institute of Medical Sciences, India **Dr. Sivani Saravanamuttu, PhD.**, Dept. Advanced Zoology and Biotechnology, Loyola College, Chennai, India **Dr. N.N. Shareesh, PhD.**, Melaka Manipal Medical College, India **Dr. R.S. Sharma, MD**, Sr. Deputy Director General, Scientist - G & Chief Coordinator - EMF Project, Indian Council of Medical Research, Dept. of Health Research, Ministry/Health and Family Welfare, Government of India, New Delhi, India **Prof. Dr. Dorairaj Sudarsanam, M.Sc., M.Ed., Ph.D.**, Fellow - National Academy of Biological Sciences, Prof. of Zoology, Biotechnology and Bioinformatics, Dept. Advanced Zoology & Biotechnology, Loyola College, Chennai, South India

## Iran (Islamic Republic of)

**Prof. Dr. Soheila Abdi, Ph.D.**, Physics, Islamic Azad University of Safadasht, Tehran, Iran **Prof. G.A. Jelodar, D.V.M., Ph.D.**, Physiology, School of Veterinary Medicine, Shiraz University, Iran

**Prof. Hamid Mobasheri, Ph.D.**, Head BRC; Head, Membrane Biophysics&Macromolecules Lab;Instit.Biochemistry&Biophysics,University,Tehran,Iran

**Prof. Seyed Mohammad Mahdavi, PhD.**, Dept of Biology, Science and Research, Islamic Azad University, Tehran, Iran

**Prof. S.M.J. Mortazavi, Ph.D.**, Head, Medical Physics & Engineering; Chair, NIER Protection Research Center, Shiraz University of Medical Sciences, Iran

**Prof. Amirnader Emami Razavi, Ph.D.**, Clinical Biochem., National Tumor Bank, Cancer Institute, Tehran Univ. Medical Sciences, Iran

**Dr. Masood Sepehrmanesh, Ph.D.**, Gastroenterohepatology Research Center, Shiraz University of Medical Sciences, Iran

**Prof. Dr. Mohammad Shabani, Ph.D.**, Neurophysiology, Kerman Neuroscience Research Center, Iran

## Israel

**Michael Peleg, M.Sc.**, radio communications engineer and researcher, Technion - Israel Institute of Technology, Israel **Prof. Elihu D. Richter, MD, MPH**, Occupational&Environmental Medicine, Hebrew University-Hadassah School of Public Health&Community Medicine, Israel **Dr. Yael Stein, MD**, Hebrew University of Jerusalem, Hadassah Medical Center, Israel

**Dr. Danny Wolf, MD**, Pediatrician and General Practitioner, Sherutey Briut Clalit, Shron Shomron district, Israel

**Dr. Ronni Wolf, MD**, Assoc. Clinical Professor, Head of Dermatology Unit, Kaplan Medical Center, Rehovot, Israel

## Italy

**Prof. Sergio Adamo, Ph.D.**, La Sapienza University, Rome, Italy

**Prof. Fernanda Amicarelli, Ph.D.**, Applied Biology, Dept. of Health, Life and Environmental Sciences, University of L'Aquila, Italy

**Dr. Pasquale Avino, Ph.D.**, INAIL Research Section, Rome, Italy

**Dr. Fiorella Belpoggi, Ph.D., FIATP**, Director, Cesare Maltoni Cancer Research Center, Ramazzini Institute, Italy

**Prof. Giovanni Di Bonaventura, PhD**, School of Medicine, "G. d'Annunzio" University of Chieti-Pescara, Italia **Prof. Emanuele Calabro**, Department of Physics and Earth Sciences, University of Messina, Italy

**Prof. Franco Cervellati, Ph.D.**, Department of Life Science and Biotechnology, Section of General Physiology, University of Ferrara, Italy

**Vale Crocetta, Ph.D. Candidate**, Biomolecular and Pharmaceutical Sciences, "G. d'Annunzio" University of Chieti, Italy **Prof. Stefano Falone, Ph.D.**, Researcher in Applied Biology, Dept. of Health, Life&Environmental Sciences, University of L'Aquila, Italy

**Prof. Dr. Speridione Garbisa**, ret. Senior Scholar, Dept. Biomedical Sciences, University of Padova, Italy

**Dr. Settimio Grimaldi, Ph.D.**, Associate Scientist, National Research Council, Italy

**Prof. Livio Giuliani, Ph.D.**, Director of Research, Italian Health National Service, Rome-Florence-Bozen; Spokesman, ICEMS-International Commission for Electromagnetic Safety, Italy

**Prof. Dr. Angelo Levis, MD**, Dept. Medical Sciences, Padua University, Italy

**Prof. Salvatore Magazù, Ph.D.**, Department of Physics and Science, Messina University, Italy

**Dr. Fiorenzo Marinelli, Ph.D.**, Researcher, Molecular Genetics Institute of the National Research Council, Italy

**Dr. Arianna Pompilio, PhD**, Dept. Medical, Oral & Biotechnological Sciences. G. d'Annunzio University of Chieti-Pescara, Italy **Prof. Dr. Raoul Saggini, MD**, School of Medicine, University G. D'Annunzio, Chieti, Italy **Dr. Morando Soffritti, MD**, Honorary President, National Institute for the Study and Control of Cancer and Environmental Diseases, B.Ramazzini, Bologna. Italy **Prof. Massimo Sperini, Ph.D.**, Center for Inter-University Research on Sustainable Development, Rome, Italy

## Japan

**Prof. Tsuyoshi Hondou, Ph.D.**, Graduate School of Science, Tohoku University, Japan

**Prof. Hidetake Miyata, Ph.D.**, Department of Physics, Tohoku University, Japan

## Jordan

**Prof. Mohammed S.H. Al Salameh**, Jordan University of Science & Technology, Jordan

#### **Kazakhstan**

**Prof. Dr. Timur Saliev, MD, Ph.D.**, Life Sciences, Nazarbayev University, Kazakhstan; Institute Medical Science/Technology, University of Dundee, UK

#### **New Zealand**

**Dr. Bruce Rapley, BSc, MPhil, Ph.D.**, Principal Consulting Scientist, Atkinson & Rapley Consulting Ltd., New Zealand

#### **Nigeria**

**Dr. Idowu Ayisat Obe**, Department of Zoology, Faculty of Science, University of Lagos, Akoka, Lagos, Nigeria **Prof. Olatunde Michael Oni , Ph.D.**, Radiation & Health Physics, Ladake Akintola University of Technology, Ogbomoso, Nigeria

#### **Oman**

**Prof. Najam Siddiqi, MBBS, Ph.D.**, Human Structure, Oman Medical College, Oman

#### **Poland**

**Dr. Pawel Bodera, Pharm. D.**, Department of Microwave Safety, Military Institute of Hygiene and Epidemiology, Poland

**Prof. Dr. Stanislaw Szmigielski, MD, Ph.D.**, Military Institute of Hygiene and Epidemiology, Poland

#### **Romania**

**Alina Cobzaru**, Engineer, National Institutes Research & Development and Institute of Construction & Sustainability, Romania

#### **Russian Federation**

**Prof. Vladimir N. Binhi, Ph.D.**, A.M.Prokhorov General Physics Institute of the Russian Academy of Sciences; M.V.Lomonosov Moscow State University

**Dr. Oleg Grigoyev, DSc., Ph.D.**, Deputy Chairman, Russian National Committee on Non-Ionizing Radiation Protection, Russian Federation

**Prof. Yury Grigoryev, MD**, Chairman, Russian National Committee on Non-Ionizing Radiation Protection, Russian Federation

**Dr. Anton Merkulov, Ph.D.**, Russian National Committee on Non-Ionizing Radiation Protection, Moscow, Russian Federation **Dr. Dr. Maxim Trushin, PhD.**, Kazan Federal University, Russia

#### **Serbia**

**Dr. Snezana Raus Balind, Ph.D.**, Research Associate, Institute for Biological Research "Sinisa Stankovic", Belgrade, Serbia

**Prof. Danica Dimitrijevic, Ph.D.**, Vinca Institute of Nuclear Sciences, University of Belgrade, Serbia

**Dr. Sladjana Spasic, Ph.D.**, Institute for Multidisciplinary Research, University of Belgrade, Serbia

#### **Slovak Republic**

**Dr. Igor Belyaev, Ph.D., Dr.Sc.**, Cancer Research Institute, Slovak Academy of Science, Bratislava, Slovak Republic

#### **South Korea (Republic of Korea)**

**Prof. Young Hwan Ahn, MD, Ph.D.**, Ajou University Medical School, South Korea

**Prof. Kwon-Seok Chae, Ph.D.**, Molecular-ElectroMagnetic Biology Lab, Kyungpook National University, South Korea

**Prof. Dr. Yoon-Myoung Gimm, Ph.D.**, School of Electronics and Electrical Engineering, Dankook University, South Korea **Prof. Dr. Myung Chan Gye, Ph.D.**, Hanyang University, South Korea

**Prof. Dr. Mina Ha, MD**, Dankook University, South Korea

**Prof. Seung-Cheol Hong, MD**, Inje University, South Korea

**Prof. Dong Hyun Kim, Ph.D.**, Dept. of Otorhinolaryngology-Head and Neck Surgery, Incheon St. Mary's Hospital, Catholic University of Korea, South Korea

**Prof. Hak-Rim Kim**, Dept.of Pharmacology, College of Medicine, Dankook University, South Korea

**Prof. Myeung Ju Kim, MD, Ph.D.**, Department of Anatomy, Dankook University College of Medicine, South Korea **Prof. Jae Seon Lee, MD**, Department of Molecular Medicine, NHA University College of Medicine, Incheon 22212, South Korea

**Prof. Yun-Sil Lee, Ph.D.**, Ewha Woman's University, South Korea

**Prof. Dr. Yoon-Won Kim, MD, Ph.D.**, Hallym University School of Medicine, South Korea

**Prof. Jung Keog Park, Ph.D.**, Life Science & Biotech; Dir., Research Instit.of Biotechnology, Dongguk University, South Korea

**Prof. Sungman Park, Ph.D.**, Institute of Medical Sciences, School of Medicine, Hallym University, South Korea

**Prof. Kiwon Song, Ph.D.**, Dept. of Chemistry, Yonsei University, South Korea

#### **Spain**

**Prof. Dr. Miguel Alcaraz, MD, Ph.D.**, Radiology and Physical Medicine, Faculty of Medicine, University of Murcia, Spain

**Dr. Alfonso Balmori, Ph.D.**, Biologist, Consejería de Medio Ambiente, Junta de Castilla y León, Spain

**Prof. J.L. Bardasano, D.Sc.**, University of Alcalá, Department of Medical Specialties, Madrid, Spain

**Dr. Claudio Gómez-Perretta, MD, Ph.D.**, La Fe University Hospital, Valencia, Spain **Prof. Dr. Miguel López-Lázaro, PhD.**, Associate Professor, Department of Pharmacology, University of Seville, Spain **Prof. Dr. Elena Lopez Martin, Ph.D.**, Human Anatomy, Facultad de Medicina, Universidad

de Santiago de Compostela, Spain **Prof. Dr. Emilio Mayayo, MD**, Pathology Unit, School of Medicine, University Rovira I Virgili (URV), Tarragona, Spain **Prof Enrique A. Navarro, Ph.D.**, Department of Applied Physics and Electromagnetics, University of Valencia, Spain

#### Sweden

**Dr. Michael Carlberg, MSc**, Örebro University Hospital, Sweden

**Dr. Lennart Hardell, MD, Ph.D.**, University Hospital, Örebro, Sweden **Dr. Lena Hedendahl, MD**, Independent Environment and Health Research, Luleå, Sweden

**Prof. Olle Johansson, Ph.D.**, Experimental Dermatology Unit, Dept. of Neuroscience, Karolinska Institute, Sweden

**Dr. Bertil R. Persson, Ph.D., MD**, Lund University, Sweden

**Senior Prof. Dr. Leif Salford, MD**, Department of Neurosurgery, Director, Rausing Laboratory, Lund University, Sweden

**Dr. Fredrik Söderqvist, Ph.D.**, Ctr. for Clinical Research, Uppsala University, Västerås, Sweden

#### Switzerland

**Dr. phil. nat. Daniel Favre, A.R.A. (Association Romande Alerte**, Switzerland

#### Taiwan (Republic of China)

**Prof. Dr. Tsun-Jen Cheng, MD, Sc.D.**, National Taiwan University, Republic of China

#### Turkey

**Prof. Dr. Mehmet Zülküf Akdağ, Ph.D.**, Department of Biophysics, Medical School of Dicle University, Diyarbakir, Turkey

**Associate Prof. Dr. Halil Abraham Atasoy, MD**, Pediatrics, Abant İzzet Baysal University, Faculty of Medicine, Turkey

**Prof. Ayşe G. Canseven (Kursun), Ph.D.**, Gazi University, Faculty of Medicine, Dept. of Biophysics, Turkey

**Prof. Dr. Mustafa Salih Celik, Ph.D.**, Fmr. Head, Turkish Biophysical Society; Head, Biophysics Dept; Medical Faculty, Dicle Univ., Turkey

**Prof. Dr. Osman Cerezci**, Electrical-Electronics Engineering Department, Sakarya University, Turkey

**Prof. Dr. Suleyman Dasdag, Ph.D.**, Dept. of Biophysics, Medical School of Dicle University, Turkey

**Prof. Omar Elmas, MD, Ph.D.**, Mugla Sitki Kocman University, Faculty of Medicine, Department of Physiology, Turkey

**Prof. Dr. Ali H. Eriş, MD**, faculty, Radiation Oncology Department, BAV University Medical School, Turkey

**Prof. Dr. Arzu Firlarer, M.Sc. Ph.D.**, Occupational Health & Safety Department, Baskent University, Turkey

**Prof. Associate Prof. Ayşe İnhan Garip, PdH.**, Marmara Univ. School of Medicine, Biophysics Department, Turkey

**Prof. Suleyman Kaplan, Ph.D.**, Head, Department of Histology and Embryology, Medical School, Ondokuz Mayıs University, Samsun, Turkey.

**Prof. Dr. Mustafa Nazıroğlu, Ph.D.**, Biophysics Dept, Medical Faculty, Süleyman Demirel University, Isparta, Turkey

**Prof. Dr. Ersan Odacı, MD, Ph.D.**, Karadeniz Technical University, Medical Faculty, Trabzon, Turkey

**Prof. Dr. Elcin Özgür, Ph.D.**, Biophysics Department, Faculty of Medicine, Gazi University, Turkey

**Prof. Dr. Selim Seker**, Electrical Engineering Department, Bogazici University, Istanbul, Turkey **Prof. Dr. Cemil Sert, Ph.D.**, Department of Biophysics of Medicine Faculty, Harran University, Turkey

**Prof. Dr. Nesrin Seyhan, B.Sc., Ph.D.**, Medical Faculty of Gazi University; Chair, Biophysics Dept; Director GNRK Ctr.;

Panel Mbr, NATO STO HFM; Scientific Secretariat Member, ICEMS; Advisory Committee Member, WHO EMF, Turkey

**Prof. Dr. Bahriye Sirav (Aral), Ph.D.**, Gazi University Faculty of Medicine, Dept of Biophysics, Turkey

#### Ukraine

**Dr. Oleg Banyra, MD**, 2nd Municipal Polyclinic, St. Paraskeva Medical Centre, Ukraine

**Prof. Victor Martynyuk, Ph.D.**, ECS "Institute of Biology", Head of Biophysics Dept, Taras Shevchenko National University of Kiev, Ukraine

**Prof. Igor Yakymenko, Ph.D., D.Sc.**, Instit. Experimental Pathology, Oncology & Radiobiology, National Academy of Sciences of Ukraine

#### United Kingdom

**Michael Bevington, M.A., M.Ed.**, Chair of Trustees, ElectroSensitivity UK (ES-UK), UK

**Mr. Roger Coghill, MA, C Biol, MI Biol, MA Environ Mgt**; Member Instit. of Biology; Member, UK SAGE Committee on EMF Precautions, UK

**Mr. David Gee**, Associate Fellow, Institute of Environment, Health and Societies, Brunel University, UK

**Dr. Andrew Goldsworthy BSc PhD**, Lecturer in Biology (retired), Imperial College, London, UK Emeritus Professor Denis L.

Henshaw, PhD., Human Radiation Effects, School of Chemistry, University of Bristol, UK **Dr. Mae-Wan Ho, Ph.D.**, Institute of

Science in Society, UK **Dr. Gerard Hyland, Ph.D.**, Institute of Biophysics, Neuss, Germany, UK **Dr. Isaac Jamieson, Ph.D.**,

Biosustainable Design, UK Emeritus Professor, **Michael J. O'Carroll, Ph.D.**, former Pro Vice-Chancellor, University of Sunderland, UK

**Mr. Alasdair Phillips**, Electrical Engineer, UK **Dr. Syed Ghulam Sarwar Shah, M.Sc., Ph.D.**, Public Health Consultant, Honorary

Research Fellow, Brunel University London, UK

**Dr. Sarah Starkey, Ph.D.**, independent neuroscience and environmental health research, UK

#### United States

**Dr. Martin Blank, Ph.D.**, Columbia University, USA

Prof. Jim Burch, MS, Ph.D., Dept. of Epidemiology & Biostatistics, Arnold School of Public Health, University of South Carolina, USA

Prof. David O. Carpenter, MD, Director, Institute for Health and the Environment, University of New York at Albany, USA Prof. Prof. Simona Carrubba, Ph.D., Biophysics, Daemen College, Women & Children's Hospital of Buffalo Neurology Dept., USA

Dr. Zoreh Davanipour, D.V.M., Ph.D., Friends Research Institute, USA

Dr. Devra Davis, Ph.D., MPH, President, Environmental Health Trust; Fellow, American College of Epidemiology, USA Paul Raymond Doyon, EMRS, MAT, MA, Doyon Independent Research Associates, USA

Prof. Om P. Gandhi, Ph.D., Department of Electrical and Computer Engineering, University of Utah, USA

Prof. Beatrice Golomb, MD, Ph.D., University of California at San Diego School of Medicine, USA

Dr. Martha R. Herbert, MD, Ph.D., Harvard Medical School, Harvard University, USA Dr. Gunnar Heuser, M.D., Ph.D., F.A.C.P. Emeritus member, Cedars Sinai Medical Center, Los Angeles, CA; Former Assistant Clinical Professor, UCLA; Former member, Brain Research Institute, UCLA. USA

Dr. Donald Hillman, Ph.D., Professor Emeritus, Michigan State University, USA

Elizabeth Kelley, MA, Fmr. Managing Secretariat, ICEMS, Italy; Director, EMFscientist.org, USA

Neha Kumar, Founder, Nonionizing Electromagnetic Radiation Shielding Alternatives, Pvt. Ltd; B.Tech - Industrial Biotech., USA

Dr. Henry Lai, Ph.D., University of Washington, USA

B. Blake Levitt, medical/science journalist, former New York Times contributor, EMF researcher and author, USA

Prof. Trevor G. Marshall, PhD, Autoimmunity Research Foundation, USA Dr. Albert M. Manville, II, Ph.D. and C.W.B., Adj. Professor, Johns Hopkins University Krieger Graduate School of Arts & Sciences; Migratory Bird Management, U.S. Fish & Wildlife Service, USA

Dr. Andrew Marino, J.D., Ph.D., Retired Professor, LSU Health Sciences Center, USA

Dr. Marko Markov, Ph.D., President, Research International, Buffalo, New York, USA

Dr. Jeffrey L. Marrongelle, DC, CCN, President/Managing Partner of BioEnergiMed LLC, USA

Dr. Ronald Melnick, PhD, Senior Toxicologist, (Retired, leader of the NTP's health effects studies of cell phone radio frequency radiation) US National Toxicology Program, National Institute of Environmental Health Sciences, USA

Dr. Samuel Milham, MD, MPH, USA

L. Lloyd Morgan, Environmental Health Trust, USA

Dr. Joel M. Moskowitz, Ph.D., School of Public Health, University of California, Berkeley, USA

Dr. Martin L. Pall, Ph.D., Professor Emeritus, Biochemistry & Basic Medical Sciences, Washington State University, USA

Dr. Jerry L. Phillips, Ph.D. University of Colorado, USA

Dr. William J. Rea, M.D., Environmental Health Center, Dallas, Texas, USA

Camilla Rees, MBA, Electromagnetichealth.org; CEO, Wide Angle Health, LLC, USA

Prof. Narendra P. Singh, MD, University of Washington, USA

Prof. Eugene Sobel, Ph.D., Retired, School of Medicine, University of Southern California, USA

David Stetzer, Stetzer Electric, Inc., Blair, Wisconsin, USA

Dr. Lisa Tully, Ph.D., Energy Medicine Research Institute, Boulder, CO, USA

Supporting Scientists who have published peer reviewed papers in related fields

Olga Ameixa, PhD. Post-Doctoral Researcher, Dept of Biology & CESAM, University of Aveiro Campus, Universitário de Santiago, Portugal

Michelle Casciani, MA, Environmental Science, President/Chief Executive Officer, Salvator Mundi International Hospital, Rome, Italy Enrico Corsetti, Engineer, Research Director, Salvator Mundi International Hospital, Rome, Italy Jacques Testart, Biologist, Honorary Research Director at I.N.S.E.R.M. (French National Medical Research Institute), France Xin Li, PhD candidate MSc, Department of Mechanical Engineering, Stevens Institute of Technology, New Jersey, USA Dr. Carlos A. Loreda Ritter, MD, Pediatrician, Pediatric Neurologist, President, Restoration Physics, North American Sleep Medicine Society, USA Dr. Robin Maytum, PhD, Senior Lecturer in Biological Science, University of Bedfordshire, Luton, UK Prof. Dr. Raúl A. Montenegro, Ph.D, Evolutionary Biology, National University of Cordoba; President, FUNAM; Recognitions: Scientific Investigation Award from University of Buenos Aires, UNEP 'Global 500' Award (Brussels, Belgium), the Nuclear Free Future Award (Salzburg, Austria), and Alternative Nobel Prize (Right Livelihood Award, Sweden), Argentina. Dr. Hugo Schooneveld, PhD, Biologist, Neuroscientist, Advisor to the Dutch EHS Foundation, Netherlands Dr. Carmen Adella Sirbu, MD, Neurology, Lecturer, Titu Matescu University, Romania

## **PPL Claim**

**Exhibit M - "NTP Technical Report on the Toxicology and Carcinogenesis Studies in B6C3F1/N Mice Exposed to Whole-body Radio Frequency Radiation at a Frequency (1,900 MHz) and Modulations (GSM and CDMA) Used by Cell Phones"**

o The document is irrelevant because it concerns RF fields from cell phones and does not Address RF fields from the AMI meters being used by PPL Electric. Moreover, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Further, as shown on the document and explained by Dr. Davis, the document is stamped “DRAFT” and “NOT FOR ATTRIBUTION” and states on its cover that “This DRAFT Technical Report is distributed solely for the purpose of predissemination peer review under the applicable information quality guidelines. It has not been formally disseminated by the NTP. It does not represent and should not be construed to represent NTP determination or policy.” (Complainant’s Exhibit M) (emphasis added); (Tr. 105-07) Dr. Davis also testified that the draft NTP study should not be compared to the RF fields being emitted from the new AMI meter because “the NTP exposure is 3,3 million times higher than what one would experience if one approached PPL’s Smart Meter.” (Tr. 107) (emphasis added)

#### Kline Response

As discussed earlier. Dr. Davis’ calculations are suspect and cannot be used to authenticate this statement. In fact the American cancer Society’s own website states smart meters “give off the same kinds of radiofrequency (RF) waves as cell phones and Wi- Fi devices”

<https://www.cancer.org/cancer/cancer-causes/radiation-exposure/smart-meters.html>

And throughout this proceeding the respondent has made numerous comparisons between cell phone use and smart meters so that argument has no merit and should be rejected.

On March 26 – 28, 2018, the three days prior to my hearing, the National Institute of Environmental Health Sciences (NIEHS) conducted an intense 3-day peer review of the two recently published draft technical reports of the results of the National Toxicology Program (NTP) study. The review process was open to the public and was broadcast live from the NIEHS campus in Research Triangle Park, North Carolina, USA. A panel of 13 invited well-established experts was charged with the task to scrutinize all aspects of the reports. In addition to the panel, the scientists who were responsible for the studies, together with representatives of the US Food and Drug Administration (FDA), the Federal Communications Commission (FCC), non-governmental organizations (NGO), the media, and industry representatives, as well as private citizens, attended the meeting.

During the first day of the meeting, the exposure system, the dosimetry, and the thermal pilot study were reviewed. Niels Kuster and Myles Capstick of the IT’IS Foundation – who had been tasked with the development, installation and maintenance of the exposure systems – provided an overview about the rationale of the exposure protocols, the differences and similarities of the selected exposure for the study to actual human exposure scenarios at the beginning of 2000 and now, and details about the exposure systems, the dosimetry, and verification and validation, before answering questions related to technical aspects of the exposure. The day concluded with a panel discussion and recommendations for how to report on the chamber design and performance, as well as dosimetry considerations.

The second and third days were focused on the NTP studies of rats. The expert panel, which included top pathologists from the pharmaceutical industry, reviewed details of the histopathology data and the classification of the findings. A decision was made by the panel to upgrade the evidence of carcinogenic activity for seven categories of tumors described in the draft reports.

The Panel was divided into two groups. Panel 1 provided consultation on the reverberation chamber technology and Panel 2 provided recommendations on the study findings and NTP's draft conclusions. NTP will consider these comments when finalizing the technical reports. When completed, the technical reports will be published on the NTP website (<https://ntp.niehs.nih.gov/go/189>).

Panel 1 agreed that the reverberation chamber technology was adequate for generating the fields used to assess the effects of cell phone radiofrequency (RFR) exposure in rats and mice. Working from NTP's scale of clear evidence, some evidence, equivocal evidence, and no evidence, Panel 2 made the following recommendations:

#### Technical Report TR 596: Cell Phone Radiofrequency Radiation Studies in Mice

##### Neoplastic Lesions: GSM Modulation

Male B6C3F1/N mice, exposed to GSM-modulated cell phone RFR at 1,900 MHz

- Panel 2 voted to accept (8 yes, 3 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male B6C3F1/N mice based on combined incidences of fibrosarcoma, sarcoma, or malignant fibrous histiocytoma in the skin.
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male B6C3F1/N mice based on incidences of alveolar/bronchiolar adenoma or carcinoma (combined) in the lung. Female B6C3F1/N mice, exposed to GSM-modulated cell phone RFR at 1,900 MHz
- Panel 2 voted to accept (9 yes, 2 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of female B6C3F1/N mice based on incidences of malignant lymphoma (all organs).

##### Neoplastic Lesions: CDMA Modulation

Male B6C3F1/N mice, exposed to CDMA-modulated cell phone RFR at 1,900 MHz

- Panel 2 voted to accept (10 yes, 1 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male B6C3F1/N mice based on incidences of hepatoblastoma in the liver. Female B6C3F1/N mice, exposed to CDMA-modulated cell phone RFR at 1,900 MHz
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of female B6C3F1/N mice based on incidences of malignant lymphoma (all organs).

##### Nonneoplastic lesions: GSM and CDMA Modulations

- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusions as written, Exposure to GSM- or CDMA-modulated cell phone RFR at 1,900 MHz did not increase the incidence of any nonneoplastic lesions in male or female B6C3F1/N mice.

#### Technical Report TR 595: Cell Phone Radiofrequency Radiation Studies in Rats

##### Neoplastic Lesions: GSM Modulation

Male Hsd: Sprague Dawley SD rats, exposed to GSM-modulated cell phone RFR at 900 MHz

- Panel 2 voted to recommend (8 yes, 3 no, 0 abstentions) the conclusion, clear evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of malignant schwannoma in the heart.
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of adenoma or carcinoma (combined) in the prostate gland.
- Panel 2 voted to recommend (7 yes, 4 no, 0 abstentions) the conclusion, some evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of malignant glioma in the brain.
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on benign or malignant granular cell tumors in the brain.
- Panel 2 voted to accept (10 yes, 1 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of adenoma in the pars distalis of the pituitary gland.
- Panel 2 voted to recommend (6 yes, 4 no, 1 abstention) the conclusion, some evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of pheochromocytoma (benign, malignant, or complex combined) in the adrenal medulla.
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of pancreatic islet cell adenoma or carcinoma (combined).

Female Hsd: Sprague Dawley SD rats, exposed to GSM-modulated cell phone RFR at 900 MHz

- Panel 2 voted to recommend (9 yes, 2 no, 0 abstentions) the conclusion, equivocal evidence of Carcinogenic activity of female Hsd: Sprague Dawley SD rats based on incidences of malignant schwannomas in the heart.

##### Nonneoplastic Lesions: GSM Modulation

- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, Increases in nonneoplastic lesions in the heart, brain, and prostate gland of male rats occurred with exposures to GSM cell phone RFR at 900 MHz
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, Increases in nonneoplastic lesions in the heart, thyroid gland, and adrenal gland in female rats occurred with exposures to GSM cell phone RFR at 900 MHz

#### Neoplastic Lesions: CDMA Modulation

Male Hsd: Sprague Dawley SD rats, exposed to CDMA-modulated cell phone RFR at 900 MHz

- Panel 2 voted to recommend (8 yes, 3 no, 0 abstentions) the conclusion, clear evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of malignant Schwannoma in the heart.
- Panel 2 voted to recommend (6 yes, 4 no, 1 abstention) the conclusion, some evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of malignant glioma in the brain.
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of adenoma in the pars distalis of the pituitary gland.
- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of male Hsd: Sprague Dawley SD rats based on incidences of adenoma or carcinoma (combined) in the liver.

Female Hsd: Sprague Dawley SD rats, exposed to CDMA-modulated cell phone RFR at 900 MHz

- Panel 2 voted to accept (8 yes, 3 no, 0 abstentions) the conclusion as written, equivocal evidence of carcinogenic activity of female Hsd: Sprague Dawley SD rats based on incidences of malignant glioma in the brain.
- Panel 2 voted to accept (10 yes, 0 no, 1 abstention) the conclusion as written, equivocal evidence of carcinogenic activity of female Hsd: Sprague Dawley SD rats based on incidences of pheochromocytoma (benign, malignant, or complex combined) in the adrenal medulla.
- Panel 2 voted to recommend (9 yes, 2 no, 0 abstentions) the conclusion, equivocal evidence of carcinogenic activity of female Hsd: Sprague Dawley SD rats based on incidences of malignant schwannoma in the heart.

#### Nonneoplastic Lesions: CDMA Modulation

- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, Increases in nonneoplastic lesions of the heart, brain, and prostate gland occurred in males exposed to CDMA cell phone RFR at 900 MHz

- Panel 2 voted to accept unanimously (11 yes, 0 no, 0 abstentions) the conclusion as written, Increases in nonneoplastic lesions of the brain in females exposed to CDMA cell phone RFR at 900 MHz

## Final Conclusions

### GSM Modulation

Male Hsd:Sprague Dawley SD rats, exposed to GSM-modulated cell phone RFR at 900 MHz

- ***Clear evidence of carcinogenic activity***
  - Incidences of malignant schwannoma in the heart
- ***Were considered to be related to cell phone RFR exposure (some evidence)***
  - Incidences of malignant glioma in the brain
  - Incidences of pheochromocytoma (benign, malignant, or complex combined) in the adrenal medulla
- ***May have been related to cell phone RFR exposure (equivocal evidence)***
  - Incidences of adenoma or carcinoma (combined) in the prostate gland
  - Incidences of benign or malignant granular cell tumors in the brain
  - Incidences of adenoma in the pars distalis of the pituitary gland
  - Incidences of pancreatic islet cell adenoma or carcinoma (combined)

Female Hsd:Sprague Dawley SD rats, exposed to GSM-modulated cell phone RFR at 900 MHz

- ***Equivocal evidence of carcinogenic activity***
  - Incidences of malignant schwannoma in the heart

Increases in nonneoplastic lesions in the heart, brain, and prostate gland of male rats occurred with exposures to GSM cell phone RFR at 900 MHz.

Increases in nonneoplastic lesions in the heart, thyroid gland, and adrenal gland of female rats occurred with exposures to GSM cell phone RFR at 900 MHz.

### CDMA Modulation

Male Hsd:Sprague Dawley SD rats, exposed to CDMA-modulated cell phone RFR at 900 MHz

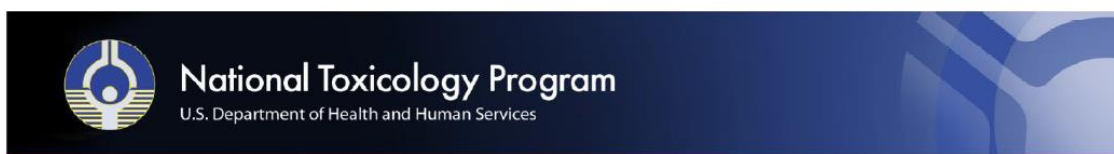
- ***Clear evidence of carcinogenic activity***
  - Incidences of malignant schwannoma in the heart
- ***Were considered to be related to cell phone RFR exposure (some evidence)***
  - Incidences of malignant glioma in the brain
- ***May have been related to cell phone RFR exposure (equivocal evidence)***
  - Incidences of adenoma in the pars distalis of the pituitary gland
  - Incidences of adenoma or carcinoma (combined) of the liver

Female Hsd:Sprague Dawley SD rats, exposed to CDMA-modulated cell phone RFR at 900 MHz

- ***Equivocal evidence of carcinogenic activity***
  - Incidences of malignant glioma in the brain
  - Incidences of malignant schwannoma in the heart
  - Incidences of pheochromocytoma (benign, malignant, or complex combined) in the adrenal medulla.

Increases in nonneoplastic lesions of the heart, brain, and prostate gland in male rats occurred with exposures to CDMA cell phone RFR at 900 MHz.

Increases in nonneoplastic lesions of the brain in female rats occurred with exposures to GSM cell phone RFR at 900 MHz.



**Peer Review of the Draft NTP Technical Reports on  
Cell Phone Radiofrequency Radiation  
March 26–28, 2018**

**PANEL<sup>1</sup>**

**Chair**

David Eaton, PhD, DABT, ATS  
Professor of Environmental and Occupational  
Health Sciences  
Dean and Vice Provost, UW Graduate School  
University of Washington  
Seattle, WA

**Peer Review Panel 1**  
(provided consultation on the reverberation chamber exposure system)

Frank Barnes, PhD  
Distinguished Professor Emeritus, Department of  
Electrical, Computer & Energy Engineering  
University of Colorado Boulder  
Boulder, CO

James Lin, PhD  
Professor Emeritus, Department of Electrical and  
Computer Engineering  
University of Illinois at Chicago  
Chicago, IL

Asimina Kiourti, PhD  
Assistant Professor, Department of Electrical and  
Computer Engineering  
The Ohio State University  
Columbus, OH

## Peer Review Panel 2

(provided input on study findings and voted on NTP's draft conclusions)

Rick Adler, DVM, PhD, DACVP  
Senior Director and US Head of Discovery and  
Regulatory Pathology  
GlaxoSmithKline  
King of Prussia, PA

J. Mark Cline, DVM, PhD, DACVP  
Professor of Pathology/Comparative Medicine,  
Radiation Oncology and Translational  
Sciences  
Wake Forest School of Medicine  
Winston-Salem, NC

Lydia Andrews-Jones, DVM, PhD, DACVP  
Director of Pathology  
Allergan, Inc.  
Irvine, CA

Tyler Malys, PhD  
Manager, Statistics Department  
Data Management Services  
Frederick, MD

George Corcoran, PhD, ATS  
Professor and Chair, Department of Pharmaceutical  
Sciences  
Wayne State University  
Detroit, MI

Kamala Pant, MS  
Principal Scientist, Genetic Toxicology  
BioReliance  
Washington, DC

Susan Felter, PhD  
Research Fellow, Central Product Safety  
Procter & Gamble  
Cincinnati, OH

Matthias Rinke, DVM, PhD, FTA Pathology, CVP  
Fellow IATP  
Former Head of Pathology and Clinical Pathology  
Bayer Pharma AG (retired)  
Wülfrath, Germany

Jack Harkema, DVM, PhD, DACVP  
University Distinguished Professor, Department of  
Pathobiology & Diagnostic Investigation  
Michigan State University  
East Lansing, MI

Laurence Whiteley, DVM, PhD, DACVP  
Senior Director and Site Pathology Line Lead  
Pfizer  
Boston, MA

Wolfgang Kaufmann, DVM, PhD, DECVP, Fellow  
IATP  
Former Director and Global Head of Pathology,  
Immunotoxicology and Reproduction Toxicology,  
Non-Clinical Safety  
Merck (retired)  
Bad Dürkheim, Germany

**The reliability of this study is without question as it was conducted by the US Department of Health and Human Services / national Toxicology Program and was a 10 year, 25 million dollar study to help clarify any potential health hazards, including cancer risk, from exposure to cell phone radiofrequency radiation, and to better inform protection for public health. The nomination for NTP to study cell phone radiofrequency radiation was made by the U.S. Food and Drug Administration (FDA). "The findings of brain tumors (gliomas) and malignant schwann cell tumors of the heart in the NTP study, as well as DNA damage in brain cells, present a major public health concern because these occurred in the same types of cells that have been reported to develop into tumors in epidemiological studies of adult cell phone users," stated Ronald L. Melnick, PhD, the National Institutes of Health toxicologist who lead the NTP study design and senior advisor to the Environmental Health Trust.**

## **PPL Claim**

- Exhibit N1 – August 29, 2013 Letter sent by the American Academy of Pediatrics to the Federal Communications Commission and the U.S. Food and Drug Administration.
  - The exhibit is irrelevant because it addresses RF fields from cell phones and does not address RF fields from the AMI meters being used by PPL Electric. Moreover, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.

## **Kline Response**

**All throughout this proceeding the respondent has made numerous comparisons between cell phone use and smart meters In and in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue so that argument has no merit and should be rejected.**

**This a letter from the American Academy of Pediatrics to the FCC and FDA**

**The American Academy of Pediatrics (AAP), a non-profit professional organization of 60,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents, and young adults took this opportunity to comment on the Proposed Rule “Reassessment of Exposure to Radiofrequency Electromagnetic Fields Limits and Policies” published in the Federal Register on June 4, 2013.**

## **PPL Claim**

- Exhibit N2 – A two-page document titled “The American Academy of Pediatrics Recommendations about Cell Phones, Cell Towers and Wireless” by Environmental Health Trust.
  - The exhibit is irrelevant because it concerns RF fields from cell phones and does not address RF fields from the AMI meters being used by PPL Electric. Furthermore, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. The exhibit also is inherently unreliable because it was prepared by the activist group Environmental Health Trust to look like a document from the American Academy on Pediatrics (“AAP”), but it is not an AAP document. (Tr. 136-37) As Dr. Israel explained, the document is not a scientific study and does not provide a reliable scientific basis to conclude that RF fields from AMI meters would cause, contribute to, or exacerbate any adverse health effects. (Tr. 137-38)

## **Kline Response**

**All throughout this proceeding the respondent has made numerous comparisons between cell phone use and smart meters In and in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court**

of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue so that argument has no merit and should be rejected.

I made no claim that this document was a scientific study or that it is a reliable scientific basis to conclude that RF fields from AMI meters would cause, contribute to, or exacerbate any adverse health effects therefore that statement is irrelevant. The website that it was from verifies all statements by supplying links to the AAP website. It simply list the recommendations from The American Academy of Pediatrics (AAP), a non-profit professional organization of 60,000 primary care pediatricians, pediatric medical subspecialists, and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents, and young adults.

- **Avoid carrying your phone against the body like in a pocket, sock, or bra. Cell phone manufacturers can't guarantee that the amount of radiation you're absorbing will be at a safe level.**
- **When talking on the cell phone, try holding it an inch or more away from your head.**
- **Use text messaging when possible, and use cell phones in speaker mode or with the use of hands-free kits.**
- **Make only short or essential calls on cell phones.**
- **If you plan to watch a movie on your device, download it first, then switch to airplane mode while you watch in order to avoid unnecessary radiation exposure.**
- **Avoid making calls in cars, elevators, trains, and buses. The cell phone works harder to get a signal through metal, so the power level increases.**
- **Remember that cell phones are not toys or teething items**

#### **PPL Claim**

- **Exhibit P – Letters from Frank Marcinowski and Norbert Hankin of the United States Environmental Protection Agency's ("EPA") Radiation Protection Division sent to Janet Newton of The EMR Network in 2002.**
  - **The July 6, 2002 letter merely contains a single EPA staffer's purported opinion about the basis of the FCC's RF exposure standard. The letter even notes that although the EPA had some reservations with the standard, the EPA ultimately recommended the FCC adopt the standard. (Exhibit P, p. 2) The documents also lack authenticity because their authors were not presented to authenticate the accuracy of the statements in the document.**

#### **Kline Response**

**This is an official Government letter on official Government letter head which is public knowledge. Frank Marcinowski was the director of the Radiation Protection Division and Norbert Hankin from the Radiation Protection division wrote the response to Janet Newton at the request of Director Marcinowski. It is not just a staffer's opinion. In the letter they admit that the current standards are not sufficient to determine the non-thermal effects of Non-Ionizing Radiation. Also in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify**

as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue so that argument has no merit and should be rejected.

#### **PPL Claim**

- Exhibit Q – A document titled “Peer-reviewed scientific studies on EMF related subjects” by an unknown author.
  - The exhibit is a composite of selected portions of abstracts from multiple sources and authors. As Dr. Israel testified, it is not possible to conduct a reliable evaluation of scientific studies based on the information provided in the abstracts because “[a]bstracts often times don’t give sufficient information to actually understand what the scientific study actually did.” (Tr. 139-40) Indeed, the “totality of the data in the study” never appears in the abstract. (Tr. 140) Furthermore, the exhibit is inherently unreliable. Portions of the abstracts have been altered from the originals, and Dr. Israel was unable to find any evidence suggesting that the document was prepared by anyone at NIH, as alleged on the first page. (Tr. 138) Finally, the exhibit is irrelevant because it: (1) does not address RF fields from AMI meters used by PPL Electric; and (2) addresses health and other conditions other than those alleged by Complainant.

#### **Kline Response**

**Here is what I wrote on the first page: When it comes to EMF issues, one of the most frequently heard phrases is "There is no evidence to support EMFs having health effects" or simply "There is no conclusive evidence".**

**This is completely wrong; there is an enormous body of evidence out there, but public and even academic awareness seems to be very poor. Attached is a list of papers which either show serious effects or are considered important papers on the subject. This information can be found from the following sources, which are all part of the U.S. Department of Health & Human Services.**

**Where did I allege that it was prepared by someone from NIH? That argument is unfounded!**

**I also wrote in my testimony: Peer-reviewed articles provide a trusted form of scientific communication. Even if you are unfamiliar with the topic or the scientists who authored a particular study, you can trust peer-reviewed work to meet certain standards of scientific quality. Since scientific knowledge is cumulative and builds on itself, this trust is particularly important. No scientist would want to base their own work on someone else's unreliable study! Peer-reviewed work isn't necessarily correct or conclusive, but it does meet the standards of science. And that means that once a piece of scientific research passes through peer review and is published, science must deal with it somehow — perhaps by incorporating it into the established body of scientific knowledge, building on it further, figuring out why it is wrong, or trying to replicate its results.**

**All of these have been published on Pub Med.gov – the US National Library of Medicine National Institutes of Health. I have listed well over 200 studies, yet the so called “experts” will still tell you there is not enough evidence.**

I made no claim that these were a reliable evaluation of scientific studies based on the information provided in the abstracts but listed them to show there is an enormous body of evidence and peer review studies available for the general public to view. In no way were the abstracts altered from the originals since they were copied as is.

In PPL (Kline) Statement No. 2(Israel Direct) Pg. 7 line 18 Dr Israel is asked the following.

**Q. HOW DID YOU CONDUCT YOUR MEDICAL EVALUATION IN THIS MATTER?**

**A. I conducted standard computerized searches for studies on RF fields and health effects published in peer-reviewed scientific journals. I identified, reviewed and evaluated these studies in the same manner as I evaluate scientific studies in the course of my professional activities. This is exactly what I did and found these studies on the PubMed.gov website. This same source has 193 studies conducted by Dr. Israel himself, none of which are in regards to RF/EMF/EHS that he claims to be the expert on. If this form of searching for information or this site itself is considered unreliable then Dr. Israel's research would be completely unreliable as well. Therefore this argument has no merit and should be rejected.**

**PPL Claim**

- Exhibit R – A document titled “Bibliography of Reported Biological Phenomena (‘Effects’) and Clinical Manifestations Attributed to Microwave and Radio-frequency Radiation” by the Naval Medical Research Institute, dated October 4, 1971.
- The exhibit is irrelevant because it does not address RF fields from AMI meters used by PPL Electric. Moreover, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Furthermore, the document is not a scientific study published in a peer-reviewed scientific journal. (Tr. 141) Rather, it is merely a bibliography of various studies. (Tr. 141) Such a document does not “provide any substantive information” and cannot, by itself, be relied upon when evaluating scientific researched. (Tr. 141) In addition, as Dr. Israel explained, the document states that any “effects are listed without comment or endorsement since the literature abounds with conflicting reports. In some cases the basis for reporting an ‘effect’ was a single or a non-statistical observation which may have been drawn from a poorly conceived (and poorly executed) experiment.” (Complainant’s Exhibit R, p. 7); (Tr. 142) Finally, the document clarifies that “[t]he comments upon and criticisms of the literature made in this report, and the recommendations and inferences suggested, are those of the author, and do not necessarily reflect the views of the Navy Department or of the Naval Service.” (Complainant’s Exhibit R, p. 2)

**Kline Response**

**As stated in my testimony, the known effects of non-ionizing microwave radiation is not new. By 1971, the US Naval Medical Research Institute (NMRI) referenced 2300 research articles listing in excess of 120 illnesses attributed to radio frequency and non-ionizing microwave radiation. Biography of Reported Biological Phenomena (‘Effect’) and Clinical Manifestations Attributed to Microwave and Radio-Frequency Radiation, Research Report. MF12.524.015-0004B, Report No. 2. NMRI, National Naval Medical Centre**

(1971). Under the Freedom of Information Act, extracts from published US Defense Intelligence Agency Documents confirmed the NMRI research and stated: 'If the more advanced nations of the West are strict in enforcement of stringent exposure standards, there could be unfavorable effects on industrial output and military functions.

I in no way made a claim that this was to be relied upon when evaluating scientific research. This was to show the vast amount of studies that have been done on the dangers of non-ionizing microwave radiation going back as far as 1971. This research project was sanctioned by the US Navy.

### **Research Report**

**Project MF12.524.015-0004B, Report No. 2**

**Naval Medical Research Institute  
National Naval Medical Center  
Bethesda, Maryland 20014, U.S.A.**

This is a document in the public record and ancient documents (rule 803 (8) and (16) does allow exceptions to hearsay for documents more than 20 years old and available from their original sources listed above, or are matter of public records. Their argument has no merit and should be rejected.

#### **PPL Claim**

- Exhibit Z – An article from statnews.com by Bob Tedeschi titled “With patients demanding experimental drugs, ‘right to try’ is becoming the law of the land,” dated March 23, 2017.
  - The document is irrelevant because the article concerns “right to try” experimental drugs and has nothing to do with PPL Electric or its AMI meters. It also lacks authenticity because the author or authors of these statements in the article were not presented to authenticate the accuracy of the statements.
- Exhibit 2A – A letter purportedly sent by Robert Godshall to Teresa Roh, dated June 12, 2017.
  - The document lacks authenticity because the author of this letter was not presented to authenticate the accuracy of the statements in the letter. Nevertheless, the document actually bolsters PPL Electric’s position, by stating that the Commission, Energy Association of Pennsylvania (“EAP”), the Office of Consumer Advocate (“OCA”), and the Office of Small Business Advocate (“OSBA”) support the system-wide deployment of the new AMI meter, not individual opt-outs.

- Exhibit 2B – A webpage URL of <https://votesmart.org/candidate/campaign-finance/9143/robert-godshall#> purporting to show Robert Godshell’s campaign finances.
  - The webpage is irrelevant because it concerns Robert Godshell’s campaign finances and has nothing to do with PPL Electric’s AMI meters or the issues properly before the Commission. Further, the webpage lacks authenticity because the author of this webpage was not presented to authenticate the accuracy of the information on the webpage.
  
- Exhibit 2F – A document by an unknown author listing the docket numbers of various complaints before the Commission and characterizing the complaints.
  - The document is irrelevant because the instant proceeding solely concerns the Complainant’s Complaint against PPL Electric, not any other customer’s complaint against the Company or any other electric utility. Nothing in the record states that the Complainant is authorized to represent these other customers. Further, some of the complaint dockets listed are unrelated to PPL Electric’s AMI meter installations. Finally, none of the persons who filed these complaints was presented to authenticate the accuracy of their statements in those complaints.

### **Kline Response**

**These exhibits were meant to show the illegal abuse of power and collusion that has been going on within the Pa legislature regarding this issue that is downright criminal. How much influence has the utility companies had on PA State Representative Robert Godshell’s campaigns. As Chair of the PA House Consumer Affairs Committee, he has sat on opt out bills in the PA legislature for several legislative sessions, and also made verbal proclamations to others that he will never bring opt out bills to the floor for a vote, which should be an impeachable offence for depriving Pennsylvanians of their right to redress government and government agency oppressions that enable utility companies to harass and bully customers about cutting off electric service if they refuse smart meters. I presented into evidence (Exhibit Kline 2B) from the website votesmart.org to show that electric utilities were the 3rd top contributor in his last campaign with \$18,850 and the energy sector contributed a total of \$28,550. Is this and the fact that his son works for a utility company the reason he has not allowed bills , regarding smart meter opt-outs be voted on. This should have been investigated but it has been allowed to continue.**

**The biggest hypocrisy is that Mr. Godshell would not stand for this type of bureaucracy when it came to the Insurance Company and his own Cancer. (Exhibit Kline Z) Is an Interview with Robert Godshell, regarding the “Right to Try Law and his own battle with cancer. Eleven years ago, at age 72, he was diagnosed with multiple myeloma, a type of bone cancer. His doctors told him to get his affairs in order. He’d be gone within a year. But when Godshell learned some myeloma patients bought time with bone marrow transplants, he asked his doctors if he could get one, too. “No way,” they said, citing his advanced age. Godshell, who had at that point been a member of the Pennsylvania state legislature for more than 20 years, made a few calls. He got the treatment. The experience convinced him that no terminally ill patient should ever hear “no way” again. Yet many cancer patients are hearing “no way” when it comes to smart meters. He is quoted as saying “I just don’t feel that other people that aren’t in the Legislature shouldn’t have the same right I had,” he said in a recent interview. Asked to handicap the bill’s chances, Godshell said he had some favors to call in. “I’ll get it through,” he said. So once again, he is above the law and can call in favors for his own benefit. Mr. Godshell does not have to suffer through the ill effects of his illness but he is**

forcing many other citizens to do just that. This court can and should do the ethical thing when it comes to Pennsylvanian Citizens Health and well-being. Mr. Godshall will be retiring in November 2018 and these bills will be introduced once again. This time without Mr. Godshall blocking the vote!

(Exhibit Kline 2A) which is a letter from Robert Godshall to York County resident Teresa Roh on June 17th 2017. In this letter he states "As of today there are no bills introduced or in the committee". This is a flat out lie; the following bills have all been introduced and were blocked by Mr. Godshall and not allowed to be voted on.

- (Exhibit Kline 2M) - HB 1565
- (Exhibit Kline 2N) - HB 1654
- (Exhibit Kline 2O) - HB 902
- (Exhibit Kline 2P) - HB 899
- (Exhibit Kline 2Q) - HB 396
- (Exhibit Kline 3B) - HB 394

In addition, Mr. Godshall wrote the following: "The Public Utility Commission (PUC), the Energy Association of Pennsylvania (EAP) and the Office of the Small Business Advocate (OSBA) oppose legislation as enactment of any one would have a detrimental impact on the reliability of the electric distribution system and significantly increase costs to electric ratepayers. The EAP believes that this legislation "would make an abrupt and ill-advised shift in policy away from modernizing our electric system." The OSBA and the Office of the Consumer Advocate (OCA) are concerned with the increased costs that consumers and small businesses will face if a utility company was required to implement an opt-out program and worry how those costs would be distributed. The OSBA and OCA agree that it would be ill-advised to restructure a program when its full implementation has not yet been completed as capital has already been spent by electric distribution companies to deploy smart meters in their respective service territories

It is obvious that it is all about the money and protecting the utility companies while Pennsylvania citizens are allowed to be harassed and suffer the anxiety, stress and medical consequences of their lack of action regarding this issue. Has our government become just another corporation in the business of helping other corporations with their bottom line? This type of tyranny in this country is unprecedented. Never in our 242 year history has a government or government agency made it legal for a private company to install a piece of potentially unsafe equipment on the home of a private citizen completely and totally against their will and if they protest, they threaten to take away their livelihood by turning off their electricity which is so vital in today's society. The notion that we or anyone else would have to prove a medical condition to prevent a medical condition is completely absurd! Why then would anyone try to do anything to take care of themselves in any way to prevent illness and disease since they cannot prove that they already have it. Does this premise make sense to anyone? We all have choices, and in this case our choices have been stolen from us without any consideration for future consequences. Robert Godshall, many in the State Legislature, the Pa PUC and ALJ's, Utility company's employees, attorneys and expert witnesses all know that people are suffering. Exhibit 2F is a list I compiled of almost 100 complaints which only went back a little over a year. This is an example of only some of the people that are suffering, there are hundreds more who filed, thousands who call the utility companies, thousands who either called the PUC or filed informal complaints, many wrote letters to Godshall or their legislator. Yet, Robert Godshall, many in the State Legislature, the Pa PUC and ALJ's, Utility company's employees, attorneys and expert witnesses all go to bed at night knowing there are people suffering, they all have the ability to do something about it and continuously do nothing! But at least they can be comforted with the amount of money they have made at our expense. After all, isn't that what is important? The main purpose of Government is to protect its citizens and there

used to be a time when a company thought the customer was always right. Neither one of these is happening in this case; instead there is collusion to do whatever it takes to keep this circus moving forward. I am sure if any of these people mentioned were ill or in discomfort, they would do whatever it takes to eliminate the cause or receive the help that they need, as in the case of Robert Godshall. Yet, they continue to deny us those same rights and take away our livelihood or in some cases lives. I am sure too they believe they are protected by the 'LAW' and there will not be any consequences.

Their claim to exhibit 2A is a perfect example of this; they state why the letter lacks authenticity then proceed to describe how it can work in their favor.

Therefore, this argument is expected!

#### **PPL Claim**

- Exhibit 2I – Technical manual by Landis + Gyr about their E330 FOCUS AX, E350 FOCUS AX-SD, E331 FOCUS Axe, E351 FOCUS AXe-SD meters, dated April 15, 2014.
  - The document lacks authenticity because the author of the document was not presented to authenticate the accuracy of the statements contained therein. Further, PPL Electric witness Larson observed that the document is dated April 15, 2014, and testified that it is not appropriate to use this older version of the manual. (Tr. 94)

#### **Kline Response**

Why would a manual need the author present to authenticate it. The FCC requires the same warning to be in smart meter manuals so the age of the document is irrelevant.

This device complies with part 15 of the FCC rules. Operation is subject to the following Three conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.
- (3) For RF exposure, service personnel are to maintain a minimum of 20cm from the RF communications transmitter once installed.

In fact PPL Electric Utility claims that their 'smart' meter program is in full compliance with all FCC regulations, and this is absolutely not the case. Below is information from the FCC authorization form for the smart meter transmitters that are being deployed.



**GRANT OF EQUIPMENT  
AUTHORIZATION**

**Certification  
Issued Under the Authority of the  
Federal Communications Commission**

Class II permissive change filing. Output power listed is conducted. Limited single module approval requires professional installation. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter except FHSS radio as documented in this filing. End-users and installers must be provided with antenna installation and transmitter operating conditions for satisfying RF exposure compliance.

**PPL violates three regulations in just one FCC document. Let's take a look at each violation individually:**

- 1. PPL and other utilities are contracting with outside companies to install their 'smart' meters. These companies hire temp workers with little to no electrical or professional expertise**
- 2. The FCC requires that all persons be kept at least 20cm from the smart meter. It is up to the utility to ensure compliance. PPL claims they comply with all FCC regulations. Yet they fail to erect any safety enclosure, post any notices whatsoever warning people to keep their distance. The utilities claim that people are going to be far from the meter- but what about kids playing around the side of homes or apartment buildings? We imagine all of this is not going to look terribly impressive to a jury calculating the amount of future health damages. Funny that cell phone manuals warn people to keep about 1-2cm away while the 'smart' meter requires 20cm distance. That must mean that the smart meter radiation is that much stronger than a cell phone.**
- 3. "Smart" Meters are being co-located wherever there are multiple units- in apartment buildings, condos, etc. Co-locations result in more frequent and more powerful RF exposures, which is probably why the FCC required that the antennae not be clustered together.**

**I will ask the court again:**

- (Exhibit Kline 2R-1) which a picture of the current meter which is location on the outside of my bedroom wall.**
- (Exhibit Kline 2R – 2) is a picture of where the meter is placed in reference to my inside wall.**

**Can anyone guarantee I will be 100% safe from RF/EMF's when I typically sleep with my head against the headboard and my hand between the headboard and the wall when the smart meter would be less than 8 inches away?**

**Therefore the argument has no merit and should be rejected.**

**PPL Claim**

- Exhibit 2J – A February 7, 2014 letter and enclosed document sent by Willie R. Taylor from the Office of Secretary, United States Department of the Interior, to Eli Veenendaal at the U.S. Department of Commerce about the impact of communication towers on migratory birds.
  - The document is irrelevant because it does not concern the RF fields being emitted by the new AMI meter. It is a letter about the impact of communication towers on migratory birds. Furthermore, the exhibit lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document.
- Exhibit 2U – Letters about “EMFs, the Birds and the Bees, and the Canadian Environmental Assessment Processes Review” sent by Margaret Friesen.
  - The exhibit is irrelevant because its addresses alleged effects on birds and honey bees, which are not issues in this proceeding. The document also lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document. Furthermore, Dr. Israel explained that this exhibit is not a scientific study. (Tr. 143) Rather, the exhibit consists of letters from one person to another and a poster at the end of the document about the effects of EMFs on honey bees. (Tr. 143-44) In Dr. Israel’s expert opinion, a document relating to bees cannot be used as the basis for determining the potential effects on humans. (Tr. 144)
- Exhibit 2V – “Possible Effects of Electromagnetic Fields from Phone Masts on a Population of White Stork” by Alfonso Balmori.
  - The document is irrelevant because it addresses alleged effects on wild stork populations, which is not an issue in this proceeding. In fact, Dr. Israel testified that observations about storks do not provide a reliable basis for reaching conclusions about human health. (Tr. 144) Moreover, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.
- Exhibit 2W – An article titled “Radiofrequency EMFs and Health Risks: Section 6 Animals, Birds, Insects and Plants” by Alasdair and Jean Philips, dated June 7, 2017.
  - The exhibit is irrelevant because it addresses alleged effects on animals, insects and plants, which are not issues in this proceeding, and does not address RF fields emitted from the AMI meters being used by PPL Electric. Moreover, the document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Further, as Dr. Israel testified, the document is not a scientific study published in a peer-reviewed scientific journal. (Tr. 145) It is an article from an online advocacy website for individuals claiming that EMFs could cause health effects. (Tr. 145) In Dr. Israel’s expert opinion, this online advocacy article does not provide a reliable scientific basis to conclude that RF fields from the new AMI meter cause, contribute to, or exacerbate any adverse health effects. (Tr. 145-46)

## **Kline Response**

**The Pennsylvania PUC Your Rights and Responsibilities as a Utility Consumer state the following:**

**As a residential utility customer, you have many important rights and responsibilities to ensure fair dealings between you and your utility company. This guide highlights your rights relating to**

**These rights and responsibilities include your right to:**

**\* Safe and reliable utility service.**

**In addition the Pennsylvania PUC Mission Statement States: The Pennsylvania Public Utility Commission balances the needs of consumers and utilities; ensures safe and reliable utility service at reasonable rates; protects the public interest; educates consumers to make independent and informed utility choices; furthers economic development; and fosters new technologies and competitive markets in an environmentally sound manner.**

**Many claims are made that the new meters are good for the environment since they will help customers lower their electric usage which will lower the carbon foot print. This is the entire premise behind the bill. But nothing can be further from the truth. It will not matter if we reduce our carbon footprint while at the same time we destroy or ecosystem by killing off animals that are vital to our existence. RF/EMF not only has a negative impact on humans, they also harm the animals and insects that are needed for agriculture. These exhibits are regarding non-ionizing electromagnetic radiation emitted, the same type of radiation emitted by smart meters so the fact that they are not specifically about smart meters is irrelevant.**

#### **Document Qualifications**

**(Exhibit Kline 2J) – Official Document from the US Department of the Interior - Migrating Birds US Department of the Interior states that significant issue associated with communication towers involves impacts from non-ionizing electromagnetic radiation emitted by them.**

**(Exhibit Kline 2U)- EMFs, the Birds and the Bees, and the Canadian Environmental Assessment Processes Review – Authors Qualifications - former Government of Canada research biologist having retired in 2008 with over 30 years' experience involved in original research projects - primarily in freshwater ecosystem toxicology (10 years) and in DNA population genetics of Arctic marine mammals (about 10 years). My Bachelor of Science (Honors) is in zoology. My Master of Science degree is in entomology (insects) and my thesis project was a toxicological study examining the effects of a pesticide on a non-target species. I have co-authored papers in peer-reviewed journals in those fields. I have also worked in cancer research as technician and as a summer student at the University of Manitoba in parasitology.**

**(Exhibit Kline 2V) - 20051006\_storks Possible Effects of Electromagnetic Fields from Phone Masts on a Population of White Stork – Documented Peer Review Study**

**(Exhibit Kline 2W) - rf-emfs-6-animals-2017-07 – This document references dozens of documented Peer review Studies.**

**I made no claims that these are a reliable basis for reaching conclusions about human health and in the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that Just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint. Therefore these arguments have no merit.**

## **PPL Claim**

- Exhibit 2T – “Dirty electricity, chronic stress, neurotransmitters and disease” by Samuel Milham and David Stetzer, dated January 16, 2013.
  - The exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Furthermore, this is not the as-published version of this document.

## **Kline Response**

**In the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint. In addition this copy was emailed to me directly from the author after a conversation I had with him. Therefore these arguments have no merit.**

## **PPL Claim**

- Exhibit 2Z – An article titled “The Firefighters Wake Up Call to Us All” by Susan Foster.
  - The exhibit is irrelevant because it concerns an alleged opposition of firefighters to cell towers being installed in their fire stations. It has nothing to do with AMI meters. Moreover, the document lacks authenticity because its author was not presented to authenticate the accuracy of the statements in the document.

## **Kline Response**

**In the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint**

**These exhibits are regarding non-ionizing electromagnetic radiation emitted, the same type of radiation emitted by smart meters so the fact that they are not specifically about smart meters is irrelevant and the argument has no merit and should be rejected.**

## **PPL Claim**

- Exhibit 3C – A document titled “A review on Electromagnetic fields (EMFs) and the reproductive system,” by Ali Asghari, et al, dated July 2016.
  - The document is irrelevant because it does not address RF fields from the AMI meter being used by PPL Electric. Furthermore, the exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.

#### **Kline Response**

**In the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint**

**These exhibits are regarding non-ionizing electromagnetic radiation emitted, the same type of radiation emitted by smart meters so the fact that they are not specifically about smart meters is irrelevant and the argument has no merit and should be rejected.**

#### **PPL Claim**

- Exhibit 3E – A document titled “Exposure and Testing Requirements for Mobile Phones Should Be Reassessed” dated July 2012 by the Government Accountability Office.
  - The document is irrelevant because it does not address RF fields from the AMI meter being used by PPL Electric. Furthermore, the exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document.

**In the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint**

**These exhibits are regarding non-ionizing electromagnetic radiation emitted, the same type of radiation emitted by smart meters so the fact that they are not specifically about smart meters is irrelevant and the argument has no merit and should be rejected.**

#### **PPL Claim**

- Exhibit 3G – A press advisory titled “The American Academy of Environmental Medicine Calls for Immediate Caution regarding Smart Meter Installation,” dated April 12, 2012.
  - The exhibit lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Moreover, Dr. Davis explained that the document contains several statements that are misleading and scientifically inaccurate. (Tr. 112-15) Indeed, the document’s passage “magnetic vector potential” was “not written by people who understand the physics and engineering of electromagnetic fields.” (Tr. 115)

**In the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint**

**In addition, as stated earlier, Dr. Davis’ credibility and methods of doing any computation need to be called to question and are suspect, therefore this argument has no merit and should be rejected.**

- Exhibit 3H – A document titled “Why children absorb more microwave radiation than adults: The consequences,” by L. Lloyd Morgan, Santosh Kesari, and Devra Lee Davis.
  - The document lacks authenticity because its authors were not presented to authenticate the accuracy of the statements in the document. Moreover, as Dr. Davis testified, the claim that children absorb more microwave radiation than adults is incorrect. (Tr. 111-12) In fact, Dr. Davis stated that “[a]bsolutely no research has ever been done about” that claim. (Tr. 112)

**In the case of A. Romeo v. PA PUC No. 498 C.D. 2016 in the commonwealth Court of Pennsylvania the majority ruled that just because he cannot personally testify as to the health and safety effects does not mean that his complaint is legally insufficient. He could make out his claim through the testimony of others as well as other evidence that goes to that issue. Because his complaint was not legally insufficient, the Commission erred in dismissing the complaint**

**In addition, as stated earlier, Dr. Davis’ credibility and methods of doing any computation need to be called to question and are suspect, therefore this argument has no merit and should be rejected.**

**For these reasons, all exhibits can be verified as legitimate documents regarding non-ionizing electromagnetic radiation emitted; the same type of radiation emitted by smart meters and should be accepted as fact.**

**Based on the foregoing, I have sustain my burden of proof that PPL Electric’s new AMI meter can cause, contribute to, or exacerbate any disease, symptoms and illness and is also a hazard to the environment.**

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

- **The Complainant Has Failed to Prove that the New AMI Meter Is Unsafe and Would Cause Fires**

“Typical gauge electrical wiring that provides electricity to buildings (60 Hz power) is not constructed or intended to carry high frequency harmonics that are increasingly present on normal electrical wiring... The use of smart meters will place an entirely new and significantly increased burden on existing electrical wiring because of the very short, very high intensity wireless emissions (radio frequency bursts) that the meters produce to signal the utility about energy usage... “Reports detail that the meters themselves can smoke, smolder and catch fire, they can explode, or they can simply create over-current conditions on the electrical circuits... “Electrical wiring was never intended to carry this - what amounts to an RF pollutant - on the wiring. The higher the frequency, the greater the energy contained.” “Faulty wiring, faulty grounding or over-burdened electrical wiring may be unable to take the additional energy load.” In his Testimony Mr. Larson from PPL Electric Corporation stated that (Transcript page 87) “the meter itself is not a fire hazard in any way. A lot of issues that have occurred in the past, the root cause came down to loose connections within the meter base. So there would be rapid heat built on the loose connections within the meter base. PPL Electric has examined the issues with other meters and taken many steps to prevent fire incidents similar to the ones alleged by the Complainant. PPL Electric witness Larson testified that the “root cause of a many of these fires was “loose connections within the meter base.” (Tr. 87) When there are loose connections within the meter base, there could be rapid heat built up. (Tr. 87-88) PPL Electric has taken several steps to mitigate this risk. The Company enhanced its inspection criteria so that its service technicians are better able to identify any issues”.

However he did not present any evidence to prove this. In most cases these meters are installed on homes in under five minutes and a customer’s power is never shut off. How can a proper inspection of all electrical fittings and connections are completed with-out turning off the power. I have worked in the service industry for 25 years and have an electrical background, proper inspection of fittings, terminals and connections cannot be properly completed without turning off the power and physically inspecting them, sight alone is not enough. In addition, these meters have been installed using “Jumpers” which is the only way they can be completed without shutting off the power, this practice in itself is dangerous and can cause dangerous arcing and spiking. In addition, Mr. Larson stated (Transcript Page 88) “We monitor the temperature in 15 minute intervals to make sure there is no rapid heat rise and then also we have alarms set within the meter programming.” “So once a certain threshold is ever hit then we could remedy the situation. Mr. Larson also stated that Transcript Page 90) “the meter itself is set up to a threshold of 85 degrees Celsius. If that tolerance is hit, within - I believe its two hours, a signal is sent from the meter back to the head in the system. So once our head of the system reads it, we then issue that out to a trouble man to be able to deal with it.” During Cross examination he admitted that between the time when it reaches the temperature threshold and the 2 hour period when you send someone out, it could get extremely hot enough where it can actually cause a fire. He stated that “I guess there is a possibility.” (tr. page 91) 80 degrees Celsius is hot enough to give someone serious burns if touched, after it reaches that threshold, the temperature could continue to rise and could cause a fire before anyone is ever notified. A customer’s house could burn down in that 2 to 3 hour time period, when they decide to send someone out.

Exhibit 2Y references the following case:

**2013 When ‘Smart’ Meters Kill: The Story of Larry Nikkel — Details Emerge of Vacaville, CA Smart Meter Fire Death** Larry Nikkel died in a house fire related to smart meter installation in Vacaville CA. The burnt out computer, loud humming in the house were classic signs that the smart meter was arcing. The case was settled out of court.

“According to his brother Walter, who had spent time with Larry at his house the morning before the fire (and only hours after the smart meter was installed), there were serious electrical problems in the house that day. Larry had tried to boot up his laptop to watch a DVD that evening, but the computer would not function. The cable box did not work either. Walter and Larry both heard a very loud, high pitched “snap” coming from the wall. Later that night, after Walter had returned home, he received a call from Larry, who said that the ‘house was humming.

According to electrical engineers, popping, humming and appliance damage are telltale signs of an electrical problem caused by arcing, possibly (especially in this case) from a meter. Arcing can trigger fires and explosions. Mr. Nikkel’s death appears to be a direct result of the kind of violations uncovered by the whistleblower, whose reports were summarily ignored by the Calif. Public Utilities Commission. Does the PUC want to follow in their footsteps?

On June 10, 2012, the Nikkel family filed a lawsuit against Pacific Gas and Electric, Wellington Energy, and Landis & Gyr meter manufacturers, alleging negligence and wrongful death.

The case was settled out of court, showing that the utilities and meter manufacturers were alarmed about the potential to lose the case, as well as more bad publicity related to their meter program.

Question:

Does PPL’s inspection include inspecting the gauge, age, type and condition of the wiring inside the home?

Answer - No since the majority of the installations are completed without the property owner’s knowledge.

Therefore, PPL’s safety inspections and Rapid heat build-up alerts are irrelevant and this argument has no merit and should be rejected.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

- **The Complainant Has Failed to Prove that the New AMI Meter Is a Privacy and Cybersecurity Risk**

The Congressional Research Service (CRS) works exclusively for the United States Congress, providing policy and legal analysis to committees and Members of both the House and Senate, regardless of party affiliation. As a legislative branch agency within the Library of Congress, CRS has been a valued and respected resource on Capitol Hill for more than a century.

The Congressional Research Service (CRS) serves as shared staff to congressional committees and Members of Congress. CRS experts assist at every stage of the legislative process — from the early considerations that

precede bill drafting, through committee hearings and floor debate, to the oversight of enacted laws and various agency activities.

CRS approaches complex topics from a variety of perspectives and examines all sides of an issue. Staff members analyze current policies and present the impact of proposed policy alternatives.

CRS services come in many forms:

- reports on major policy issues
- tailored confidential memoranda, briefings and consultations
- seminars and workshops
- expert congressional testimony
- responses to individual inquiries

With public policy issues growing more complex, the need for insightful and comprehensive analysis has become vital. Congress relies on CRS to marshal interdisciplinary resources, encourage critical thinking and create innovative frameworks to help legislators form sound policies and reach decisions on a host of difficult issues. These decisions will guide and shape the nation today and for generations to come. On February 3rd 2012 the Congressional Research Service published a report on Smart Meter Data: Privacy and Cybersecurity (Exhibit Kline – F). This report covers several areas where my/our rights as US citizens can be violated consumer data collected by residential smart meters.

The summary of their report is as follows:

Fueled by stimulus funding in the American Recovery and Reinvestment Act of 2009 (ARRA), electric utilities have accelerated their deployment of smart meters to millions of homes across the United States with help from the Department of Energy's Smart Grid Investment Grant program. As the meters multiply, so do issues concerning the privacy and security of the data collected by the new technology. This Advanced Metering Infrastructure (AMI) promises to increase energy efficiency, bolster electric power grid reliability, and facilitate demand response, among other benefits. However, to fulfill these ends, smart meters must record near-real time data on consumer electricity usage and transmit the data to utilities over great distances via communications networks that serve the smart grid. Detailed electricity usage data offers a window into the lives of people inside of a home by revealing what individual appliances they are using, and the transmission of the data potentially subjects this information to interception or theft by unauthorized third parties or hackers.

Unforeseen consequences under federal law may result from the installation of smart meters and the communications technologies that accompany them. This report examines federal privacy and cybersecurity laws that may apply to consumer data collected by residential smart meters. It begins with an examination of the constitutional provisions in the Fourth Amendment that may apply to the data. As we progress into the 21st century, access to personal data, including information generated from smart meters, is a new frontier for police investigations. The Fourth Amendment generally requires police to have probable cause to search an area in which a person has a reasonable expectation of privacy. However, courts have used the third-party doctrine to deny protection to information a customer gives to a business as part of their commercial relationship. This rule is used by police to access bank records, telephone records, and traditional utility records. Nevertheless, there are several core differences between smart meters and the general third-party cases that may cause concerns about its application. These include concerns expressed by the courts and Congress about the ability of technology to potentially erode individuals' privacy.

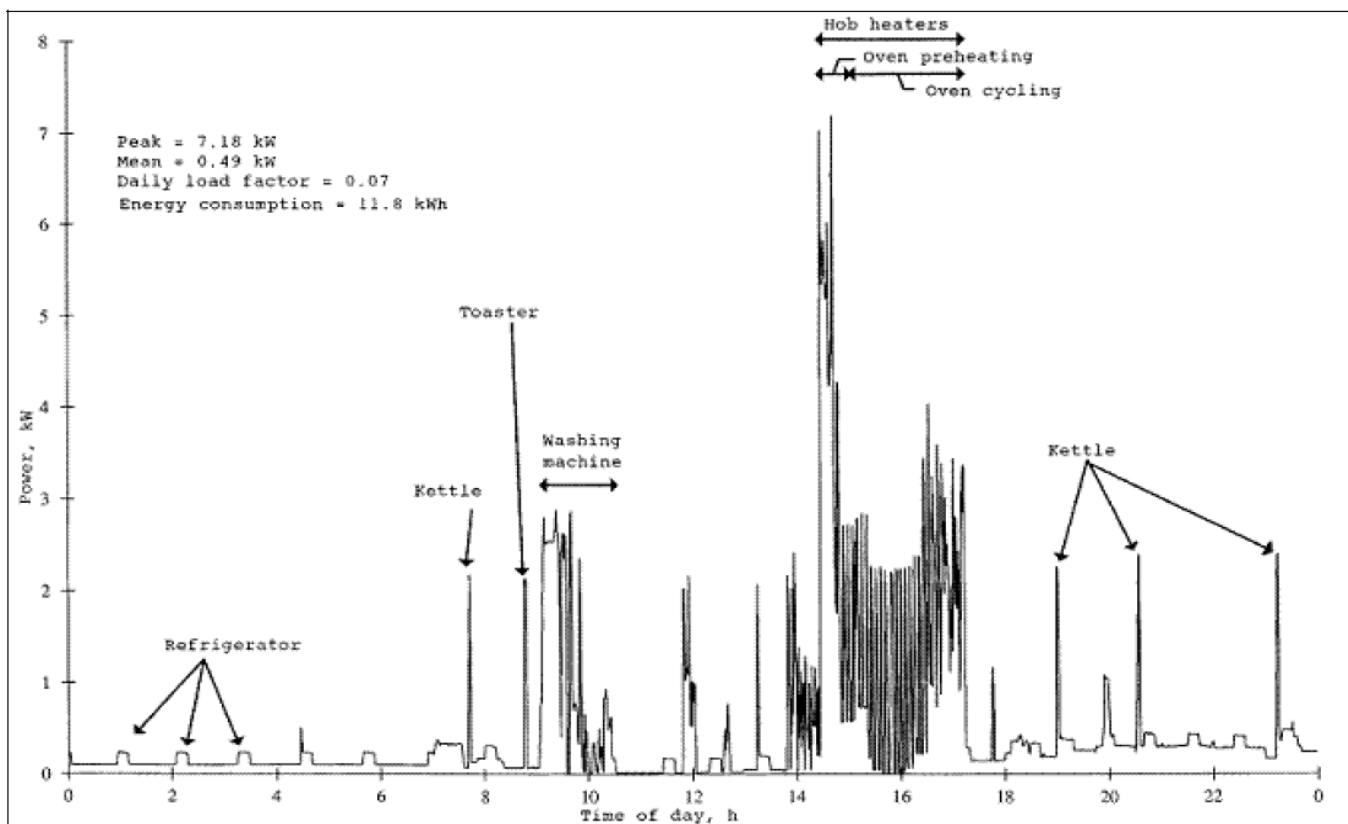
From Page 3 and 4 of the report

Detailed Information on Household Activities

Smart meters offer a significantly more detailed illustration of a consumer’s energy usage than regular meters. Traditional meters display data on a consumer’s total electricity usage and are typically read manually once per month. In contrast, smart meters can provide near real-time usage data by measuring usage electronically at a much greater frequency, such as once every 15 minutes. Current smart meter technology allows utilities to measure usage as frequently as once every minute. By examining smart meter data, it is possible to identify which appliances a consumer is using and at what times of the day, because each type of appliance generates a unique electric load “signature.” NIST wrote in 2010 that “research shows that analyzing 15-minute interval aggregate household energy consumption data can by itself pinpoint the use of most major home appliances.” A report for the Colorado Public Utilities Commission discussed an Italian study that used “artificial neural networks” to identify individual “heavy-load appliance uses” with 90% accuracy using 15-minute interval data from a smart meter. Similarly, software based algorithms would likely allow a person to extract the unique signatures of individual appliances from meter data that has been collected less frequently and is therefore less detailed. By combining appliance usage patterns, an observer could discern the behavior of occupants in a home over a period of time. For example, the data could show whether a residence is occupied, how many people live in it, and whether it is occupied by more people than usual.” According to the Department of Energy, smart meters may be able to reveal occupants’ “daily schedules (including times when they are at or away from home or asleep), whether their homes are equipped with alarm systems, whether they own expensive electronic equipment such as plasma TVs, and whether they use certain types of medical equipment.” Figure 1, which appears in NIST’s report on smart grid cybersecurity, shows how smart meter data could be used to decipher the activities of a home’s occupants by matching data on their electricity usage with known appliance load signatures.

**Figure 1. Identification of Household Activities from Electricity Usage Data**

Unique Electric Load Signatures of Common Household Appliances



**Source:** NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST), GUIDELINES FOR SMART GRID CYBER SECURITY: VOL. 2, PRIVACY AND THE SMART GRID 13 (2010), available at [http://csrc.nist.gov/publications/nistir/ir7628/nistir-7628\\_vol2.pdf](http://csrc.nist.gov/publications/nistir/ir7628/nistir-7628_vol2.pdf).

**Note:** Researchers constructed this picture from electricity usage data collected at one-minute intervals using a nonintrusive appliance load monitoring (NALM) device, which is similar to a smart meter in the way that it records usage data. For a comparison of the technologies, see COLORADO PRIVACY REPORT, *supra* note 6, at A-1 to A-9.

PPL Electric witness Larson explained, “The meter cannot make the determination of what device is being used at what time.” (Tr. 99) PPL Electric “only make[s] a record of how much electricity the entire home is consuming at any given time.” (Tr. 99) He is correct that “The meter cannot make the determination of what device is being used at what time.” But that does not rule out the fact that the data can be analyzed and used to decipher the activities of a home’s occupants by matching data on their electricity usage with known appliance load signatures.

In addition the “multiphase security” the Company has implemented to protect a customer’s data. (Tr. 97) is meaningless with today’s multi-level cyber threat as testified to in Part 6 of my testimony. All 8 of these companies had Multi Level encrypted safety precautions in place and millions of citizen’s data was still compromised and stolen.

Therefore, PPL Electrics argument is irrelevant and has no merit and should be rejected.

**In response to MAIN BRIEF OF  
PPL ELECTRIC UTILITIES CORPORATION**

- **PPL ELECTRIC HAS A LEGAL RIGHT TO TERMINATE SERVICE IF IT IS DENIED REASONABLE ACCESS TO ITS METER**

PPL Electric claimed that is was a safety concern when I locked my meter box which is my property. Is it a safety concern when someone has their meter behind a locked gate? Is it a safety concern when someone has their meter in a locked utility room? This was nothing more than an intimidation tactic and threat.

I have never denied PPL Electric or their contractors access at all reasonable hours to my premises, for the purpose of inspecting, , reading, or maintaining of Company’s property.” I do however deny consent for the installation of an unsafe meter base on all evidence presented in these proceedings.

I have a right to protect myself and property according to the statutes of Pennsylvania Title 18 - CHAPTER 5 - GENERAL PRINCIPLES OF JUSTIFICATION § 507 paragraph (e)

(e) Use of device (in this case the lock) to protect property.--The justification afforded by this section extends to the use of a device for the purpose of protecting property only if:

(1) the device is not designed to cause or known to create a substantial risk of causing death or serious bodily injury;

- (2) the use of the particular device to protect the property from entry or trespass is reasonable under the circumstances, as the actor believes them to be; and
- (3) the device is one customarily used for such a purpose or reasonable care is taken to make known to probable intruders the fact that it is used.

Therefore, PPL Electric's argument has no merit and should be rejected.

**CONCLUSION**

WHEREFORE, John Kline respectfully requests that Administrative Law Judge Elizabeth H. Barnes recommend and the Pennsylvania Public Utility Commission grants the Formal Complaint of John Kline and allows the complainant to have an Analog meter of their choice installed.

Respectfully Submitted,  
John Kline - Pro Si  
5611 Stradford Drive  
Harrisburg Pa, 17112

A handwritten signature in black ink that reads "John Kline". The signature is written in a cursive style with a large, sweeping initial "J" and a long horizontal stroke at the end.

John Kline