Certificate of Service

McKnight vs. PECO, Docket No: C-2017-2621057

December 7, 2018

Dear Secretary Chiavetta,

I submitted a copy of our Reply to PECO's Exceptions to Mr. Ward Smith today via email (ward.smith@exeloncorp.com) today at 1:44pm and copied Judge Heep (dheep@pa.gov).
Thank you very much,

Alexia McKnight, DVM

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Drs. Alexia and Lawrence McKnight,	:	
Complainants,	:	
v.	:	Docket No. C-2017-2621057
PECO Energy Company,	:	
Respondent.	:	

REPLY TO EXCEPTIONS OF PECO ENERGY COMPANY

REGARDING THE INITIAL DECISION OF ADMINISTRATIVE LAW JUDGE DARLENE D. HEEP

ISSUED ON OCTOBER 19, 2018

(Served on October 24, 2018)

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Dated: Dec 7, 2018

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INTRODUCTION

On October 24, 2018 the Commission served the Initial Decision of Administrative Law Judge Darlene Heep regarding Docket C-2017-2621057. We, the complainants, replied with exceptions to this initial decision on November 27, 2018, as did the defendant PECO Energy Company.

This document serves in reply to PECO's exception document.

We follow the order of PECO's outline to address specific points they make with exception of their section 1.I which is addressed separately for reasons listed below.

REGARDING PECO EXCEPTION 1

The ALJ rightly concluded that we did show by preponderance of the evidence that Dr. A. McKnight was adversely affected by the AMI meter.

We agree with PECO that the ALJ's initial decision lacks clarity over specific mechanisms by which this harm occurred. We differ in how the case was established and the entailment of appropriate Commission actions.

Regarding PECO Exception 1.A.

PECO argues that we, the McKnight's, provided testimony that Electromagnetic Fields (EMF) was the likely causal mechanism in Dr. A. McKnight's symptoms, but that we did not present testimony regarding an unknown, unidentified interaction between the PECO Landis + Gyr meter and Dr. A. McKnight.

We agree that we provided testimony that EMF was the likely causal mechanism, and still feel strongly that this is the most likely explanation of events. However, our case does not stand or fall on this. PECO has a false argument because we established the case of specific interaction between the AMI meter and Dr. A. McKnight's body *independently* of *any* intermediate causal mechanism.

As outlined in our main brief in section 6.2.1, our case for the AMI meter causing Dr. A. McKnight harm is based on the close temporal association of her symptoms and the placement or removal of the Landis + Gyr meter at our residence on multiple occasions. Dr. A. McKnight's symptoms became markedly worse when the AMI meter was first installed (Tr. 4/10 at 28:11-29), then remained during the entire period of installation (Tr. 4/10 at 21:4-6), then markedly improved within days of the AMI meter being removed (Tr. 4/10 at 12:24-5), then became worse on second reinstallation (Tr. 4/10 at 13:10-25, 53:12), stayed during the entire second installation period, then improved again after the second removal (Tr. 4/10 at 15:8-9). These symptoms included subjective findings such as headaches and fatigue and insomnia, but also objectively observed behavior changes as noted by others (Tr. 4/10 at 83:9, 84:8), and objective medical signs of a cardiac arrhythmia that was verified by Dr. L. McKnight (Tr. 4/10 at 12:15-16, 126:20-22). Her symptoms were significant enough to cause Dr. A. McKnight to seek medical care from Dr. Prociuk and Dr. Saleem (Tr. 4/10 at 25:5-8). The conclusion of a thorough cardiovascular evaluation by Dr. Saleem was unable to identify any reasonable alternative explanation why Dr. A. McKnight would have had such significant arrhythmias (PECO Cross McKnight Exhibit 1 at 3-4). The Cardiac arrhythmia returned on the second installation (Tr. 4/10 at 13:10-25) but has not recurred since the AMI meter was replaced with a jumper plate on Nov 1, 2016 (Tr. 4/10 at 30:16-23).

This history of events provided the preponderance of evidence of the AMI meter involvement independently from any intermediate mechanisms such as EMF and was uncontested by PECO. There is no countering evidence to suggest that any other proximal cause was more likely than the AMI meter

because such an alternative explanation would need to explain the exact and independent timing of events.

Dr. L. McKnight also specifically testified that clarity of mechanism is not required to make medical decisions when a proximal cause has been identified, and specifically cited the cigarette-cancer link as a common example where all exact chemical mechanisms are still today not known, but the proximal device – the cigarette is, and therefore we advise avoidance of the proximal cause (Tr. 4/10 at 130:7-14, McKnight Exhibit 11).

We stated concern specifically over EMF based on the known fact that smart meters can generate EMF as testified to by Mr. Bathgate, and that Dr. A. McKnight is known to be electrically hypersensitive as testified and documented by Dr. Rea. Thus, the likelihood that EMF is the intermediate mechanism is very high and therefore any proposed accommodation should ensure that this is at minimum addressed. Without any understanding of the mechanism, the only appropriate action is continued indefinite use of a jumper plate (because it has been shown to not cause Dr. A. McKnight's symptoms). All other alternatives involve human medical experimentation as we outlined in our main brief at page 63 (section 6.3.2.2), and thus entail associated ethical considerations.

Regarding PECO Exception 1.B.

As noted below in response to PECO Exception 2, we have agreed with PECO that the stray voltage issue is a separate and unrelated matter. Mr. Brocato is not qualified to opine on PECO's exception 1.

Regarding PECO Exception 1.C.

PECO argues that Dr. Prociuk did not provide evidentiary support for an unnamed, unidentified interaction between the Landis + Gyr AMI meter and "the environment" [aka Dr. A. McKnight's body].

While it is clear that Dr. Prociuk's primary stated concern was a mechanism involving EMF, he also presented evidence from the Lamech study. The Lamech study does not assert causal mechanisms of EMF but does provide evidence that smart meters specifically have been linked to the exactly the same kinds of symptoms that Dr. A. McKnight complained of. This study supports a direct linkage between the proximal event of smart meter installation and the reported outcome of symptoms. It is thus independent of intermediate mechanisms. The study noted that they did not see an association with health worrying personality traits in the participants. Thus, a theory of biologic effects of EMF might be slightly favored as the intermediate culprit over a theory of nocebo explanation, but the study did not measure intermediate variables of EMF.

Dr. Prociuk was concerned with EMF specifically as the primary mechanism for four reasons: 1) It was shown in other studies such as Dr. Rea's study that demonstrated EMF can be mechanistically involved; 2) Dr. A. McKnight has demonstrated electrical hypersensitivity to other devices; 3) AMI meters produce several kinds of EMF including Radio Frequencies (RF) and local wire effects related to conducted transients; and 4) there is no other etiology that is more likely to explain the history as given by Dr. A. McKnight.

Dr. Prociuk further explained the role of a clinician. He stated that clinicians have a different role than scientists because they act as an interface between the science and the patient's subjective experience. This requires them to act even while science still may have uncertainty (Tr. 4/11 at 290). In other words, even if all exact intermediate mechanisms are unknown from scientific studies, the clinician is still obliged to make reasonable therapeutic choices. In this case his advice was avoidance of the AMI meter, which is still valid regardless of a known intermediate mechanism.

Regarding PECO Exception 1.D.

We agree with PECO that Mr. Bathgate did not suggest an unnamed, unidentified interaction. His testimony was to help understand how an AMI meter could create EMF effects. He would not be qualified to opine on causal mechanisms in biology.

Regarding PECO Exception 1.E.

We agree with PECO that Dr. Rea's primary concern was EMF in an electrically hypersensitive individual.

However, Dr. Rea did provide independent observation that he has seen other patients who have complained of the same kinds of symptoms in association with smart meter deployments (Tr. 4/12 at 74:2-4) and stated that use of analog power meters resolved their symptoms (Tr. 412 at 76:6-17). These statements of observation also are independent of intermediate mechanisms such as EMF and can be taken at face value independently from Dr. Rea's opinion on intermediate mechanism of causality. He simply observed on several occasions an association between the proximal event (installation of a smart meter) then symptom exacerbation, then an intervention event (the installation of an analog meter), then resolution of symptoms.

Like Dr. Prociuk, looking at the history given by Dr. A. McKnight, and understanding the biology and medical literature on the subject Dr. Rea concluded that EMF is the only realistic explanation as an intermediate. He then ruled out nocebo effects (Tr. 4/12 at 69:1-6) as the only other reasonable explanation by performing blinded provocation studies and concluded that EMF is the most likely etiology (4/12 at 60:12-14; 67:6-17).

Again, in his expert opinion, Dr. Rea felt that EMF was the etiology, and thus our request of the Commission to ensure that the most likely mechanisms are addressed at minimum. However, Dr. Rea did make statements to implicate a proximal cause as the AMI meter regardless of his expert opinion on the intermediate mechanisms.

Regarding PECO Exception 1.F.

We agree that Mr. Pritchard did not testify to a reason for the AMI meter to cause an unknown, unidentified interaction. Like Mr. Bathgate, that was not his role in this case. And even if he would have testified to an interaction he would not be qualified to opine here.

Regarding PECO Exception 1.G.

We heard Dr. Davis comment that he was not aware of any component in the AMI meter that can cause biologic effects. However, Dr. Davis is not qualified to opine on this topic because he does not have appropriate background in biology and cannot comment on biologic effects that involve diseased states. He specifically admitted that the cause of symptoms is a medical question, not appropriate for him (Tr. 4/13c at 154 at 3-11).

We have addressed Dr. Davis' testimony extensively in our main brief beginning at page 36, also our reply brief starting on page 46, and our exceptions No 4b.

Regarding PECO Exception 1.H.

PECO asserts that Dr. Israel did not provide any testimony that supports a finding that there is an unknown unidentified interaction.

Dr. Israel did state that he saw no reliable medical based to conclude RF would cause any of the symptoms in Dr. A. McKnight. But he also did not ever state that there was any reliable medical basis to conclude

any alternative either. More importantly, he directly testified, "I did not say I was an expert in EHS or IEI, because I haven't treated any patients" (Tr. 4/13c at 193:13-15), that he didn't know what was causing Dr. A. McKnight's symptoms (Tr. 4/13 at 239:4-7), he refused to attribute the cause to a nocebo (Tr. 4/13c at 224:8-14) and stated "It would be totally inappropriate for me to try and make a suggestion" (Tr. 4/13 at 241:3-4).

We interpret this as Dr. Israel literally had no opinion on causes.

That said, we suspect that Dr. Israel's lack of commitment to any intermediate causal mechanism, his repeated use of the term "Idiopathic" (e.g. Tr. 4/13c at 196:12-16) in combination with his admission that patients have real symptoms (Tr. 4/13 at 285:24-25) is what caused the ALJ to conclude that the temporal evidence of Dr. A. McKnight's history is best explained by an unnamed, unidentified (aka idiopathic) intermediate mechanism from the AMI meter.

As noted in our exceptions we contest this based on the fact that three other physicians disagreed and testified that there *was* enough evidence to state beyond reasonable medical certainty that EMF was involved.

REGARDING PECO EXCEPTION 2

As pointed out in our exceptions we agree with PECO that the issue of stray voltage is unrelated to the problems with the AMI meter except to provide an important context of why the AMI meter was installed and de-installed on multiple occasions, and thus create the temporal associations by which the AMI meter can be implicated. We agree with PECO that the record evidence does not support the direct ordering of Paragraph #3 for stray voltage investigation and remediation. We argue that the investigation and remediation should be related to the AMI meter.

REGARDING COMMENTS ON PUBLIC POLICY AND LEGAL STANDARDS – PECO EXCEPTION 1.I

We treat PECO's point out of order here because we see PECO's argument here not as an exception to any part in the ALJ's initial decision per say nor specific indication of where she erred. Instead it represents a general concern PECO has regarding any Commission decision (our case or anybody else's case also) about what decisions do to set a precedent.

PECO expresses the specific concern that a Commission ruling to admit that Dr. A. McKnight had been harmed would set precedent that any complainant might subjectively complain "I feel sick in proximity to your facility" without any scientific basis and win against a defendant. They extend the concern that this would then cascade to cause a defendant extreme and expensive intervention such as moving facilities or to undergo 'wholesale reconfiguration.'

We would like to acknowledge that in many ways this is an important and non-trivial point. The Commission itself may have a fear of setting a precedent that might cause a floodgate of complaints or downstream issues as well. And, it strikes at the heart of the issue of motivation. Why would a utility mount such a massive legal team involving out of state lawyers and experts to address a request from a pro-se complainant? Just as we have invested countless hours in this case because without accommodation we are concerned that Dr. A. McKnight will have more arrhythmias and severe headaches and other symptoms, this point makes it clear that PECO invests and argues out of a fear that providing

our accommodation it would be an admission of guilt to any and all future cases, regardless of the evidence provided.

We agree that utilities clearly should not be responsible for accommodating every whim. And we agree that complainants should not be able to place demands on defendants without justified reason or rational.

But, PECO's argument represents an irrational fear. Their argument is simply an emotional appeal to slur the evidence we gave.

Also, PECO's argument is lawfully unfounded. It is not based on any facts or legal evidence. No testimony was provided in this case or any other case that we know of to support their argument. Nor are there any scientific studies that suggest such outcomes. There is simply no evidence at all that if the Commission rules in our case or orders a handful of medical exceptions for allowing an analog meter based on a doctor's note that this will cause any 'facility' to be moved, much less 'wholesale reconfiguration' or more frivolous cases. At best this is speculation.

As evidence that this is an irrational and unfounded fear, we list several examples of how and where PECO has exaggerated in Exception 1.I. In their words, we show that they are indeed 'being hyperbolic.'

Exaggeration 1: Fairness our case implies consideration of all subsequent cases.

Notice the structure of their argument. The predicate is on allowing in *our case*. They then slur our case to imply it is equivalent to all other cases that are 'without any scientific basis,' which is a wholly unsupported assertion and discussed below. But, also note the request and rational. The request is simply the Commission should not allow the outcome. Why? Is it because it would be unfair in *our case – the predicate value*? No. It is because it *might* entail the hyperbolic and unsupported *extension* of our case – that following our case, there might come some other unspecified cases. It is these unspecified other cases that *might* require moving facilities and wholesale reconfiguration. Moving or reconfiguration is not in any way related to our case.

If anything, such an outcome is dependent on an *admission of health effects* related to EMF or AMI meters. This is *regardless* of our case or any other. The subtler undertone is a suggestion that the Commission should establish fairness *regardless* of our case and independently from any objective evidence that we have provided to establish the fairness of *our case*. Instead they suggest using a principle of fairness based on *speculation* that it might set precedent of a slippery slope. In between the lines it is asking the Commission to declare that EMF and AMI meters can *never* be associated with health effects – regardless of evidence. Why? Because it is the *admission of health effects* that is the predicate that might lead to other complainants claiming, 'I feel ill, please move farther away.' According to PECO that admission would be the 'bad public policy' and so the Commission should 'not go down that path.'

We remind the Commission that in our case the ALJ ruled that we *did* provide the preponderance of evidence for an AMI meter causing health effects. This *was* established using the thresholds of 'preponderance of the evidence' which is the very 'controlling factor' burden of proof that PECO states worry about. In doing so the ALJ used the bar previously set by the Commission to show finding of "…was adversely affected by the smart meter." We did not just state an unsubstantiated 'I feel ill', nor did we provide only subjective feelings of illness. We showed that Dr. A. Mcknight tried AMI meters on 2 separate trial periods and during both of those trial periods it caused witnessed objective signs. It caused her to seek medical attention and she saw multiple physicians regarding the symptoms and signs. Thus, PECO's argument that 'The approach suggested by the I.D. largely or completely eliminates that controlling factor' is simply not true.

And in our case, PECO never proposed any alternative cause that was more likely to explain Dr. A. McKnight's symptoms in association with the AMI meter. Nor did they suggest what therapy would be more appropriate for her than AMI meter avoidance. PECO only suggested that they thought Dr. A. McKnight's symptoms were from an unqualified and ill defined 'something else.' The problem with their logic is that for the cause to be nonspecifically 'something else', it also needs to explain a highly unusual temporal co-occurrence with the AMI meter. As noted in 1.A above, Dr. A. McKnight's symptoms occurred in exactly the same timing periods as AMI meter installations and resolved in exactly the same time periods of de-installations on two separate occasions. No expert testified to any other reasonable explanation of how this could have occurred.

The Commission set this bar.

As stated extensively in our briefs and exceptions, we disagree with the Commission's prior ruling that complainants be required to demonstrate events of harm by a preponderance of evidence before safety measures can be taken. We believe that this is creating situations where harm is almost certainly occurring, but where complainants are significantly disadvantaged in being able to reasonably present their cases because of the massive legal costs (time, stress, and expenses) involved in proving 'with preponderance of evidence' without any chance at recovery of those legal costs. While the scientific evidence has become stronger and more certain to support the complainant cases in recent years, it typically takes decades for the information to disseminate and regulatory bodies to catch up. It is extremely difficult and time intensive to do the research, and interpretation of the results is extremely complicated. The science is hindered because the rapid onset and widespread technology use prevents establishment of needed comparison groups. There is almost no ethical way to study this topic in humans and reach definitive answers that will quell all uncertainty.

Most organizations have suggested a more straightforward solution based on a principle that the complainant can normally move themselves away from an optional exposure. Thus, for example, the WHO and FCC advise that if and where a person may have concern of cell phone RF exposures that the person can use speaker phone modes and fall back on wired connections. With respect to AMI meters specifically, other states use the argument that complainants can just use analog opt outs if they are concerned. Except, currently we can't do that in Pennsylvania.

But we accepted the Commission's bar and now the ALJ judged that we exceeded the bar.

Despite our exceeding the previous set of the bar, or perhaps because of it, PECO is now asking the Commission to reset it again and make it arbitrarily higher for complainants. Presumably they want complainants not only to show harm from proximal event to observed response without alternative explanation, but now also to show how science has shown with certainty and explicitly mapped how every intermediate molecule was involved.

Why would PECO fight so hard? Is it because it would be impossibly hard for them to allow an analog unit and work with us on how to get the meter readings? Is it because that would be unjust and unfair in our case? Of course not. It is because the ALJ's initial decision may imply that there are cases that 'caused health effects.' It is because of an unstated, irrational and unsubstantiated fear involving a floodgate as *secondary effect of <u>any</u> admission of health effects*. They fear how to navigate an ill-defined slippery slope, but one that is completely and wholly independent of any fairness that might be involved in our case.

Such an argument extension whereby the fairness of an individual case is determined by what one party thinks might become precedent for unspecified expected downstream cases cannot be founded in the

principles of law or fairness. We argue that *this* is the 'bad public policy' that the Commission should avoid. It's suggestive that ends justify means. Such an approach is ethically unsound.

Exaggeration 2: Our case is 'without scientific / medical basis.'

PECO adds a seemingly reasonable qualification to the examples where person might claim 'I feel ill, please move.' They add that the complainant can fail to meet burden that there is a 'scientific/medical basis' for their concern.

There is large and important distinction between the phrases '*where there* is *scientific controversy'* and '*without scientific basis.*'

While it is true that our case has discussed scientific *controversy*, it is simply untrue to state that we have not provided a *scientific / medical basis*. PECO is slurring these two similar sounding concepts as an attempt to sound reasonable in defense against the irrational fear of an unspecified frivolous lawsuit.

"Without scientific basis" implies a thought or theory as might occur at random in a psychotic or delusional individual. It occurs when the rational for the theory is either not formulated from objective findings or known facts and is therefore not plausible because it *contradicts* other objective findings or known facts. It is objectively incorrect because of the contradiction. It is irrational.

"Scientific controversy," on the other hand, exists when there is a situation where there is some evidence to support a plausible theory and therefore many bright and thoughtful minds believe that plausible theory, but where other bright and thoughtful minds have not been convinced because they offer other plausible theories to explain the same evidence. In controversy the theories *have* a scientific basis, but it may not be clear which theory is most correct, or if multiple theories are correct. There are often ambiguities in the observational data which make it such that neither theory is necessarily wrong. Thus, it causes reasonable debate or discussion of the bright and rational minds and prompts further study of the ambiguous parts.

'Without scientific basis' implies highly unlikely. 'Scientific controversy' implies possible to probable.

As we note above, in meeting a legal standard that 'harm occurred' technically the science may not be involved at all. For example, if a car hit a person and there were witnesses of the event that state under oath "Yes, I saw the car hit the person" then the legal system does not need to resort to questioning if the physics has established that cars hitting people is physically possible, and it is not necessary to compute the impact kinetic energy with absolute precision. Showing a broken bone or even a complaint of back pain that was not there before the accident may be sufficient to say there was harm 'caused' by the car.

As described in our main brief, the purpose of introducing a discussion about EMF or science in our case at all is to help understand why the event of harm in Dr. A. McKnight occurred so that it might be most reasonably mitigated or prevented in the future. This is similar to introducing a clue that it was the breaks that were faulty on the specific car, and that helps understand what will avoid another car from hitting another person.

It should be clarified that no reasonable scientific body would ever state that there is no possibility of EMF relating to harm - even at extremely low doses of EMF. There is no *contradiction* of objective findings. There is *controversy* because there are alternate explanations of the data such as the fact that a study did not account for some important variable or had ambiguity somewhere that allowed for alternative explanations.

Far from being 'without scientific basis' mechanisms by which EMF can biologically cause symptoms and EHS specifically are entirely plausible, rational and well described. As mentioned extensively in our briefs, there are now many valid concerns about low dose EMF effects that are based on detailed understanding of the hard science. By many accounts, and according to several physicians that actually see and treat these patients, the science has reached the point where it is not even controversial to them. Some experts, such as Dr. Rea who testified in our case, support their opinions with literally thousands of peer reviewed studies where plausible detailed mechanisms down to molecular structures have been worked out, and cite scores of animal studies, note detailed dose response correlations in association with distance, and even cite blinded human studies. The scientific controversies discussed in our case do not contradict objective findings. They are strongly supported by all known scientific facts and referenced from peer reviewed publications.

PECO did not provide convincing evidence that the scientific theories are impossible or even improbable, only that there was still controversy over them.

We agree complainants must have *some* basis for their assertions. We disagree that having *some* basis implies that complainants must always show how the science understands all intermediate mechanisms and molecular states. However, even allowing for PECO's argument that we also need to explain how science understands the mechanisms, PECO's argument is still flawed because we did show a 'scientific basis' of how it is possible and did show how some form of EMF (direct RF and/or fields related to conducted transients, and/or secondary antenna effects) is the near certain intermediate mechanism. We did not attempt to show that the science has no controversy. There is nearly always controversy. We attempted to show that the controversy is solved enough to make a reasonable decision in our case.

The opposite slippery slope is that the Commission can never take reasonable actions unless it deems that there is no controversy in the science whatsoever, or even that the ALJ has the capacity to fairly judge when a majority scientific opinion has been achieved when she has come to that conclusion only by accepting testimony of an expert that stated directly that they were not an expert in the condition being questioned, and the ALJ only considered a tiny fraction of the science that might be involved or relevant.

Thus, we suggested the appropriate balance for the Commission as described in our main brief on page 21 in the discussion of Richardson v. Perales. 'Substantial evidence' is required. More than a scintilla. What a reasonable person might accept. We strongly encourage the Commission to please read our 67 pages of main brief, our 49 pages of reply brief, and our 29 pages of exceptions to see for themselves that we provided more than a scintilla. We also ask that they check the testimony and exhibit references, click the extra links and actually read the full actual articles to verify the sources and ensure we didn't get this from Dr. Oz. We believe that if the reader does this exercise, it will become quite clear we did not reach our conclusions 'without scientific / medical basis.'

Exaggeration 3. Physician testimony does not matter.

As a third example of how PECO has exaggerated, we stated clearly that we are not attempting to make claims that smart meters cause harm in all people or dismantle Act 129. We pointed out the distinction between safety 'in general' and safety in an individual. We have clarified that we are only requesting reasonable protections for those few individuals that by all accounts seem to be suffering. Just as is done in most other states, there is a reasonably straightforward option to give them - the option of avoidance.

Importantly, not only was our case established by direct correlation of temporal events as noted above, but it was also supported with three physicians testifying on behalf of Dr. A. McKnight. By the Commission's action to provide accommodation in our case it would in no way set a precedent whereby

any subjective unsupported complaint would qualify. PECO's fear of a slippery slope whereby any random complainant might state 'I feel ill' and win claims without basis is prevented by a simple Commission order: That a Pennsylvania licensed medical doctor is required to examine the complainant and recommend the specific therapy for the complainant. This has extensive precedent in disability medicine and law. This principle is also found in Pa 66. § 1406 (f) and the use of "medical certificates."

PECO has trivialized the role of physicians, apparently unaware of what their role is. We believe the ALJ also made this mistake.

The alternative slippery slope would be that the Commission allow a complainant's physician to document a medical complaint but does not allow this physicians opinion because the utility might find some random doctor to testify that they disagreed with the complainant's physician's diagnosis. The latter could be used as a tactic to invalidate more or less any medical decision and would therefore be unfair to the complainant.

This is especially true if the defendant's physician is not even required to be an expert in the condition that is of question, is not required to have seen similar patients in the past and is not required to have performed his/her own detailed examined the case patient. In other words, all the characteristics of the 'medical expert' PECO provided in our case.

And, as noted in our exceptions to the ALJ's initial decision, there is also a major problem of the Commission arbitrarily overruling the therapeutic recommendations of the complainants treating physician. The Commission must have a very high medical certainty as it blocks a treating physician. Blocking the treating physician's actions is asserting that the Commission is more knowledgeable in the medical matters of the patient than the treating physician. The Commission borders on attempting to practice medicine without license to diagnose and prescribe medical therapy.

If the Commission actively acts to ignore a treating physician's professional advice of AMI meter avoidance by blocking that therapy, then the Commission runs risk of committing professional negligence. If it is ever established the blocking action caused harm to the patient, then the Commission's block would be easily shown to have occurred by explicitly ignoring the professional advice of the person most qualified to give it. In the medical world these kinds of events are called malpractice.

In our opinion having the Commission or the Utilities practicing medicine would be 'bad public policy.'

Exaggeration 4: Personal property and public property are the same thing.

Next, we clarify this case involves PECO's use of *our personal property* as a location of PECO's RF broadcast. Of note, this broadcast is for PECO's convenience, not our convenience. A utility may have some easement on private property, but that easement does not include total invasion or use of the entire property, or license to do anything they wish anytime they want on the private property.

We believe it is always reasonable to be considerate, but especially if you are allowed the privilege to enter the sanctuary of someone's private home or private property. We assert that the minority subpopulation of electrically sensitive people deserve consideration at least to the extent that it involves being safe and comfortable in their *own homes*.

As an analogy, if a customer has Asthma, that customer might reasonably wish that neighbors and visitors such as PECO employees not smoke cigarettes in their presence. If the PECO employee disagreed and intentionally blew smoke in the customers face, by PECO's logic the customer would have to prove by preponderance of the evidence that their immediate onset of the customers cough and shortness of

breath was caused specifically and unequivocally to be from the PECO blown smoke, and science had documented literature showing that no other smoke or other particulates in the air might have possibly contributed.

Metaphorically, PECO's AMI meter is blowing 'smoke' in Dr. A. McKnight's face and then PECO lawyers are taunting her to 'scientifically prove that it's specifically PECO smoke that causes you to feel ill.' They claim that the intensity of their smoke might have been dispersed by the air between, therefore could not possibly have cause Dr. A. Mcknight to become ill. They provide evidence that they blew smoke in other people's faces and those other people did not cough. They argue that it is therefore uncertain or even impossible for the Asthmatic to have a different cough response. They even provide evidence from the American Medical Association that Asthma is just a psychosomatic disorder[1].

The analogy of blowing smoke is also interesting because EMF, like smoke and noise, can be considered a form of pollution. A large part of the current scientific / medical literature controversy involves question that the present regulations are likely not properly accounting for the sum total of all EMF exposures from many sources each contributing a little to oxidative stress[2] on the body. This is much like the difference between exposure to one cigarette as opposed to working 8 hours in a smoky bar where many people are smoking simultaneously and constantly.

Here, we again point out the large distinction between *optional* exposure and *mandated* exposure. For the most part, people can choose to avoid exposures by not participating or using devices that cause a problem. For example, we testified that we had already turned off Wi-Fi and other RF emitting devices and disallow the use of cell phones in our home. But the only option PECO provides a complainant to avoid smart meter exposure is by extreme measures that terminate their electricity entirely.

We find nowhere that the Pennsylvania laws have explicitly stated requirement or even explicitly stated allowance for an EDC's use of RF broadcast on any personal property per say. As we noted in our main brief, the definition of 'smart meters' in the law is not dependent on specific use of RF. Instead the law is written as a functional definition including the capacities. For example, the law defines terms such as "advance service" to be "regardless of transmission medium or technology" and describes "smart meter technology" as having functional requirement for "bidirectional communication." The choice to send data using RF (or even choice to use a switch mode power supply that might allow for more conducted emissions) is an implementation choice. In this, the Commission has allowed the existing AMI meters by *interpretation* of the law that an EDC may use a customer's personal property easement as a RF broadcast location. It presumably does so under the principle that the legislation would have assumed it, did not expressly prohibit it, and technical implementations would be harder to do without that assumption.

By analogy, the Commission has giving EDC's an easement right to metaphorically 'smoke' on our property. This is for benefit of the EDC because some of their resources *prefer* to 'smoke.' In the analogy

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[1] https://jamanetwork.com/journals/jama/article-abstract/326469 . Yes, this really happened.

[2] See https://en.wikipedia.org/wiki/Oxidative_stress. The scientific basis for such a theory is strongly supported by the vast majority of studies show that chronic low dose RF is strongly associated with oxidative stress. For example see https://www.ncbi.nlm.nih.gov/pubmed/26151230 or https://www.sciencedirect.com/science/article/pii/S2213879X17300731. The theory is that more recent ubiquitous use of wireless technologies in general and with effects of conducted transients acts much like smoke where a small quantity might be ok, and where some larger amounts bother some people more than others, but where the long-term effects of oxidative stress take time to develop into noticeable symptoms or sensitivity. This is of note because as we pointed out in our main brief, the current EMF guidelines are predicated on single short-term exposures of less than 30 minutes and do not account for how the burst nature of the signals relates to known understanding of biologic exposures. This theory best explains the complex range of symptoms seen, timing delays, and worsening of symptoms over time. along with more recent understanding of how this can explain the RF links to cancer as seen in the NTP study and other symptoms of EHS like fatigue, headache and cognitive impairment.

it is still possible for them to execute their jobs without 'smoking', but it is harder to find resources that don't smoke because 'nonsmokers' are more expensive.

If the Commission had power to make interpretations of law and extend the EDC tariff to also include a provision that the EDC may use a customer's property as a place of RF broadcast, then also the Commission has power to interpret and resolve conflict in the legislation in other parts of the law.

Whereby 66. Pa. § 1501 requires safety in all cases, and a physician has documented a customer as having a medical exception that makes a situation unsafe, and some other law such as Act 129 has not explicitly stated an medical or safety exception but also does not expressly prohibit a safety or medical exception, then the Commission has power to make interpretation that such a medical exception can be allowed. Since the Commission allowed the RF easement in the first place, it has right to qualify the RF easement. Alternatively, if the Commission does not have such powers regarding easements, then it never had power to grant the EDC easement use of personal property for the location of a RF broadcast in the first place.

By analogy, if the Commission has the power to insert an exception to an easement granting "the EDC resource may 'smoke' on the job" then it can also add additional qualifications that prohibit 'smoking' on the job when a customer has a medical problem that is exacerbated by 'smoke'.

Exaggeration 5. We have asked to 'move facilities' and for 'wholesale reconfiguration'

As a fifth example of PECO's exaggeration, we point out that we have only suggested a substitution of one AMI meter with a $40 analog replacement unit and requested establishment of some method of reading a meter and entering the usage data into PECO's system such that a bill can be generated.

This is demonstrably feasible because most states do this already. For example, we referenced North Carolina has estimated the cost to support such a program at roughly $11.75/household/month, but also opined that it would be unfair to apply that charge in the case of health concerns.

Opt-out programs exists in nearly every state. To the best of our knowledge, these other states still have utility companies that are profitable, and the world did not come crashing to a halt because opt-outs were granted. No evidence has been provided that any facilities were required to be moved or wholesale reconfigurations have occurred. And other states already recognize that there is a small population that have special health concerns in relation to AMI meters and therefore form an exceptional class that does not need to pay extra fees. The Commission would not even be setting any precedent here because it would only be following other states that have already done this.

The opposite slippery slope in hyperbolic terms is that even the most trivial of concern or financial cost to the defendant would justify the most heinous suffering and/or death, causing massive epidemics to cascade as long as campaigns of 'industry friendly science' can be used to create the illusion of scientific controversy. And, this sounds quite hyperbolic except to see that in fact this *has* occurred on multiple occasions. It occurred with Tobacco. And Asbestos. And Thalidomide. And, more recently with Opioids.

To be clear, we are not trying to assert that PECO is causing massive deaths and are pushing a deadly unsafe product. That would indeed be 'hyperbolic.' We understand they are only doing their best to run a business and trying to comply with Act 129. We have clarified on multiple occasions in our briefs and exceptions that we are not trying to overturn Act 129 and are not claiming that AMI meters are unsafe *in general*. Instead, again we clarify that we are claiming that that there is a *selected subpopulation* for which AMI meters are unsafe, and therefore this *selected subpopulation* needs special considerations.

We have suggested that the most pragmatic way to identify this subpopulation and manage them is to let the existing system of licensed treating physicians make the recommendations.

But PECO's uses exactly the same tactics and arguments as the Tobacco Industry[3],[4],[5].

Consider the logic by which PECO's argument works. Their argument is that it is unfair to favor a complainant claiming ''I feel ill – please move your facility to a safer distance' and making a defendant 'move facilities.' Suppose further that it corrects a phrase 'without basis' to a situation seen in our case of 'while there is still some scientific uncertainty.' The logic in this would be that the uncertainty implies that the scientific answer might return *later* as an outcome where the complainant was *not justified*, and yet the defendant still had to 'move facilities' *today*. This would be unfair to the defendant.

This fails to account for the fact that this is a two-sided coin. The uncertainty also means that the scientific answer might return later as an outcome where the complainant *was* justified in reasonable cause for a defendant to move the facility. And, in that outcome, it would be equally unfair to have favored the defendant because it would be forcing the complainant to suffer his/her *illness* today. Both sides still must be considered. PECO's argument is simply suggesting that one side should just be arbitrarily ignored.

Further, in our case we are not even talking about asking them to move any facilities. We have asked for exception to have an alternative choice in an electric power meter. And, we are doing this in a context where one type is being *mandated* and forcing exposure in a condition and where, at minimum, there is a reasonable degree of uncertainty *that such exposure is safe* for Dr. A. McKnight. Further we provided preponderance of evidence that such devices in the past have been demonstrably *unsafe for her.* Further, we do so at a time where most other states have already established that a reasonable solution to this situation is to allow capacity for such individuals to have an alternative choice in an electric power meter.

Also, while PECO is claiming that science still has controversy and therefore the Commission should *disallow* any consumer choice in the matter, PECO is going even beyond strategy and logic of even the Tobacco Industry,[6] which otherwise has striking parallels. This history is well documented. In the tobacco cases, the defendants initially thought they had safe products and it turned out in the end that they had deadly products. They claimed of the massive economic impact by any regulation that inconvenienced them even while there were strong signals that their product might not be a safe as originally thought. Their argument was exactly the same that the science was not settled, and causality was not yet *clearly* established. They heavily promoted this uncertainty for decades after the science was clear. In retrospect the actions of the Tobacco industry and the delay in regulatory oversight caused massive epidemics, and it is recognized these epidemics could have been tamed significantly by earlier warning, and more caution should have been given with respect to signals that were there at the time. Justice was delayed by decades[7].

But in the tobacco cases, part of the tobacco industry argument was at least that the complainant could easily avoid the exposure. Rarely if ever has the suggested action gone so far as using a scientific controversy as reason to explicitly *prohibit* consumer choice and *mandate* use of a particular product even while large parts of the scientific controversy suggest it is not safe.

[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3490543/
[4] http://www.who.int/tobacco/media/en/TobaccoExplained.pdf
[5] https://www.justice.gov/sites/default/files/civil/legacy/2014/09/11/amended%20opinion_0.pdf
[6] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1766141/pdf/v013p00i61.pdf
[7] https://tobaccocontrol.bmj.com/content/21/2/87

As explained in our briefs and exceptions, we suggest these cases are evaluated based on weighing expected outcomes. This does not mean that anybody with a sniffle can force the defendant to completely reorganize their business. It means that simple and reasonable accommodations should be provided when and where they can be.

For clarity, consider the potential weighted expected outcomes in our case at some point in the future where the science has resolved its uncertainty. In a potential situation where the science might eventually show certainty that PECO was right, but the Commission provided Dr. A. McKnight accommodation, the unfair consequence is that the Commission would have unnecessarily required PECO to provide an additional choice in a power meter as is done in most other states. But, in a situation where the science might eventually show certainty that we are correct, but the Commission has ruled to force the McKnight's to have an AMI meter, then the unfair consequence is that the Commission will have unnecessarily required Dr. A. McKnight to have cardiac arrhythmias (Tr. 4/10 at 12:13-14, Tr. 4/11 at 300:1-3) along with daily headaches and other symptoms. Her cardiac arrhythmias would have put her at increased risk of stroke[8] and death (Tr. 4/12 at 75:2-4)[9].

The sides of the coin are not equal in consequence.

Exaggeration 6: All people who complain "I feel ill, please move" are crazy and unreasonable.

Finally, from argument in 1.I, it appears that PECO views all people who complain "I feel ill" are definitionally unreasonable and only have perverse objective to cause difficulty for utility companies.

The undertone is 'these are all crazy people.' In their examples, "Please move it" might mean that the customer is just plain unreasonable and wants to play games just to aggravate the utility and create frivolous legal work. Notwithstanding that there likely are such unreasonable people that make unreasonable demands on utilities, there is inherent arrogance and *callous* in assuming by default that *all* or even that *most* people who complain 'I feel ill near your facility' are completely unreasonable and unjustified in their positions. A possible alternative explanation is that there is real problem that might need investigation, but that these people have difficulty exactly articulating the problem. A reasonable response is to at least try to investigate the issue and see what's going on. And, make a reasonable accommodation where possible.

On the other side of the slippery slope we well might argue that the utilities would never seriously investigate to see where there might be issues even if there were case reports of hundreds or thousands of people falling ill within a few days of AMI meters being installed. Instead they would much rather argue that this was just a random fluke and that there were no blinded randomized trials showing that AMI meters caused the events even while there are case series showing evidence. From the utilities point of view, investigation might only result in an outcome they do not desire. There is no incentive for them. Nor would others place trust in their results if they were in their favor because of the conflict in interests. For them, complainant arguments can always be more quickly and easily discounted under one simple tactic -- simply say "there is no *significant* scientific *proof* of causality yet." Just like the tobacco industry said about cigarette smoke. What incentive would an EDC ever have to take any complaint seriously, short of the Commission requiring independent investigations to holding them responsible every now and then?

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[8] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3541607/
[9] https://www.ajconline.org/article/S0002-9149(13)01290-3/fulltext

While EDC's simultaneously refuse to investigate themselves, and/or under conditions where it's essentially impossible to establish proof of causality because of ethical reasons, complainants are in a catch 22. While there is uncertainty in safety, then PECO argues they cannot be burdened to ensure safety. At the same time, they take measures to ensure that there will always be uncertainty.

It's easy to create uncertainty about almost any subject. But, by the same token there is no 'scientific proof' that AMI meters are 'proven' safe either. For example, these devices never underwent FDA device classification[10]. The utility has never demonstrated that no person on earth could ever be adversely affected. And, yet we demonstrated a very unusual circumstance where the timing of the AMI meter and Dr. A. McKnight's symptoms cannot be rationally explained by any other source.

We understand that PECO is simply attempting to protect their legitimate rights and self-interests. And we agree that frivolous complaints are a bad thing. However, the McKnight's respectfully, but strongly urges the Commission to ignore a utility company's attempt to claim it is 'bad public policy' to allow humane and reasonable accommodations for a few people. Particularly when there is a relatively straightforward solution that is implemented in nearly every other state.

PECO has irrational fears and is being 'hyperbolic.'

REGARDING COMMUNICATIONS

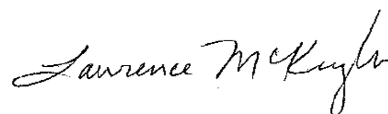
In filing their exceptions document, Counsel Smith writes "Dear Secretary Chiavetta: … If you have any questions about this filing, please call me at 215-841-6863."

It should be clear that if any communication occurs about the contents of the filing, that this should not be done by the Secretary calling the Counsel directly and independently without our involvement. We are also happy to participate and answer any questions about filings (this or others). If this is required, please feel to call or contact us via email. However, these communications should be scheduled such that all parties have equal ground for clarification.

CONCLUSION

For the reasons set forth above, the Complainants Drs. Alexia and Lawrence McKnight respectfully request that the Commission append our Reply to PECO's exceptions, and issue a Final Order that rejects the ALJ's Initial Decision of October 19 (served October 24), and order that complainants be granted accommodative relief by requiring PECO to use an analog power meter to collect energy usage for billing purposes at the McKnight residence.

Respectfully submitted,



Alexia Lawrence McKnight

Lawrence Kenneth McKnight

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[10] https://www.fda.gov/aboutfda/centersoffices/officeofmedicalproductsandtobacco/cdrh/cdrhtransparency/ucm378714.htm