

Joseph Beerens & Suzanne Meyer  
1137 Cornell Street  
15212

21 September 2018

Rosemary Chiavetta Secretary  
PA PUC  
Commonweath Keystone Building  
400 North Street  
2<sup>nd</sup> Floor Room N201  
Harrisburg, PA 17120

Re Joseph Beerens & Suzanne Meyer vs DUQUESNE LIGHT COMPANY  
Docket No C-2018-3002554

Dear Secretary Chivetta,

Attached please find a document with seventeen discovery questions which the claimants are requesting from Duquesne Light.

We were given 20 days to respond to similar discovery questions, so we are granting the same time amount to the respondent.

A copy of these questions is being sent to Duquesne Light's Attorneys per Commission regulations. If there is any further information or procedure needed for these questions to be granted answers, please respond back, and we will endeavor to provide anything needed.

Respectfully,

Joe Beerens  
Suzy Meyer

Cc: Shane Miller Tucker Arensburg

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BEFORE THE  
PUBLIC UTILITY COMMISSION

Joseph Beerens &  
Suzanne Meyer - complainants

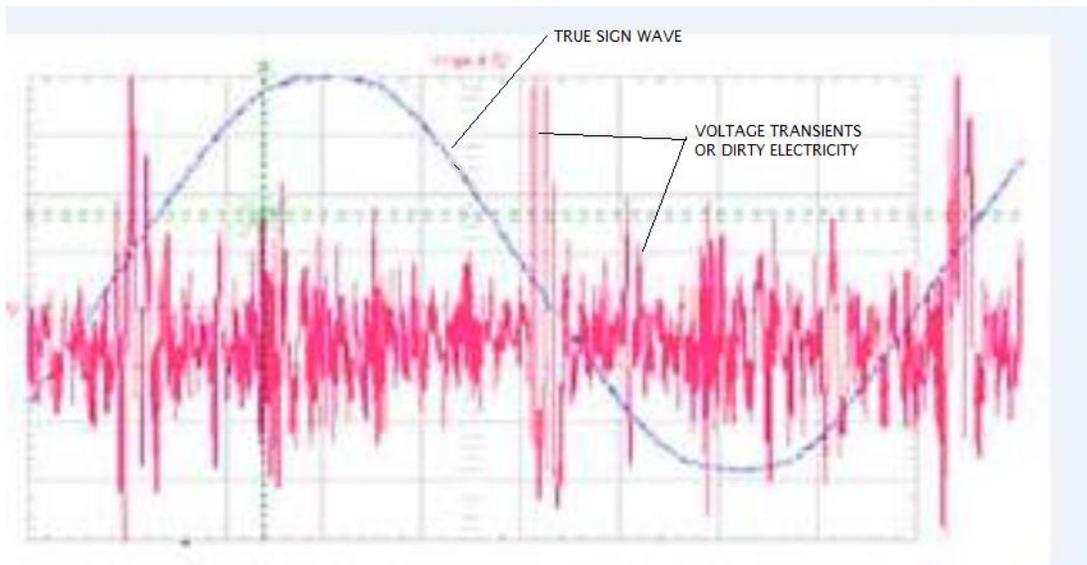
Vs

DUQUESNE LIGHT COMPANY – Respondent

Case no: C-2018-3002554

The following is discovery requests by the complainants as a result of having to provide discovery replies to questions issued by Duquesne Light's attorneys. Please provide the detailed and technical information requested using any and all resources from Duquesne Light's financial, operations and engineering departments, smart meter vendor information and certified testing results.

1. The Open Way Itron Smart Meter (SM) uses a switching mode power supply which converts incoming 240 volt electricity to low voltages used by the meter. This type of power switching causes high frequency voltage transients or fuzzy oscillations rather than a true sine wave to flow through the wiring throughout the building. This is known as 'Dirty Electricity'. What type of filter is provided to prevent this meter from injecting 'Dirty Electricity' into the wires of the building the meter serves?



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2. The Open Way Itron SM uses a spread spectrum technique to transmit signals. This system shifts frequencies if it has a collision with another signal. In a dense neighborhood where all houses have SM's, the numbers of collisions increase causing the meters to re transmit their information over and over. This creates an environment of 'radio soup' EMF. The transceivers operate at 900 MHz and 2.4 Ghz. A peer reviewed Study by Cold Spring Harbor Laboratory has found that prolonged exposure to 900 Mhz RF produced malignant lesions in the brains of rats. (see study attached) What steps if any has Duquesne Light and the Public Utility Commission taken to avoid such possible health risks to humans given the situation that dense metering in cities like Pittsburgh creates?

3. Environmental Protection Agency (EPA). 2002: Norbert Hankin of the EPA's Office of Air and Radiation, Center for Science and Risk Assessment, Radiation Protection Division, wrote: "The FCC's current [radio frequency/microwave exposure guidelines, as well as those of the Institute of Electrical and Electronics Engineers (IEEE) and the International Commission on Non-ionizing Radiation Protection, are thermally based, and do not apply to chronic, non-thermal exposure situations.... The generalization by many that the guidelines protect human beings from harm by any or all mechanisms is not justified....There are reports that suggest that potentially adverse health effects, such as cancer, may occur."

Since incoming electricity is constantly on, and can only be shut off by turning off all incoming power at the electrical panel, what precautions does Duquesne Light take to prevent non thermal radio frequency (dirty electricity) and microwave exposure from the Open Way Itron SM from affecting customers' health?

4. The Open Way Itron SM has many circuit boards, plastic housings, and other plastic parts. The mass of plastic appears to equal or even exceed that of a regular Analogue Meter which uses Bakelite plastic in its construction. Electrical grade Bakelite plastic does not melt and does not support a flame.

a. For the Open Way Iron SM, what type of plastics and melting temperature of each is used in the circuit boards? Is the type of plastic used, flammable?

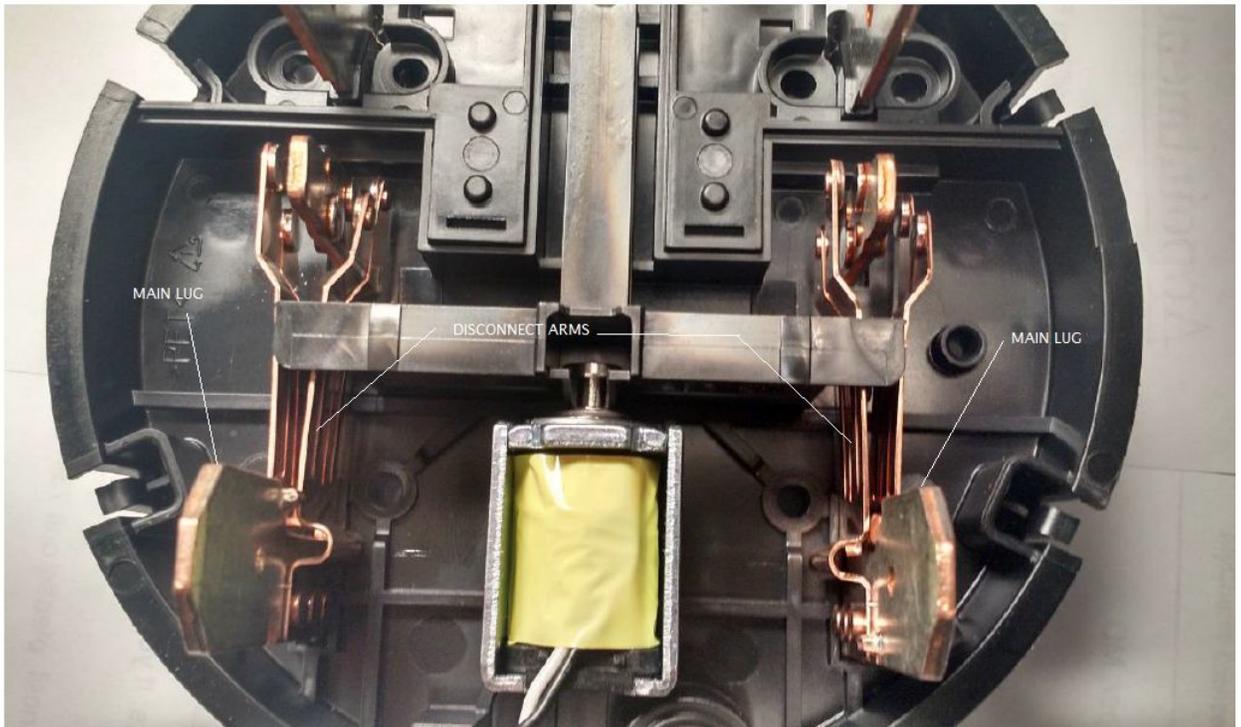
b. For the Open Way Iron SM, what type of plastic and melting temperature is used in the cast housing parts? Is the type of plastic used, flammable?

5. The Open Way Itron SM has a remote shut off feature using a 24 volt solenoid actuator that separates a set of copper contact arms from the main copper lugs of the incoming power.

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- a. What maximum safe wattage can this set of copper contact arms support?
- b. Provide the cross sectional copper area, in circular mils, of each typical copper contact arm assembly.

## The ITRON Meter Power Disconnect



6. Has the Federal Government or State Government provided grant awards or other funding to Duquesne Light or to the Public Utility Commission to implement the installation of Smart Meters?
  - a. Is the smart meter implementation self-funded by Duquesne Light, or are there other sources of funding?
7. The Open Way Itron SM uses a Zigbee Home Area Network chip to send the packets of information collected by the meter which is capable of interacting with digital and other electrical devices in the home. The ostensible purpose of The Open Way Itron SM is to be an interactive information collecting device inside the home to measure electricity use habits by harvesting real time information of electrical usage at the points of consumption.
  - a. At what intervals does this real time data get reported back to the utility?
  - b. How is this information used, once received?

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- c. What benefits to the customer does this new metering architecture provide?
  
8. What time measurement interval is necessary for DL to bill customers based on KwHours of electricity used on a monthly basis?
  
9. Does Duquesne Light have in place any sub-station monitoring systems or SCADA (supervisory control and data acquisition) switching, micro-processor controls or other system wide devices to help manage and optimize loads, mitigate outages, and optimize the use of generation assets in real time?
  - a. Describe such systems if any are in place.
  
  - b. How is the SM architecture integrated into any of these systems?
  
10. SM interactive information gathering of appliance and device identification and energy usage over real time of day, creates a unique 'energy profile' of each dwelling and the occupants. This would mean that the utility's employees would know when any given dwelling is not using electricity and logically suppose the home is unoccupied.
  - a. Does this pose a burglary threat to home owners?
  
  - b. What bonding will the utility carry on its employees, privy to this information, to protect the privacy of homeowners from this information being misused or sold to criminal elements?
  
11. Does Duquesne Light aggregate and or sell smart meter harvested information to third parties or allow outside companies to make use of this 'energy profile' information?
  
12. Is there a revenue stream generated for the Utility using this harvested information?
  
13. Is this harvested information stored?      And if so, for how long before being discarded?
  
14. How many new employees has Duquesne light engaged to deal with this enormous amount of data that will be constantly flowing into the company?
  
15. Analogue meters operate off eddy currents present in the incoming power, and require no direct electricity to operate. Based on his personal experience, it has been measured and calculated by a highly qualified electrical engineer, William Bathgate (a senior engineer at Emerson Electronics), the switching mode power supply that the Itron Open Way SM employs to

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operate, averages 2.37 KWh of electricity per day even with zero usage by the customer. At DL's current average rate of \$.18 per KW that would equal \$.42 per day or roughly \$155.70 per year.

- a. Does DL reimburse the customer for this amount?
  - b. And if not, has this meter operational charge been submitted to the PUC and been approved by them, and NOTICE sent to all DL customers of this added charge to their yearly bill for the privilege of having a smart meter on their home?
16. What is the projected service life of the ITRON Open Way SM?
17. What is the average service life of the analogue meters being replaced?