



SMART METERS

VIRGINIANS FOR SAFE TECHNOLOGY, LLC

AUGUST 5, 2022

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VA4ST'S MISSION

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AGENDA

- **BACKGROUND ON WHY AMI SMART METERS NOW ?**
- **VOCABULARY TO LEARN**
- **ELECTROMAGNETIC SPECTRUM**
- **WHAT IS A SMART METER?**
- **DOMINION'S SMART METER NOTICE FOR CUSTOMERS**
- **ITRON I-210+C AMI SMART METERS FOR VA 2022**
- **WHAT'S DIFFERENT ABOUT NEW AMI ELECTRIC UTILITY METERS?**
- **AMI DISTRIBUTION DIAGRAM**
- **ARE AMI SMART METERS SAFE?**
- **COMMON SMART METER BIOEFFECTS**
- **SMART METER RESOURCES ABOUT SMART METER SAFETY**
- **SMART METER TECH PROBLEMS**
- **OPT OUT FORMS AND RECOMMENDATIONS**

WHY SMART METERS NOW?

- Ongoing pilot demonstration project since around 2009
- Installed in only certain parts of Virginia until January 7, 2022
- State Corporation Commission (SCC) approved Dominion Energy Virginia's (DEV) petition in case **No. PUR-2021-00127** after 2 prior rejections
- This is Dominion's 2021 grid transformation plan for Distributed Energy Resources (solar, wind, etc.) and electric cars (170,000 by 2030)
<https://www.scc.virginia.gov/DocketSearch#caseDocs/142210> and
<https://reisingergooch.com/virginia-energy-regulatory-update-august-2021/>
- Approved mainly due to time of use pricing structures
 - **Smart meters will never save customers money or energy!**
 - See <https://stopsmartmeters.org/?s=pricing> and
<https://scc.virginia.gov/docketsearch/DOCS/6byy01!.PDF> (1/7/22)

VOCABULARY

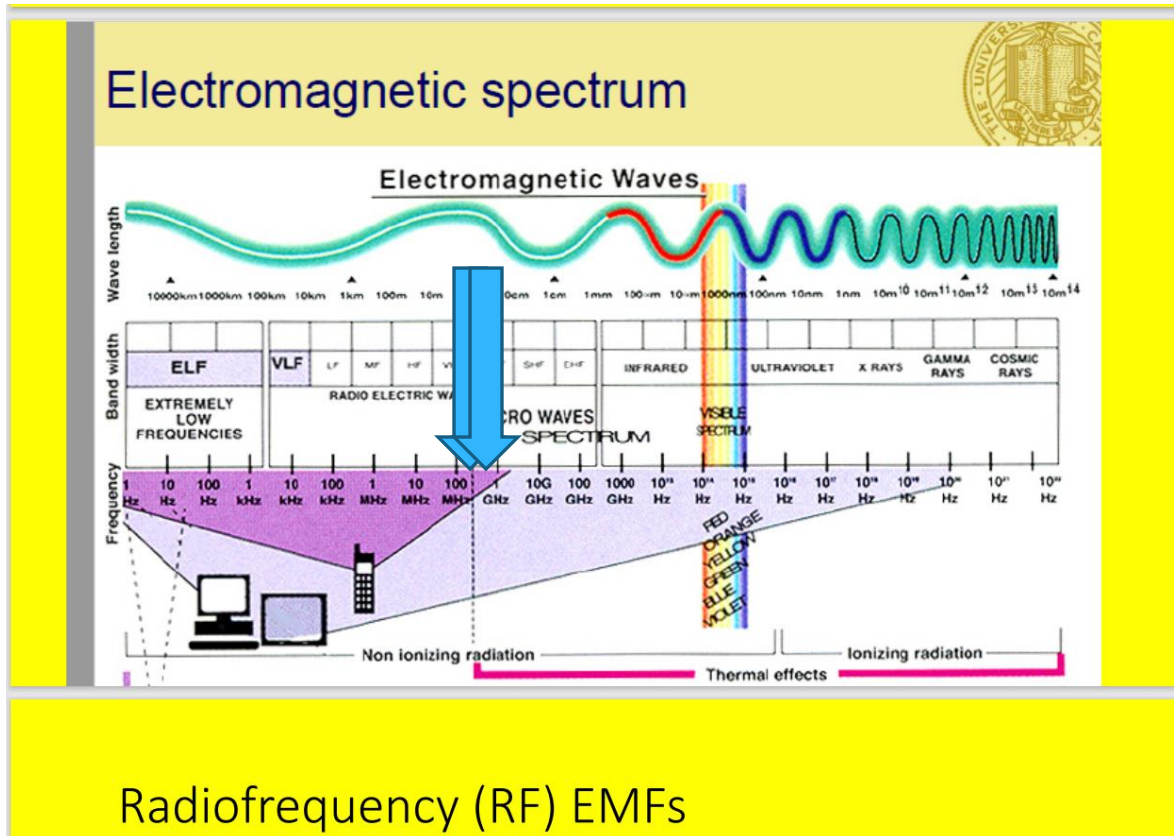
- Zigbee radio (2.4 GHz)
 - Sub GHz radio (910 MHz)
 - Wireless mesh
 - Collector site
 - Repeater site
 - Field area network
 - Radio frequency radiation
 - State Corporation
 - Commission/DPOR/FCC
- FCC Part 15 device (OET Bulletin 63)*
 - AMI/Grid transformation
 - 5G IoT/Femtocell or microcell
 - Distributed Energy Resource (DER)
 - National Electric Code (NEC)
 - Electromagnetic Spectrum
 - Hertz and Wavelength
 - Dirty Electricity (SMPS 3 khz-50 khz)
 - Microwave Sickness (EMS)

*https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet63/oet63rev.pdf

WHAT IS AN AMI SMART METER?

A 2-way radio using 2 different frequencies in the electromagnetic spectrum

<https://ehtrust.org/wp-content/uploads/Dr.-Carpenter-AMI-Meter.pdf>



Wi-Fi @
910 Mhz
2.4 Ghz

WHAT IS AN AMI SMART METER?

(Advanced Metering Infrastructure)

- An electric utility meter that measures electricity usage in intervals or at least every 30 minutes up to 190,000/day
- A 2-way radio device using 2 frequencies
- A data recorder and reporter of your private data
 - Electrical signatures reveal what you are doing hour by hour – data is mined by 3rd parties for sending you ads
 - Easily hackable, not cybersecure, burdens power grid
- IoT 5G microcell interfaces with 5G macrotowers
- A safety and fire hazard without any independent oversight

WHAT IS AN AMI SMART METER?

- Examples of the information captured by smart meters include:
 - Energy usage, demand
 - Voltage, meter temperature
 - Real-time information regarding the operational status
 - Self-diagnostics
 - Power quality.....Dirty Electricity???
 - Condition of the electric grid at the customer premises
- Smart meters are equipped with a network interface card and communicate with each other, creating what is referred to as a mesh network. The higher the density of smart meters, the stronger the mesh network.

WHAT IS AN AMI SMART METER?

A smart meter is.....

***“unwanted by consumers, devoid of credibility
and mind-blowingly expensive”¹***

and

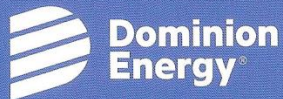
***“An Unjustified, Over-Engineered, & Expensive
Mistake”²***

^{1,2}<https://stopsmartmeters.org/2015/04/06/uk-business-institute-smart-meters-are-an-unjustified-over-engineered-expensive-mistake/>

DEV NOTICE TO CUSTOMERS

**Just like our linemen,
our new Smart Meters
will work hard for you**

By upgrading to new, advanced metering technologies, we're investing in infrastructure and providing benefits to our customers.



DEV NOTICE TO CUSTOMERS

Smart Meters: our newest metering technology for managing energy.

You're due for an upgrade. Soon, Dominion will be exchanging existing meters in your area for new Smart Meters. Why? To continue providing you with better service—like more reliable delivery of energy, better power-outage detection, faster problem resolution and remote meter reading. Smart meters also allow you to view your daily energy usage and participate in pricing plans which help you manage energy and costs.

The meter upgrade will require only a momentary power interruption; no need for you to make an appointment or be present during the exchange.*



For more information, including how to view your daily energy usage, please visit DominionEnergy.com/SmartEnergyv

The meter upgrade will occur at:

For questions regarding smart meters, call 866-566-6436, Monday-Friday 8 AM to 5 PM

*If physical access to the meter is restricted, call 844-562-9472, Monday-Friday 8 AM to 8 PM or Saturday 8 AM to 5 PM to schedule an appointment for the exchange.

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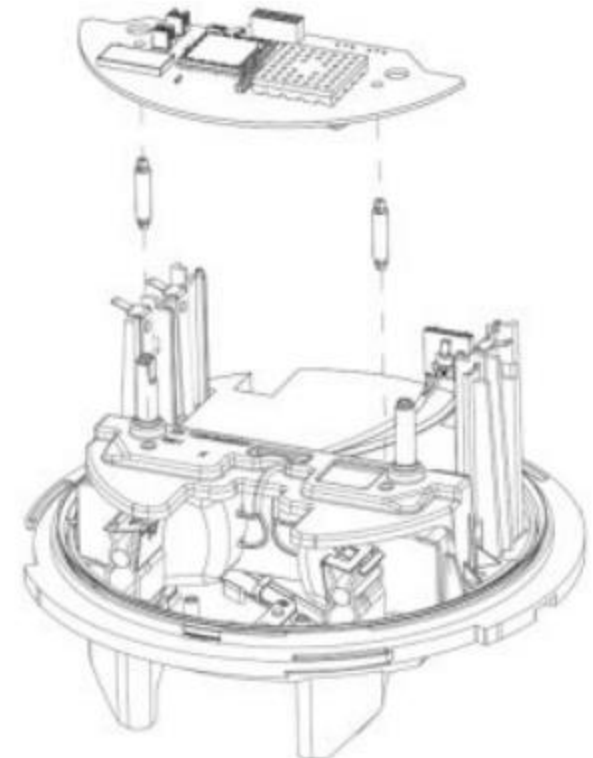
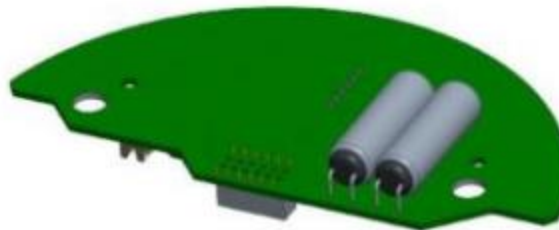
DEV NOTICE TO CUSTOMERS

- **“The meter upgrade will require only a momentary power interruption; no need for you to make an appointment or be present during the exchange”**
 - Installing meters with the electricity on or “hot” creates multiple electrical hazards and unsafe conditions
 - DEV claims they are exempt from the National Electric Code, Article 90.2b
 - VA4ST filed DPOR Complaint Case No. 2022-02413 to request installation with de-energized circuits to protect property rights and to mitigate fire and safety hazards
 - VA4ST requested building inspector oversight when needed or requested

ACLARA SMART METERS

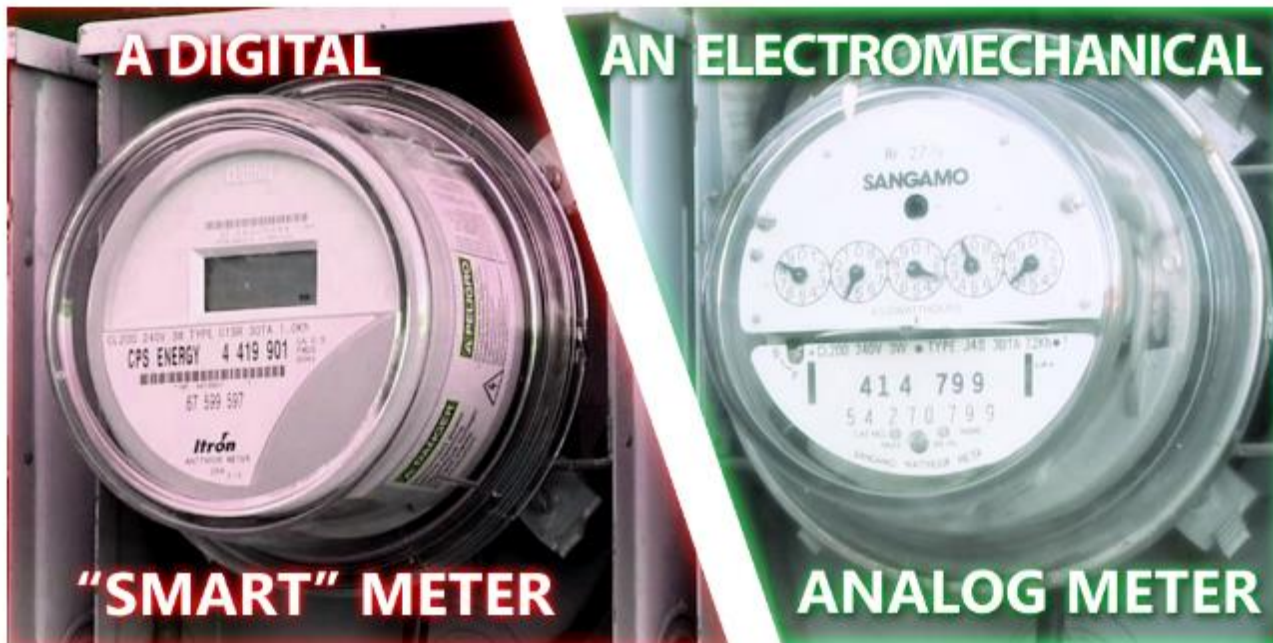
<https://manuals.plus/aclara/i-210c-smart-electricity-meter-manual.pdf>

➤ Aclara ITRON I-210+C AMI SMART METERS



WHAT'S DIFFERENT ABOUT NEW AMI ELECTRIC UTILITY METERS?

<https://stopsmartmeters.org/frequently-asked-questions/faq-smart-meter-basics/>



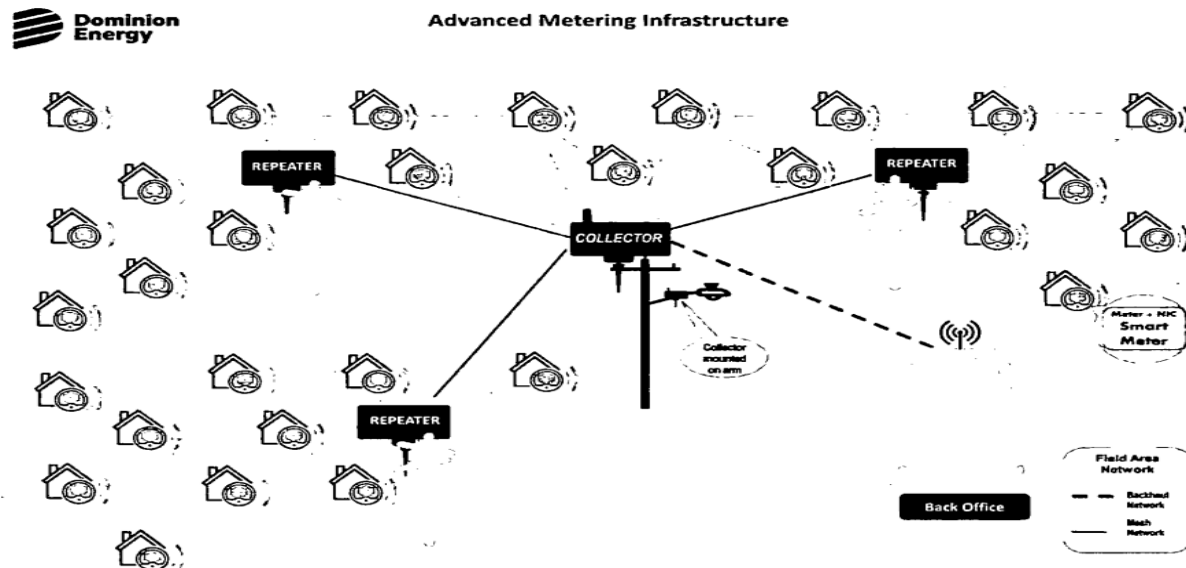
AMI DISTRIBUTION DIAGRAM

Source :

<https://scc.virginia.gov/docketsearch/DOCS/53vb01!.PDF>

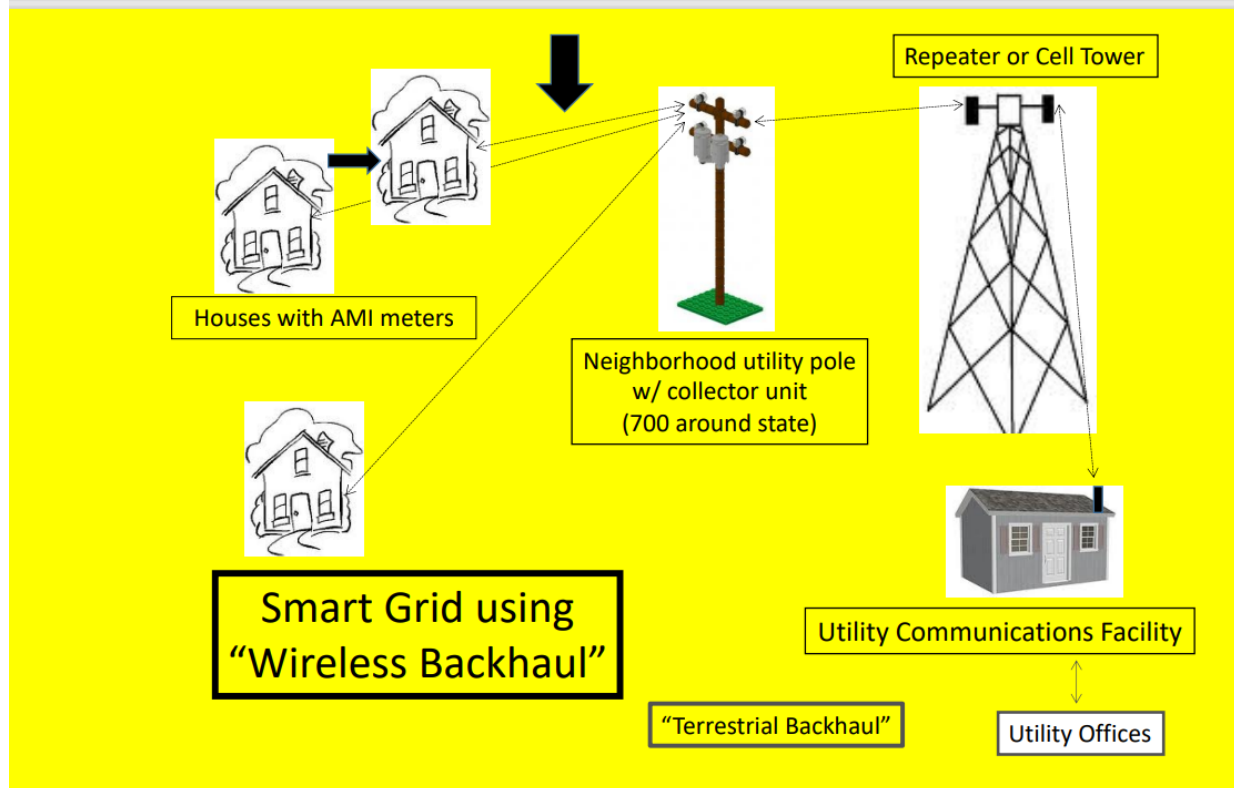
Company Exhibit No. ____
Witness: AJ
Schedule 1
Page 2 of 2

Figure 1: Advanced Metering Infrastructure



AMI DISTRIBUTION DIAGRAM

<https://ehtrust.org/wp-content/uploads/Dr.-Carpenter-AMI-Meter.pdf>



MESH NETWORK

<https://www.powermag.com/new-ge-digital-tool-part-of-grid-management-advancements>



MESH NETWORK

<https://eu.landisgyr.com/blog/5-considerations-for-advanced-metering-infrastructure?hsLang=en-gb>

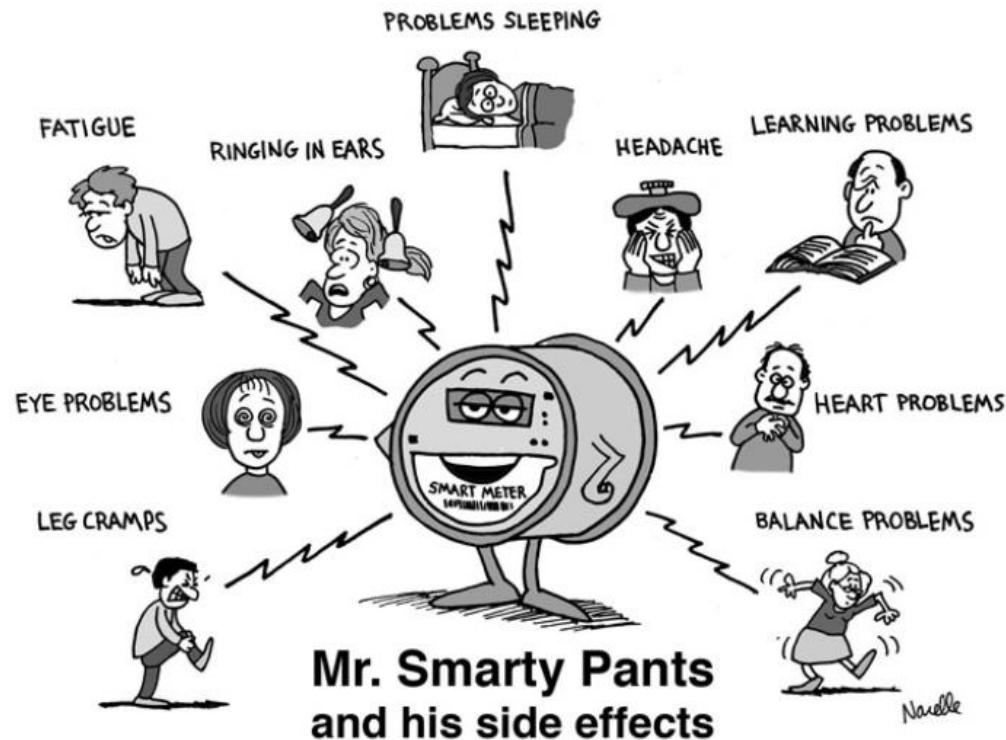


MESH NETWORK

<https://www.greencitytimes.com/smart-city-technologies/>



COMMON RF/WIFI BIOEFFECTS



<http://emfsafetynetwork.org/wp-content/uploads/2015/04/Overview-of-PGECPUc-emails-on-smart-meters.pdf>

SMART METER PROBLEMS

- **Lack of surge protection**
- No direct path to ground
- National Electrical Code 240 violation
- No Protective Device Coordination Study
- “Catastrophic failure” – a new meter failure mode
- **Overheating • Inferior materials (resin insulator on switch contact melts!)**
- Burned meter-to-meter-box contacts
- **Faulty remote disconnect switch**
- **Arcing**
- Circuit boards in electric meters
- Melting solder can create new circuit board pathways⁷
- Meters don’t fit sockets • Thinner blades⁷ • Pitting
- Malfunctioning temperature alarms and sensors
- Switching mode power supply (SMPS) surges and appliance damage
- RF signal and SMPS transients routed onto building wiring
- **Interference with AFCIs/GFCIs (disables them with a ‘false trip event’)**
- **Moisture, heat, and flammable Lithium batteries (can leak too)**

SMART METER PROBLEMS

- Risks from AMI/AMR water meters
- **UL certification of meter models that cause fires**
- Flawed FCC requirements and testing
- Inadequate worker qualifications and training, poor installation quality
- **Vulnerability to hacking**
- Danger due to meter location • Vibration and heat in building materials from RF emissions
- Accelerated corrosion
- Violation of FCC Grants of Equipment Authorization

SMART METER RESOURCES

- http://sagereports.com/smart-meter-rf/?page_id=429
 - * Smart meters can exceed the Maximum Permissible Exposure Limits
- www.emfsafetynetwork.org
 - Sebastopol's local ordinance 1057 banned smart meters since 2013 and recently got overturned in December 2021 due to "**climate washing**" and is a marketing spin to claim that energy is being saved and reducing green house gases, a green initiative
 - Smart meter fires and explosions are common. See <http://emfsafetynetwork.org/smart-meters/smart-meter-fires-and-explosions>
 - Nina Beety's Smart Meter Overview white paper (July, 2019) <https://smartmeterharm.files.wordpress.com/2019/07/fire-and-electrical-hazards-report.pdf> (*Fire and Electrical Hazards from 'Smart', Wireless, PLC, and Digital Utility Meters*)
 - EMFsafetynetwork is filing a lawsuit and is hiring Ariel Strauss to represent them
- <https://gettingsmarteraboutthesmartgrid.org>
 - Tim Schoechle's paper "Getting Smarter about the Smart Grid" contains 9 key points that are problems with current electricity approach. Download here: <https://gettingsmarteraboutthesmartgrid.org/pdf/Smart%20Grid%20Report%203-15-13.pdf>
- <https://stopsmartmeters.org>
- Environmental Health Trust: <https://ehtrust.org/smartmeters-health-and-safety-faqs/>
- <https://ehtrust.org/wp-content/uploads/Carpenter-Letter.pdf> Dr. Carpenter Letter, bioeffects similar to cell phones
- Children's Health Defense: <https://childrenshealthdefense.org/defender/chd-amicus-brief-supreme-court-pennsylvania-reject-smart-meters-mandate/>

RECOMMENDATIONS

<https://ehtrust.org/wp-content/uploads/Dr.-Carpenter-AMI-Meter.pdf>



American Academy of Environmental Medicine

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Tel: (316) 684-5500 • Fax: (316) 684-5709

www.aaemonline.org

American Academy of Environmental Medicine Recommendations Regarding
Electromagnetic and Radiofrequency Exposure

- The AAEM recommends that:
- Patients with (certain) medical conditions and disabilities be accommodated to protect their health.
- No Smart Meters be on these patients' homes;
- Smart Meters be removed within a reasonable distance of patients' homes depending on the patients' perception and/or symptoms;

RECOMMENDATIONS

- Request a DEV Opt-Out form
- Review all versions of Opt-Out forms to **select the right one for you** (short or long forms available)
- Fill out your selected version of the Opt-Out form and mail it in after you receive Dominion's install notice (**don't use Dominion's as is**)
- You can request **removal of a smart meter** after you get them installed AND no reason for the Opt-Out has to be given at this time
- If medically needed, also fill out Dominion's medical cert form to get potential future **Opt-Out surcharges waived –may have to file w/SCC**
- Request Dominion to also remove other smart meters within a reasonable distance from your home if you are EMS
- Submit **medical cert** when Opt-Out surcharges go into effect

<https://cdn-dominionenergy-prd-001.azureedge.net/-/media/pdfs/virginia/service/medical-condition-form.pdf?la=en&rev=e90e3dd8cd5b40be89ee0b7c4cc7ea24>

OPT OUT FORMS

Dominion Energy Virginia is committed to providing safe and reliable energy to our customers by investing in our infrastructure. As part of this commitment, we are currently upgrading to smart meters in your area.

This letter is in response to your inquiry for more information about the **Interim Non-Communicating Meter Option (Residential "Opt-Out")**. If you decide to opt-out, the meter at your location will be replaced with non-communicating equipment. The non-communicating meter does not have any data storage features or two way communication functions enabled. As a result, it will be necessary for a meter reader to obtain a visual meter reading monthly.

Smart meters allow innovative features to:

- give you more control over how you use energy by providing you with information about energy usage;
- notify Dominion Energy Virginia when your power is out and back on for efficient restoration; and
- offer flexible, alternative pricing structures based on usage data.

Please find a summary comparing smart meters (communicating) to the opt-out program meters (non-communicating).

Comparison of Meter Features

	Standard Smart Meter (Communicating)	Opt-Out Program Meters Non-Communicating Meter
Remote Outage Detection	Yes	No
Remote Service Connection	Yes	No
Customer Pricing Plan Options	Yes	No

Currently, Dominion Energy does not charge any special installation or usage fees to customers who choose the Interim Non-Communicating Meter Option; however, since manual monthly meter readings are required for these non-communicating meters, Dominion Energy Virginia may propose recovering expenses in the future. Such fees are subject to approval by the State Corporation Commission of Virginia (SCC) and, if approved, Dominion Energy Virginia will inform all participants of the Interim Non-Communicating Meter Option.