BEFORE THE

PENNSYLVANIA PUBLIC UTILITY COMMISSION

MARIA GONDA CAIACCIA	:	
v.	:	No. F-2011-2263256
DUQUESNE LIGHT COMPANY	:	

EXCEPTIONS OF MARIA GONDA CAIACCIA, complainant

In the Initial Decision of Administrative Law Judge, Long fact # 9 on page 4 reads: "The Complainant's meter is typically read on the 12th or 13th of each month. For example, the Complainant's bill which was due May 4, 2011, was for electricity consumption between March 14, 2011 and April 12, 2011. Her meter recorded 996 kWh of consumption. (Duquesne Light Exs. 2, 6; Complainant Ex. A-5)"

This number of 996 kWh is the most mystifying. For the life of me, I would not know how to burn this much electricity in the warm month of March and April. My radiators do not work in warm weather. It is a safety feature built into its design that it turns itself off when the temperature is over 65 degrees, the blinking light indicates that is time to pull the plug because the heat will not come on. This safety feature is necessary for the radiator as a closed unit unlike its distant cousin the space heater that is an open unit where the heating elements are visible and the fen blows in any kind of weather. What would constitute a preponderance of evidence if a state-of-the-art heater built by Honeywell and equipped with electronic sensor that exceeds industry standard would not do?

Duquesne Light employees stop at nothing in cheating targeted customers just as they are beset with hardship. One of them was in my basement fourteen years ago when I was complaining about high electric bills. My husband was institutionalized with Alzheimer's disease and I was with him six, eight hours every day. There was a decrease in all utility use because the house was always dark and cold. Yet the bills are kept increasing. The employee in my basement gave me a preposterous statement that I never forget. I have a high bill, he said, because I am losing electricity to the ground.

My situation is similar to that of my husband's fourteen years ago. The numbers of kWh are increasing contrary to my actual use and to the rules of mathematics. The electric bills show thousands of kWh as if the radiator would use power in every minute of every hour for 24 hours. This is not true. For being a closed unit, a continuous heat would cause it to self-destruct. Just as incessant heat under a pressure cooker without a steam release would get it air-born and explode. For safety reason, the radiator is designed to cycle, it turns itself on and off in every hour after having the power on for a minute or two. This property makes the radiator both safe and economical. The cycles are audible by a click and visible by a light on the panel.

Let us calculate two minutes power usage for an hour that would come to 48 minutes for a 24 hour period. The nights are colder than the days, so for a 12 hour period, the cycles would be three minutes long. Thus, the total power usage for a 24 hour period is one hour per radiator. Let us calculate further for a period of one month on high setting of 900 Watt, that is the output of heat for one hour, just less than 1 kW. Although I seldom use this, my setting is usually 600 Watt. 31 x 900 = 27900, that is 27 kW and 900 Watt. For the three radiators: 27900 x 3 = 83700, that is 83 kW and 700 Watt. Adding to this 6 kW for the use of other appliances would come to 89kW and 700 Watt. Let us round up this number to 100 kW and add 60 kW just in case I missed something to include, my total electric power usage in a winter month is 160 kW.

How does this number compare to Duquesne Light bill for March and April of 2011 that shows I used 996 kW? I use that much electricity in all three winter months

combined. It is clear as daylight for anyone to see, I am not paying for kWh rather for some mysterious duquesneWatthours or usuryWatthours. What would constitute preponderance of evidence if not the rule of mathematics?

James Watt (1736-1819) Scottish engineer, inventor and one of the pioneers of the Industrial Revolution, worked in the development of steam engine that conquered the world. He also made precise measurements of electrical power in a circuit when electricity was still a novelty. In deference to him, we attach his name to the expression of electrical power required to operate a given appliance. His name was proposed by German born Wilhelm von Siemens in 1882, in England, who was an engineer and inventor himself, and later became Sir William.

For this small amount of electricity, the radiator heats an entire room. This is achieved by its ingenious design aiming to increase its surface relative to its circumference. The large surface creates enough temperature difference with its environment to give rise to a spontaneous physical phenomenon called convection. Convection is a perpetual dynamic force, an upward draft of warm air that has magnitude and velocity. Between cycles, when the electric power is not in use, convection continues to warm the room. This physical property achieved by a system of pipes and fins that makes the radiator highly efficient and economical. Its efficiency and economy can best be illustrated by the car radiator with which we are all familiar. It cools the engine so efficiently that we could not drive the car without it. It is economical too because it uses no energy other than having it filled up with fluid. Its system of pipes and myriad of fins makes up a large surface that is larger than the surface of the engine. The temperature difference between the two surfaces creates heat transference of dynamic force called convection, and it is free. The economy, efficiency and purity, devoid of any pollution, of the radiator that heats the room, are second to none. What would constitute preponderance of evidence if not this law of physics?

The ingenious design of the radiator comes from the Industrial Age when everything was powered by steam. Engineers like Watt, Stevenson and others discovered a miracle that was the power of steam under pressure. Locomotives with enormous engines pulled mile long trains, giant ships like the Titanic were cruising the oceans. On the smaller scale, steam under pressure killed every microorganism that made aseptic surgery possible. Before, it was just a bloody rubber apron that the surgeon wore over his suit. Today, no hospital could function without these large *autoclaves loaded with linens and tied down with enormous screws to withstand the* super heated steam under pressure.

At the dawn of the 20 th century, the largest engineering feat the world has ever seen was underway. It was the Panama Canal, the project of the U. S. Government. It was dug out by mammoth, 95 tons steam shovels that lifted 8 tons of earth and rocks in a single scoop. The steam shovels were the backbone of the Panama Canal excavations. Dozens of them worked around the clock while hundreds of trains pulled away the spoils. It was the technology of the day, the steam power, and the U. S. Government that made the Panama Canal possible, uniting the two largest oceans and improving the seafaring trade of the world. The workers of the Canal Zone suffered from injuries and tropical diseases. In the hospitals, there was the steam radiator painted white to blend into the whiteness of its surroundings. It was the first central heating system that provided pure, gentle heat to warm the cool, wet, disease-laid tropical nights, and aid the sick in their recovery.

When Steve Job held up the i-phone, he was hailed as a hero though he never invented anything because he used existing technology. The only thing he invented or rather reinvented is the rectangle with round corners, the shape of the i-phone. Nevertheless, he was a man of his time for understanding the necessity of the mobile devices. In the Industrial Age, designers of the radiator also worked with existing technology and electricity was not among them. They had to work with sheer physical *forces like fire and water that made steam, they had thermometer and pressure control*

and not much more, and of course, they knew about convection. They had to design a form that would maximizes the heat output by increasing its surface relative to its circumference so, that a radiant convection would come into play. The heat would come in the form of steam piped in from the Boyle room that would cool and condense after leaving the radiators and flow back in a separate pipe to the heat source. Then the cycle begins all over again. Thus, the central heating system was born.

We can thank for our lives on this planet Earth to the almighty sun. We get light from it and also from the stars of far away galaxies. Light travels fast, the fastest mankind is able to measure and perceive. How do we get the warmth of the sun? It reaches us by convection. The temperature difference between the core and the surface of the sun gives rise to the most dynamic everlasting convective force, a radiant heat that we cherish except when it is too hot.

Modern technology reinvented the old steam radiator. Stripped from its pipes, it became lighter and portable, the steam was replaced with oil that is now heated with electrode. The fins were reshaped, now they are tight, sharp and sleek so that convection can be more enhanced, and the control system is equipped with superb electronics. However, the essential form of the radiator remains the same that cannot be altered in order to function. It is the perfect union of form and function that ingenious designers conceived so long ago.

Date: September 15, 2012.

Respectfully submitted by:

Maria Gonda Caiaccia.

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PENNSYLVANIA PUBLIC UTILITY COMMISSION

MARIA GONDA CAIACCIA,	:	
Complainant	:	
v.	:	**No. F-2011-2263256**
DUQUESNE LIGHT COMPANY,	:	
Respondent	:	

CERTIFICATE OF SERVICE

I hereby certify that this day I am serving a true and correct copy of the forgoing documents upon the following person and in the manner indicated below that satisfies the requirements of 52 Pa. Code § 1.58.

Service by certified mail, return receipt requested as follows:

Secretary of the Commission
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Harrisburg, PA 17105-3265

Date: September 15, 2012

Maria Gonda Caiaccia, *pro se*
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