Comment of Patricia Burke

 in Opposition to MA DPU 20-69,

Modernization of Electric Grid Phase Two

I am opposed to the MA DPU conducting a targeted smart meter/AMF (advanced meter functionality) and time-of-use billing pilot for EV customers.

My concerns are as follows:

* Economic divide and insensitivity to prevailing financial hardships
* Unrealistic advocacy for vehicle to grid balancing, lack of recognition of battery degradation
* Conflict minerals, e-waste, environmental impact, exploitation, and racial injustice
* Questions about the adequacy of radio frequency exposure limits, nationally and internationally, as indicated by testimony to the FCC by the City of Boston, in 2013, and again in 2020.
* The wireless industry and the utility industry did not responded appropriately to health complaints regarding smart meters and smart grid infrastructure. The MA DPU was complicit in the corruption of health science and the abuse of human rights in its process regarding MA DPU docket 12-76, and MA DPU docket 12-76-B, in 2014
* Fraud
* Lack of disclosure and lack of transparency with communities or utility customers about the introduction of increasing radio frequency exposures
* Human rights: Smart meter/smart grid installation discriminates against a health-vulnerable population
* Concerns about health effects, and opt-out provisions
* Conclusion

Clean energy investment should be free of environmental harm, human rights abuses, exploitation, discrimination, and fraud.

My request is that instead of authorizing this pilot, the MA DPU, investor-owned utilities, Mayors, Governor, Attorney General, Municipalities and Legislature actively support pending litigation of the FCC, and unite to declare an emergency moratorium on installation of additional wireless infrastructure until independent, science based investigation concludes.

**Against the backdrop of an increasing economic divide, financial insecurity associated with the covid crisis, and ratepayers struggling to pay bills for basic necessities, a pilot that offers a pricing differential to the highest income customers is an inhumane initiative.**

 As increasing numbers of ratepayers are facing economic challenges due to covid, an EV pilot will cater to higher income groups while increasing costs to all customers.

As noted in the article, *Government Electric Car Subsidies Are ‘Costly Subsidies for the Rich’, Finds New Study,*

“In February 2018, a Pacific Research Institute study found that “79 percent of electric vehicle plug-in tax credits were claimed by households with adjusted gross incomes of greater than $100,000 per year” Households with incomes greater than $50,000 per year claimed 99 percent of the credits.

In a 2017 survey conducted by CarMax / CleanTechnica, 17 percent of households – which was the largest share of any income bracket – earned $200,000 or more the previous year;

Data from a 2017 U.S. Department of Transportation’s National Household Travel Survey revealed that “about two-thirds of households with [battery electric or plug-in hybrid electric vehicles] have incomes higher than $100,000”;

In 2015, energy economists at the University of California, Berkeley found that “the top income quintile has received about 90% of all [Qualified Plug-in Electric Drive Motor Vehicle Credits];” and

Citing data from the JCT, the nonpartisan Congressional Research Service –considered to be Congress’s think tank – added that “between FY2018 and FY2022, about half of the forgone revenue associated with the plug-in EV tax credit will be for corporations claiming the credit.”[[1]](#footnote-2)

Owners of EVs are often divided into 2 groups; the environmentalists, and the luxury EV owners. Luxury EV drivers who are willing to pay a premium for additional convenience may not be sensitive to time-of-use billing when it is inconvenient.

In order 20-69, the MA DPU stated, *"The Department expects that, at minimum, a targeted deployment for advanced metering functionality to basic service EV customers will help establish the groundwork for future deployment of advanced metering functionality to other customer segments."*

The Commonwealth does not need to charge other ratepayers to provide lower-cost charging for the higher-income customers, especially when customers with lower consumption profiles will not be able to benefit significantly from load shifting.

Time-of-use for EV charging has been described by the industry and smart city proponents as low-hanging fruit to create ratepayer acceptance of smart infrastructure.

The intent of the infrastructure is not to manage EV charging, but to provide the infrastructure that can be used for citizen data mining, surveillance, ROI return on investment for utilities and investors, and eventually - for punitive pricing structures that will adversely impact certain classes of customers.

Intensified by the covid crisis, paying for electricity is a challenge for a growing portion of the population.  Increases in rates for a more infrastructure- dense delivery system that caters to heaviest users and increases costs for all users will be incurred. Any cost associated with administering an EV smart meter pilot will be a regressive fee, hurting those least likely to benefit.

Self- identified environmentalists are predisposed to adopting behaviors that are “sustainable” without the need for costly, energy consumptive infrastructure. The covid crisis has created a new demand for advanced reservation systems in many industries. If the Commonwealth desires to manage EV charging, the DPU could instead seek to explore a least cost, least environmental impact, on-line portal that does not create any further deleterious impacts on the natural electromagnetic environment or on customer bills.

Caution and critical thinking should be employed in extending conclusions made about EV pilots to implications for installing smart meters on the premises of other classes of customers. By definition, an EV pilot will only be available to a self-selected group that opts in. The EV pilot implies that customers will save money by embracing smart meters, while over time, costs will increase to pay for the investment. Rates may increase, for example via Eversource’s peak demand pricing imposed on solar customers.

Due to the corruption of both the implementation and the results reporting for the Worcester National Grid smart meter pilot, any conclusions promoted by the MA DPU, the utilities, and partner industries should be subjected to third party independent investigation, rather than partnership with an industry front group and colluding interests.

With its previous actions, the DPU, the clean energy community, and the Massachusetts administration and Legislature have violated the public trust.

Effort needs to be exerted to insure that no further fraud be incorporated into MA DPU policy-making.

**Lack of proof of concept, unrealistic advocacy for vehicle to grid balancing**

In Footnote 6, the DPU docket notes the intention to develop standards for EVs to charge during off peak hours, and be available to deliver energy to the grid during peak hours.

According to the July 2020 UK article, “*Mass EV charging: is a can of worms hiding under the bonnet? The Government’s push to electrify road transport and domestic heating could place major cost burdens on consumers, says a new report,”*

”Electric vehicles have become something of a panacea for politicians as they grapple with how to decarbonise the transport sector. But for some engineers, the headlong rush to electrify road transport and domestic heating too is a major cause for concern. LTT reported in May the top-down analysis of Michael Kelly, the former chief scientific adviser to the Department for Communities and Local Government (LTT 29 May & Letters 26 Jun). Now a more bottom-up analysis has been prepared by retired engineer Mike Travers. Both reports have been published by the Global Warming Policy Foundation think tank.

“It is clear that the costs of supporting all the plans the Government has for transport and homes is going to be very high, and it is going to be made worse by the fact that the changeover is not being thought through, let alone planned effectively,” says Travers. “Part of the problem is that there is no institution or organisation in a suitable position to do so. The distribution companies own the transformers and cables, but may or may not be responsible for the smart meters. They therefore have little interest in some form of smart control [of electricity demand]. As profit-making companies, they also have no interest in investing for the future load increases, as they can charge for all the upgrading work as it is required.”

Vehicle to Grid: but why?

Many EV advocates champion the idea of ‘Vehicle to Grid’ charging. This involves vehicle owners feeding electricity back into the grid from their vehicle’s battery when electricity demand is high. Travers dismisses the concept, at least for residents. “This is unlikely to happen, not because it cannot be done but because it would be ridiculous to do. Firstly, many EVs will be on charge for 12 hours per day, and thus unavailable for supplying the grid. Secondly, it is hard to imagine why anyone possessed of a fully-charged EV would allow the battery to be drained when they might need the car at any moment, and when there was a shortage of electricity.

“Thirdly, the battery is direct current (DC), but the grid requires alternating current (AC). It is unlikely that any homeowner would be prepared to invest £800 in a DC-to-AC inverter to allow them to sell electricity, particularly since the sales value they will derive from doing so would be small. If your EV has cost £10 to charge at 15p/kWh, would you allow the grid to take half of that charge, if it had a value of only £5? The grid would have to pay an extraordinary premium to get someone to bother to connect their car up.” “[[2]](#footnote-3)

Battery degradation is one of the primary issues for the electric vehicle market**.** According to an August 2019 article, ***“****A review on the key issues of the lithium ion battery degradation among the whole life cycle,”*

“The lithium ion battery is widely used in electric vehicles (EV). The battery degradation is the key scientific problem in battery research. The battery aging limits its energy storage and power output capability, as well as the performance of the EV including the cost and life span.” [[3]](#footnote-4)

Given that charging and recharging of vehicles affects battery life, and given the demand for workplace charging (daytime) for those without home charging capabilities, the prospect of using electric vehicles to balance the grid as a strategy to address climate concerns is not proven, and should not be factored into the DPU’s justification to conduct a pilot program.

**Conflict minerals, e-waste, environmental impact, exploitation, hacking**

As noted in the article, “*Evs, Conflict Minerals and E-Waste The EV revolution will take batteries, but are they ethical:”*

The EV revolution has been racking up a whole supply chain of trouble around the globe related to an onslaught of often-contentious new mines opening to meet surging battery-metal demand, not to mention the coming tide of e-waste from old batteries. [[4]](#footnote-5)

AMR and AMI meters replacing work horse analogues are designed for planned obsolescence, so that utilities and investors can count on continuous cycles of software upgrades and replacement earnings.

The clean energy community has outsourced the deleterious environmental impacts and human rights abuses of new tech to poor nations. This longstanding form of international racism against black and brown nations is accelerating due to the increased demand for new and more infrastructure and devices.

Clean energy policy in the Commonwealth should hold itself accountable to a standard of non-harm. Addressing climate concerns with a new generation of inadequately regulated, inadequately monitored damaging paradigms is not betterment, improvement, progress, or advancement. In a word, it is another chapter in a sordid history of entitlement and exploitation.

E-waste rates skyrocketed across the planet in 2019. [[5]](#footnote-6) Because Massachusetts was one of the few states that did not approve the grid modernization investment, yet, electric utility meters from Massachusetts, retired before their time, were not in the waste or e-waste stream, in 2019, or in the years before.

In the last decade, many states removed functional analog and first-generation AMR electric meters before the end of their useful life, to deploy new two-way wireless AMI meters and infrastructure. Rather than the 50-year lifespan of an analog meter, the new electric meters, which are essentially computers, are 15-year investments at most, in practice closer to 8, with manufacturers and investors expecting the return on investment of continuous replacement cycles. In addition to electric meters, gas and water meters are being upgraded with wireless nodules and infrastructure to collect and transmit data, 24/7/365.

The transition to wireless meters, with reduced lifespans, results in unnecessary and avoidable resource consumption, energy consumption, and waste, and well as introducing surveillance and privacy risks.

Additionally, connected EVs introduce hacking risks to the grid. [[6]](#footnote-7) [[7]](#footnote-8)

Massachusetts has shown wisdom in its caution regarding the technology, and should continue to do so, but with greater advocacy for health vulnerable individuals.

My request is that the MA DPU, investor-owned utilities, Mayors, Governor, Attorney General, Municipalities and Legislature unite to declare an emergency moratorium on installation of additional wireless infrastructure, and actively support pending litigation of the FCC.

**There are very serious questions about the adequacy of radio frequency exposure limits, as indicated by testimony to the FCC by the City of Boston, in 2013, and 2020**

The City of Boston Weighed In, Twice, to the FCC, about Inadequacy of Radio Frequency Exposure Limits

The Federal Communications Commission solicited testimony in 2013 regarding the adequacy of radio frequency exposure guidelines.

In a November 18, 2013 filing with the FCC, the cities of Boston and Philadelphia in their joint submission accused the FCC and Federal health agencies of negligence for failing to investigate whether electrosensitive persons are harmed by non-ionizing radiation:

*"The FCC admits its own lack of expertise in the field. But the overlap of federal agency responsibilities for RF radiation protection and the merely advisory status of the Radiofrequency Interagency Work Group often leaves leadership unclear and encourages a pass-the-buck attitude ...

The 1999-2000 judicial challenge to the FCC’s 1996 rules never reached the issue of “electrosensitivity” as a cognizable disability under the Americans with Disabilities Act. (“ADA”) Here again, an agency responsible for ADA implementation acknowledges that the impairment may be disabling but has promised merely further inquiry. After more than a decade, that investigation remains unopened. The dockets here have been updated with massive additional evidence of the crippling effects of RF radiation on an admitted minority – but a suffering minority – of U.S. citizens. The FCC and its sister regulatory agencies share responsibility for adherence to the ADA and should replace promises with serious attention to a serious medical problem. This is one area where the FCC could lead in advice to electrosensitive persons about prudent avoidance." [[8]](#footnote-9)*

In 2020, the City of Boston weighed in again:

*"Boston believes that the concerns of the public are real and that the Commission has done a disservice to itself, local government, consumers, and even the wireless industry in failing to understand and respond to the broadly shared mistrust of the safety of RF emissions.”“The City, and many of its constituents, do not believe the cursory way in which the Commission simply reaffirmed its decades old standards in 2019 was based on a robust review of the record and an updating of the science. And until the Commission appreciates the educational component of its role as the nation’s RF monitor, local governments, like Boston, will continue to be stuck in the middle as residents oppose wireless deployments for fear of the emissions, while the FCC and Congress have preempted local government review of RF standards."* [[9]](#footnote-10)

The FCC is now facing several lawsuits concerning the adequacy of radio frequency exposure levels. *The Environmental Health Trust is taking on the FCC. Summary of Environmental Health Trust, et al. v. FCC In a joint opening brief, the Environmental Health Trust argues the agency glossed over substantial evidence when it decided* *December 2019 that its radiofrequency-exposure limits and regulations — established in 1996 — still provide adequate protection and could remain unchanged. [[10]](#footnote-11)*

*Children’s Health Defense, the children’s health advocacy group headed by Robert F. Kennedy, Jr., filed Wednesday a landmark principal brief in the U.S. Court of Appeals for the District of Columbia in its case against the Federal Communications Commission (FCC). The case is challenging the agency’s refusal to review its 25-year-old obsolete wireless “health guidelines” and adopt scientific, biologically based radio frequency emissions rules that adequately protect public health. The brief was filed jointly with Environmental Health Trust.*

*Children’s Health Defense’s brief proves that scientific and human evidence of harm from wireless and 5G was presented to the FCC, but the agency ignored it. Therefore, its decision not to review the “health guidelines” is capricious, arbitrary, not evidence-based and an abuse of discretion.*

*Children’s Health Defense’s principal brief cites thousands of studies and medical reports, including those conducted by U.S. government agencies, and references hundreds of testimonials by people who have been injured. The brief shows clear evidence of harm from wireless radiation from exposure to wireless radiation sources such as cell phones, Wi-Fi and cell towers at levels well below current FCC emission limits.*

*In its decision not to review the guidelines, the FCC astoundedly dismissed the results of the U.S. Food and Drug Administration’s funded National Toxicology Program study, a $30 million, 10-year study that was supposed to give the American people the final answer as to whether or not wireless is harmful. This study, the largest of its kind, found “clear evidence” of cancer and DNA damage. The results should have put to rest the notion that non-ionizing radiation cannot break DNA. The World Health Organization already classified wireless radiation as a “possible” (2B) carcinogen in 2011. The National Toxicology Program study is the “missing link” needed to classify it as a human carcinogen. Courts, including Italy’s Supreme Court, already determined that cell phones cause brain tumors.*

*Scott McCollough, attorney at Children’s Health Defence, wrote in the brief that: “The refusal to recognize that real people — those the FCC is required to protect — are suffering, and the withholding of any promise of relief clearly violated its responsibilities … was an abuse of discretion. The commission owed an apology but delivered a gut-punch*.” [[11]](#footnote-12)

Boston is also participating in a lawsuit regarding installation of 5G small cells, filed August 11, 2020. [[12]](#footnote-13)

In addition to scrutiny of FCC radio frequency exposure limits, international scrutiny is being directed to corruption of science by ICNIRP, the International Commission on Non-Ionizing Radiofrequency Protection. [[13]](#footnote-14)

The MA DPU would best serve the interests of Massachusetts ratepayers by supporting the actions challenging the FCC, and declaring a moratorium on the installation of additional wireless infrastructure until the question of safety is satisfactorily addressed, unless binding assignment for liability for adverse health effects is imposed. The DPU may want to note that Swiss Re Classified 5G as a "High Impact" Liability Risk**. “**The top five emerging risks in our SONAR 2019 report are digital technology’s clash with legacy hardware, potential threats from the spread of 5G mobile networks, increasingly limited fiscal and monetary flexibility by central banks, genetic testing’s implications on life insurers, and the impact of climate change on the life and health sector. SONAR examines new and “slow-burner” emerging risks and their potential effects on the re/insurance industry. This year’s report features 15 emerging risk themes and five trend spotlights as well as an overview of global macro trends. **[[14]](#footnote-15)**

**Historically, the wireless industry, utility industry, and clean energy sector did not responde appropriately to health complaints regarding smart meters and smart grid infrastructure. The MA DPU was complicit in the corruption of health science and the abuse of human rights in its process regarding MA DPU docket 12-76, and MA DPU docket 12-76-B, in 2014**

The utility and wireless industries and regulators had an opportunity a decade ago to respond appropriately to emerging health and safety issues regarding the introduction of pulsed radio frequencies onto the grid and household wiring, in addition to growing juxtaposed exposures to ground current, electric fields, magnetic fields, radio frequency exposures, and dirty electricity, customers became ill.

When wireless smart meters were installed in California and in Maine in 2009, there were immediate reports of individuals experiencing a myriad of adverse health impacts, [[15]](#footnote-16) [[16]](#footnote-17) including the acute onset of crippling electromagnetic hypersensitivity.

In D.P.U. Order 12-76-B, the MA DPU wrote, "….the Department recognizes that some individuals feel strongly that advanced meters will have a negative impact on their health."

The wording implies that the consumers, many of whom are women, hold a “belief”, with the implication that they have an imaginary concern or mental health issue, while glossing over actual complaints of health harm that accompanied smart meter installations across the country, and in the Worcester smart meter pilot program.

Practicing health care physician Deitrich Klinghart described smart meters as a devastating, wrong technology

Most egregious is the fact that the MA DPU engaged the testimony of a professional mercenary tobacco scientist liar-for-hire, Peter Valberg, to override citizen complaints in 2014, and has made no effort to investigate further. This is both regulatory malfeasance and scientific misconduct.

 When the DPU held hearings regarding health concerns, Peter Valberg did not file any written comments. Yet references were incorporated into MA DPU 12-76-B with misleading comment attributions (“another testifier”) indicating that either Peter Valberg collaborated with the DPU to draft the health commentary for the written order behind the scenes, or that the DPU itself incorporated commentary and references that were not part of the transcript. The public record has not indicated whether or not National Grid, or the DPU, compensated Peter Valberg for his testimonies in Boston and Worcester, but in either case, the ratepayers ultimately financed decision-making on the basis of tobacco science. Valberg and other “scientists” from the notorious product defense firms Gradient and Exponent provided testimony for many states, but the collaboration in MA may be unprecedented. Gradient, based in Cambridge, has testified before the MA DPU for many infrastructure projects,

In addition, the Massachusetts Dept of Health admitted off-record was operating under instructions to support the smart meter agenda and the Green Communities Act, and to ignore health issues. The City of Worcester’s health department also issued a corrupted smart meter health report that ultimately referenced a National Grid industry partner with no health expertise, without disclosure. This, again, is also both regulatory malfeasance and scientific misconduct.

Independent researchers and clinicians have identified biomarkers and treatment protocols for electro-sensitivity, including prudent avoidance.[[17]](#footnote-18) Until the health risks posed by the technology are addressed, including the need to provide an analogue meter and to shield the premises from transmissions from neighboring meters, no further infrastructure costs should be incurred by MA ratepayers for smart meter pilot programs.

Fraud

Massachusetts has not addressed fraud complaints regarding the National Grid smart meter pilot. The program was not successful in recruiting low income customers, (nor will the EV pilot); the process of community and ratepayer consent was abused, and the DPU continues to utilize Navigant to provide analysis, despite apparent corruption of results reporting to support decision-based evidence-making.

Reparations have not been made to the Worcester community, including Tory Fort abutters who lost the property value of their homes due to the installation of nuisance infrastructure (environmental justice).

Adverse health effects have not been independently monitored or investigated in light of emerging research, including very serious consequences for some Worcester residents. No further pilots should be conducted until the Worcester pilot is independently investigated, with restitution addressed, including removal of transmitting meters from non-consenting households, particularly non-English speaking ratepayers.

Ohio, Illinois, and Michigan have recently reported the results of investigations of corruption and wrong-doing in the utility sector. [[18]](#footnote-19)  The states and nations around the world that will ultimately have the most success in delivering safe and reliable electricity to customers and sustaining a healthy economy will be the communities that address health and environmental damages already unfolding, and corruption,

My request is that, the MA DPU, investor-owned utilities, Mayors, Governor, Attorney General, Municipalities and Legislature apologize to the Worcester community, beginning with offering restitution to the Tory Fort/Coes Pond neighborhood. [[19]](#footnote-20) The Commonwealth possessed the unprecedented opportunity to unite across party lines to declare an emergency moratorium on installation of additional wireless infrastructure, and actively support pending litigation of the FCC. Residents of all political persuasions do not want 5G and other infrastructure in their neighborhoods and front yards.

**The MA DPU and utilities have not been integrity with communities or utility customers about the introduction of increasing radio frequency exposures, and about the collection of private data from households**

The attempt to roll out new 2-way AMI meters in Massachusetts in 2013 brought the issue of wireless exposures into focus for many residents.

As the public and their health care providers began to be more informed about the risks associated with wireless infrastructure, and as reports of harm from deployments in other states began to surface, many utility customers were surprised to learn that AMR meters on their homes were already transmitting continuously. Customers who assumed that the AMR meter was only being read once a month for billing purposes found that the meters already installed on their homes were already transmitting pulsed radio frequencies 24/7/365.

Some customers have been able to cross reference meter installation with the onset of illness, for example in Hopkinton, the site of the Nstar pilot.

The number of customers who may have experienced the onset of sleeping difficulties, headaches, heart arrhythmias, or digestive difficulties were treated via conventional medicine by practitioners who also had no knowledge of the introduction of an environmental stressor is unknown. It is possible that individuals diagnosed with multiple chemical sensitivity, Lyme, immune deficiency, neurological illness, and other chronic underlying health conditions (not limited to cancer, in an industry play out of the tobacco playbook) may be adversely affected by radio frequencies and dirty electricity.

The health impact of the installation of previous-generation AMR meters is unknown. [[20]](#footnote-21)

**Human rights: Smart meter/smart grid installation discriminates against a health-vulnerable population**

The covid crisis has demonstrated that society has a responsibility to protect health vulnerable populations.

Yet in the case of wireless utility meters, the MA DPU relied on the testimony of a mercenary tobacco scientist to override citizen health complaints. The utilities and industry appear to be discounting what they characterize as fear of new technology because they have been insidiously radiating customers for over a decade. In fact, the rates of many diseases including neurological conditions have been increasing dramatically. [[21]](#footnote-22)

**Concerns about health effects, and opt-out provision**

The MA DPU has not advocated for citizens with a health condition that necessitates them being able to limit their exposure to radio frequencies. In fact the DPU has allowed NGid to surcharge for a radio-off opt out meter that is not analogue and does not protect for power quality. Eversource has provided no accommodation whatsoever. These are both forms of discrimination based on a medical condition. (For some homeowners, multiple fees for installation and monthly meters reads are involved, even when NGrid doesn’t read the meter.)

Refer to D.P.U. Order 12-76-B, esp. pp. 36-38 and  p. 48 ff.

In D.P.U. Order 12-76-B, the Department recognizes “that some individuals feel strongly that advanced meters will have a negative impact on their health.” The Department concludes that “ the best balance of…factors is to allow electric distribution companies to include…the broad deployment of advanced meters, but to require the companies to provide customers with an option to decline the installation of advanced meters.”

Opting out of a meter installation is not a sufficient strategy to protect health vulnerable populations, especially in multi-family housing.

The Order further stipulates that the opt-out requirement applies ONLY to new advanced metering infrastructure installed in accordance with the provisions of the Order.

There are individuals in the Commonwealth with underlying health conditions that may improve with prudent avoidance. In defiance of documentation from physicians, these customers have been forced to accept radio frequency- emitting meters by utilities and municipalities. [[22]](#footnote-23)

Now D.P.U. Docket 20-69 envisions the possibility of compulsory deployment of a whole new wave of advanced meters to replace existing meters at the end of their useful  life or when replacement is needed for other reasons. DPU 20-69 also envisions elevating existing AMR meters to advanced meter functionality to accommodate TVR.

The customer concerns about the health effects of wireless radiation emitted by the advanced meters are the same for Order 12-76-B and for Docket 20-69. It is imperative that Docket 20-69 include the requirement for companies to provide customers with an option to decline both the installation of new advanced meters and also the upgrade of existing AMR meters to advanced meter functionality, for all infrastructure to be installed or upgraded in accordance with the provisions of the Docket.

It is also imperative that addition protection be provided at no charge to the ratepayer, including shielding and mitigation of high voltage frequency transients.

If the DPU proceeds with deployment of infrastructure, the DPU should prohibit lack of accommodation (Eversource), or surcharging of medically vulnerable customers (NGrid), and insure that the opt-out meter is an analogue meter, with appropriate shielding of the premises if necessary, without punitive fees.

Conclusion

The covid crisis has highlighted society's responsibility to protect health-vulnerable individuals. We must insure a healing environment for all, especially in their own homes.

The EV pilot is a wolf in sheep’s clothing designed to portray smart grids as sustainable initiatives. The real world consequences in the lives of many consumers without central air conditioning, swimming pool pumps, and electric vehicles will be very different.

The proposed EV pilot program involving wireless meters is unnecessary. The DPU has never considered the option of outreach and education alone in order to cultivate desired behaviors in consumers, but more importantly, has not given any serious credence to health and environmental impacts.

There has been inadequate regulatory response to issues involving ground current, magnetic fields, electric fields, dirty electricity, radio frequency esposures, and safety. The Commonwealth has failed to investigate complaints of infrasound, the hum,[[23]](#footnote-24) and sleep disturbance due to microwave hearing,[[24]](#footnote-25) near wind turbines and other proximal infrastructure. The Commonwealth has failed to consider the impact of the removal of trees and foliage necessitated to protect the radio frequency transmissions (as demonstrated in Worcester.)

The MA DPU, investor-owned utilities, Mayors, Governor, Attorney General, Municipalities and Legislature can take immediate action to accommodate vulnerable residents, actively support pending litigation of the FCC, unite to declare an emergency moratorium on installation of additional wireless infrastructure until independent, science-based investigation concludes, and make restitution where indicated.

Respectfully submitted,

Patricia Burke August 13, 2020

In support of efforts of Stop Smart Meters Massachusetts, HaltMAsmartmeters, Worcester Opts Out, Last Tree Laws, The Scientific Alliance for Education, Massachusetts for Safe Technology,

In memory of Kevin Harvey 1948-2020

1. <https://www.pacificresearch.org/government-electric-car-subsidies-are-costly-subsidies-for-the-rich-finds-new-study/> [↑](#footnote-ref-2)
2. <https://www.transportxtra.com/publications/local-transport-today/news/66262/mass-ev-charging-is-a-can-of-worms-hiding-under-the-bonnet-> [↑](#footnote-ref-3)
3. <https://www.sciencedirect.com/science/article/pii/S2590116819300050#:~:text=The%20lithium%20ion%20battery%20is%20widely%20used%20in,the%20EV%20including%20the%20cost%20and%20life%20span.> [↑](#footnote-ref-4)
4. <https://www.corporateknights.com/channels/transportation/ev-revolution-needs-batteries-ethical-15795118/> [↑](#footnote-ref-5)
5. Electronic waste grew 21 percent in five years

 <https://www.theverge.com/21309776/record-amount-ewaste-2019-global-report-environment-health>) [↑](#footnote-ref-6)
6. Major vulnerability': EV hacks could threaten power grid

<https://www.eenews.net/stories/1063401375> [↑](#footnote-ref-7)
7. <https://smartgridawareness.org/2018/10/27/killing-the-grid/#more-16284> [↑](#footnote-ref-8)
8. <http://bit.ly/1kAYSu7> [↑](#footnote-ref-9)
9. <https://ecfsapi.fcc.gov/file/1061793938659/COMMENTS_BostonMA.pdf> [↑](#footnote-ref-10)
10. https://ehtrust.org/eht-takes-the-fcc-to-court/ [↑](#footnote-ref-11)
11. Background on FCC’s Safety Guidelines:

In 1996, the FCC adopted safety guidelines which only protect consumers from thermal levels of radiation emitted by wireless devices and infrastructure, ignoring substantial evidence of profound harm from non-thermal levels. The FCC has not reviewed these guidelines since then, despite clear scientific evidence and growing rates of radio frequency-related sickness. In 2012, the Government Accountability Office of Congress published a report recommending that the FCC re-assess its guidelines. As a result, in 2013, the FCC opened docket 13-84 asking for public comment. Despite overwhelming evidence submitted by hundreds of individuals and scientists, which indicated an urgent need for new, biologically based rules, the FCC decided not to review its guidelines. Consequently, on Feb. 3, Children’s Health Defense filed a lawsuit challenging the FCC’s decision.

https://www.globenewswire.com/news-release/2020/07/30/2070583/0/en/Principal-Brief-Filed-in-Landmark-Case-Against-FCC-on-5G-and-Wireless-Health-Impacts.html [↑](#footnote-ref-12)
12. **Boston, LA Ask DC Circ. To Review FCC 5G Order** Law360 (August 11, 2020, 7:40 PM EDT) -- Several major U.S. cities, including Boston and Los Angeles, are asking the D.C. Circuit to review a [Federal Communications Commission](https://www-law360-com.libproxy.berkeley.edu/agencies/federal-communications-commission) order limiting local governments' authority to delay equipment upgrades in the agency's effort to expedite the deployment of 5G networks. Sixteen cities, several counties, the U.S. Conference of Mayors and other local groups said in their petition for review on Monday that the FCC's June ruling — which sought to speed up the pace of local regulatory approvals for 5G mobile sites under local building and zoning rules — exceeded the commission's "statutory authority." The petitioners claim the ruling was "arbitrary and capricious" and an "abuse" of the FCC's discretion. The filing also claims the ruling violates the Communications Act of 1934, the Administrative Procedure Act and the Constitution.
On June 9, the FCC unveiled its ruling that aimed to speed up 5G deployment across the country by clarifying the agency's rules on state and local government reviews of modifications to existing wireless infrastructures.
<https://www.law360.com/articles/1300366/boston-la-ask-dc-circ-to-review-fcc-5g-order> [↑](#footnote-ref-13)
13. Health risks from radiofrequency radiation, including 5G, should be assessed by experts with no conflicts of interest

<https://www.spandidos-publications.com/10.3892/ol.2020.11876> [↑](#footnote-ref-14)
14. https://www.5gcrisis.com/post/swiss-re-classifies-5g-as-a-high-impact-liability-risk

<https://www.swissre.com/institute/research/sonar/sonar2019.html> [↑](#footnote-ref-15)
15. <http://emfsafetynetwork.org/smart-meters/smart-meter-health-complaints/> [↑](#footnote-ref-16)
16. <https://www.mainecoalitiontostopsmartmeters.org/wp-content/uploads/2013/01/Exhibit-11-Hart-Web.pdf> [↑](#footnote-ref-17)
17. References can be provided upon request. [↑](#footnote-ref-18)
18. Ohio: ComEd Agrees to $200M Fine on Federal Bribery Charge

The Chicago-area utility has struggled with key clean-energy and grid-modernization plans amid a scandal

<https://www.greentechmedia.com/articles/read/comed-agrees-to-200m-fine-on-federal-bribery-charge>

Illinois: Eye on Illinois: In wake of scandal, scrutiny of past utility legislation is essential

<https://www.daily-chronicle.com/2020/07/27/eye-on-illinois-in-wake-of-scandal-scrutiny-of-past-utility-legislation-is-essential/ab1es1f/>

Michigan: FirstEnergy scandal is latest example of utility corruption, deceit

Utilities have deceived public officials and investors to grow profits, occasionally leading to criminal investigations and prosecution.

<https://www.energyandpolicy.org/utility-corruption/> [↑](#footnote-ref-19)
19. Photos of substation damage available upon request [↑](#footnote-ref-20)
20. It is possible that an epidemiological study could be conducting by providing disclosure of transmitting water, gas, and electric meter functionality juxtaposed with health records. [↑](#footnote-ref-21)
21. References available upon request. [↑](#footnote-ref-22)
22. One Massachusetts municipal water customer is without running water because she attempted to opt out of a smart water meter on the advice of multiple health care providers. [↑](#footnote-ref-23)
23. <https://sandaura.wordpress.com/> [↑](#footnote-ref-24)
24. Hearing of Microwave Pulses by Humans and Animals: Effects, Mechanism, and Thresholds   James C Lin 1 , Zhangwei Wang

The hearing of microwave pulses is a unique exception to the airborne or bone-conducted sound energy normally encountered in human auditory perception. The hearing apparatus commonly responds to airborne or bone-conducted acoustic or sound pressure waves in the audible frequency range. But the hearing of microwave pulses involves electromagnetic waves whose frequency ranges from hundreds of MHz to tens of GHz. Since electromagnetic waves (e.g., light) are seen but not heard, the report of auditory perception of microwave pulses was at once astonishing and intriguing. Moreover, it stood in sharp contrast to the responses associated with continuous-wave microwave radiation. Experimental and theoretical studies have shown that the microwave auditory phenomenon does not arise from an interaction of microwave pulses directly with the auditory nerves or neurons along the auditory neurophysiological pathways of the central nervous system. Instead, the microwave pulse, upon absorption by soft tissues in the head, launches a thermoelastic wave of acoustic pressure that travels by bone conduction to the inner ear. There, it activates the cochlear receptors via the same process involved for normal hearing. Aside from tissue heating, microwave auditory effect is the most widely accepted biological effect of microwave radiation with a known mechanism of interaction: the thermoelastic theory. The phenomenon, mechanism, power requirement, pressure amplitude, and auditory thresholds of microwave hearing are discussed in this paper. A specific emphasis is placed on human exposures to wireless communication fields and magnetic resonance imaging (MRI) coils.   <https://pubmed.ncbi.nlm.nih.gov/17495664/> [↑](#footnote-ref-25)