BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

Sherry Veach,

 Complainant,

v. File No. EC-2012-0406

The Empire District Electric Company,

 Respondent,

BRIEF FOR COURT DATE NOVEMBER 5, 2012

Swan Street residence, which was purchased in 1988, led to my quest to find out if/what appliance I owned/was operating that could cause inconsistently high kWh usage. Firstly, I made a request for Empire Electric to test my meter in approximately 1997. Not at that time, nor since have I seen any evidence that, that test had been performed. Being immersed in a demanding career in engineering, I trusted that Empire Electric would follow through with my request, so I felt it unnecessary to follow up by demanding to see an electronic printout of any such tests.

On January 23, 2012 I again requested a meter test at my residence. I was told that the test would be done on January 24, 2012. When I called to confirm the appointment on January 24, 2012 I was told by an Empire employee that the meter test had been performed on January 23, 2012 and that the meter tested “good.” A copy of the meter test in question indicates that the test was done on January 24, 2012. The copy of the test also indicates that they received my call to request a meter test on January 16,2012. Phone records show no record of a call from my phone to Empire Electric on January 16, 2012.

 I decided to review the kWh usage of all appliances that I was operating in my home, which were the same appliances that I had been using throughout the life of ownership at this residence some of which were original to the house, other appliances were purchased in 1984 prior to purchasing the home in 1988. With 20 years of experience as a tool design/ facility/ safety engineer including being certified in time studies, I had the education and experience to perform meter amp draws and time studies on appliances at the breaker box to measure actual kWh usage of each appliance. An amp draw of an appliance is done at the breaker box with an amp meter while the appliance is running. This amperage is multiplied by the applied voltage which provides the watts. To determine the kWh the watts is divided by 1000, this will give the kWh for one hour. A time study is performed using a time study stop watch of run time and idle time of the appliance to determine the duty time of the appliance this provides how long an appliance will run in a 24 hour period of time. The duty time in hours is multiplied by the kWh usage and this will give the kWh usage of the appliance in a 24 hour period of time.

My findings from studies performed from January 29, 2012 through present time, indicated that the appliances were using comparable kWh usage as indicated by Empire Electric’s website appliance calculation chart. This was confirmed during testimony by Dan Beck, PSC Engineer Analysis Supervisor. All indications pointed to inaccuracies with Empire Electric’s meter. The results of my kWh time studies lead to my conversation with Orville Jackson, lineman for Empire Electric Company. Mr. Jackson, who has since retired, reviewed my spreadsheets and other documentation and agreed that something was amiss. He presented copies of my study documentation to John Crawford, meter tester, for Empire Electric and asked him to call me.

In my opinion, the Empire Electric Meter which was attached to my house at the time that I purchased my house on July 1, 1988 read inaccurately from the time of that purchase until February 14, 2012, the day that John Crawford visited my residence. Meter readings dropped from 13 kWh per day on February 14, 2012 to 6 kWh per day on February 15, 2012. From February 15 until present time the Empire Meter attached to my house has consistently registered exactly what the amp draw and time study that I performed proved that the appliances were actually using.

Below are arguments to support my claims:

Firstly, testimony given by John Crawford during the November 5, 2012 hearing is suspect for multiple reasons. Mr. Crawford testified that he called me on February 14, 2012 and left a message for me to return his call. Mr. Crawford then testified that I returned his call and set up an appointment for him to stop by. Phone records submitted into evidence show no record of Mr. Crawford making a phone call to either of my phones on February 14, 2012, nor is there any record of my calling Mr. Crawford on February 14. Mr. Crawford testified that he was at my home from 3:30 p.m. to 4:30 p.m., however, phone records prove that I was on a phone call to Indiana at 3:05 p.m. for 3 minutes and Atlanta, GA at 3:10 p.m. for 3 minutes. Mr. Crawford actually arrived at my residence, without calling, at the close of the Atlanta phone call at 3:13 p.m. Phone records prove that I phoned PSC at 3:20 p.m. to file an informal complaint against Empire Electric which lasted 28 minutes, leaving a total of seven minutes that Mr. Crawford could have been at my residence. I phoned PSC to file the complaint, because Mr. Crawford refused to replace my meter, or listen to my complaint. Prior to Mr. Crawford’s leaving I informed him that I would be calling PSC to file a complaint.

As stated above a hand written test card indicates a telephone call was received by Empire Electric on January 16 with the test being performed January 24, 2012 not January 23, 2012 as reported by the Empire Electric representative that I spoke with on January 24, 2012. Phone records prove that the call for a meter test request was made on January 23, 2012. Phone records also prove that no calls were made on January 16, 2012 to Empire Electric.

The copy of the 1 Phase Meter Test Report provided by Empire Electric is a hand written report of a meter test, not a digital read out of a meter test. Mr. Crawford testified that it was possible to falsify the hand written 1 Phase Meter Test Report. In addition, Mr. Crawford testified that the glass bowl, which covers the meter, can easily be removed and that the identification plate, indicating the meter number, can also easily be removed by simply unscrewing two screws. This proves that a Duncan meter can be replaced and the identification plate interchanged with a different meter, which can then be placed on the residence; making it possible for a meter to be changed out with only the person making the change aware of the action. The Duncan meter is the brand of mechanical meter that was installed on my residence from 1988 at the time of my purchase, manufactured in Lafayette, Ind., which is a single stator watt hour meter. Veach Exhibit #8 shows pictures of a Duncan Mechanical Meter Dissection, (printed off the internet), which displays the identification plate attached with two small screws. Front and side views of the exact Duncan meter attached to my residence are also included in Exhibit #8. Mr. Crawford also testified that as mechanical meters are removed from a residence they are recalibrated by Empire Electric and put back into use. In addition Mr. Crawford testified that there are a number of mechanical meters in stock under his jurisdiction (reference page 95, line 16-24 of the transcript) and that he does not keep records of those meters locally.

My second set of concerns involves the lack of action and testimony by Dan Beck. Mr. Beck testified that although it had been reported that I believed my meter to be inaccurate, he did not witness a meter test being performed on my Duncan meter. Mr. Beck testified that he did not feel it necessary to do an amp draw on my appliances, due to the fact that the amp draw results from my amp draw time study were consistent with Empire Electric’s website for appliance calculations; despite the fact that my kWhs billed were considerably higher than my amp draw proved they should be. By Mr. Beck neglecting this critical part of the investigation he fails to investigate the actual discrepancy of the meter and actual kWh usage. In Mr. Beck’s testimony he testified that in his 25 years employee with PSC he had never done a residential amp draw of appliances at the breaker box. Therefore it would be impossible for him to determine whether, in fact, any rules or tariff violations have been committed. Mr. Beck compared my residence to other residences of the same size that heated only with electric heating sources. Veach Exhibit #7 is a list of propane receipts that support my statement that I heat with a vent-free heating stove, as seen in Veach Exhibit #2, along with a wood burning insert in the fireplace also included in Veach Exhibit #2. The electric heating source is not used in my residence.

In addition to the above misrepresentation Mr. Beck has also misrepresented my expected kWh usage by comparing my residence to other residences that use central air. Reference Mr. Beck’s hearing transcript testimony page 114 lines 6 thru 16. Until the summer of 2012 I cooled my residence with the use of an attic fan or a window air conditioner in the bedroom exclusively. Veach Exhibit #4 shows the comparison of kWh in previous years to 2012. Veach Exhibit #9 are copies of the original electric bills including the very first electric bill from Empire Electric after the purchase of the residence on July 1, 1988. The remaining electric bills cover 2006 through 2011. These comparisons support my claim that the use of the central air unit during 2012, with record breaking temperatures, used less kWh than in previous years when the window air conditioner or attic fan was used. In Mr. Beck’s testimony he stated that a window air conditioner would use less kWh than a central air conditioning unit. Veach Exhibit #3 page 37 shows the rating of my window air conditioner, which is 560 watts / 5 amp =.57 kWh per hour of use or for an 8 hour period of time while sleeping equals 4.48 kWh per day or 134 kWh per a 30 day billing cycle.

When Mr. Beck was questioned about the manufacturing process for the Duncan meter that was on my residence he stated that neither current employees of Landis + Gyr nor himself could guarantee that the procedural inspection was followed or 100% accurate, guaranteeing that this meter operated without error. He also testified that the Duncan meter that was on my residence could have been defective.

\*\*\*Referring to the photos of the appliances Veach Exhibit #2 you will note that there are no high kWh usage appliances or high capacity appliances. The appliances referenced in Veach Exhibit #3 that are used regularly in my residence along with the camping equipment temporarily put into service during my investigation proved to be an accurate comparison to Empire Electric’s website appliance calculation. Given this information along with referencing my daily kWh usage study referenced in Veach Exhibit # 3 one can come to the conclusion that the kWh billed usage is greater than the actual usage. All evidence points to an inaccurate meter prior to February 14, 2012 at such time the kWhs suddenly began corresponding to the readings that my kWh usage and time study calculations proved accurate.

While questioning Mr. Beck, Ms Moore indicated that the kWh dropped in early February suggesting that permanent lifestyle changes were made. The kWh usage dropped because the appliances were turned off, unplugged and not used. The kWh usage drop is expected and quite consistent with the kWh draw and time study that was being performed. On January 31, 2012, the hot water heater was turned off with the exception of 15 minutes per day while I showered. The kitchen range was replaced with a Coleman camp stove. February 8, 2012, I unplugged the kitchen refrigerator and began using 1.5 cubic foot camp refrigerator. February 9, 2012 I turned the breaker off to the hot water heater until February 21, 2012. During this thorough time study appliances were disconnected in a systematic fashion to provide the opportunity for an accurate amp draw on each appliance. During the study, every appliance with the exception of the television was disconnected for 11.5 hours. The television ran for six hours of those 11.5 hours. The time study and amp draw registered .612 kWh usage. During this same time period the Duncan meter registered 8 kWh. Once again, pointing to an inaccurate meter. With the elimination of appliances using only the bare minimum of electricity the kWh usage, according to the Duncan meter, was still in excess of the time study and kWh amp draw study and Empire Electric appliance usage calculation.

The morning after John Crawford’s February 14, 2012 visit the kWh usage made an unexpected dramatic drop from 13 kWh to 6 kWh, with no change in appliance usage. The only thing that could cause this type of a drop in kWh usage would be some type of change or action to the meter. In addition to the unexpected drop in kWh usage, it is important to note that the 6 kWh registered reading on the Duncan meter was too low for the appliances that were being used during that time period suggesting the meter may have been disconnected or altered in some fashion. The days immediately following February 15, 2012 the Duncan meter readings corresponded exactly with the kWh time study being performed. This indicates that something changed with or to the Duncan meter. I was away from my home for one and a half to two hours prior to John Crawford’s visit that day providing ample time for alterations and/or replacement of the meter.

Beginning February 21, 2012 the remaining appliances that had been disconnected for the purpose of the kWh amp draw and time study were reintroduced systematically into daily use until March 6, 2012, when the last appliance was reintroduced and substitute camping equipment disconnected and placed back in storage. From March 6, 2012 to present day the Duncan meter has recorded exactly as the kWh amp draw and time study proved to be accurate and comparable to Empire Electric’s website appliance calculations. Beginning with the March 14, 2012 Empire Electric bill the kWh usage differences are reflected in each and every monthly bill thereafter. Even with the addition of the central air conditioning unit which had not been previously used, the kWh usage remains drastically lower than all previous years prior to the February 14, 2012 visit from Empire Electric’s John Crawford. See Veach Exhibit # 3 for supporting documentation.

Upon examination of Veach Exhibit #4 one will find a drastic decrease in monthly kWh usage compared to all previous years. For example, note 8/16/11 the kWh usage for that month was 2087 kWh, keeping in mind that central air was not in use. Window air conditioner was in use. Compare that months kWh usage rate to 8/16/12 and you will find that the kWh usage rate for that month was 1566 kWh usage during record breaking temperatures and the use of central air conditioning. Note again 5/16/2011 the kWh usage reflects 1246 kWh per month compared to 5/14/12 where the kWh usage was a mere 450 kWh per month.

One of the most interesting comparisons will be the 9/16/10 bill with 932 kWh of usage. Billing period for this month is 8/16/2010 to 9/16/2010. Reference Exhibit #5 total days home that entire billing cycle was 4 days. The remaining days were spent in both Ohio and Colorado as evidenced by copies of gas and home improvement receipts. At this time only the refrigerator, freezer, and hot water heater were drawing electricity. No one was occupying the residence outside of the four days that I was present. Compare this Duncan meter reading to 9/13/12 with a kWh reading of 627 kWh. Central air was in use and I occupied the home the entire billing cycle for 9/13/12. According to the kWh amp draw and time study which corresponds to Empire Electric’s website appliance calculation the total amp draw with only the hot water heater, refrigerator and freezer running the kWh amp draw would be 273.60 kWh for the 27 day time period that I was out of state. A refrigerator, hot water heater, and freezer with no one in the home can not use 937 kWh in that period of time. The refrigerator would use 68.58 kWh in that period of time, the freezer 31.104 kWh, and the hot water heater would use 163.97. This shows a difference of 263.65 kWh of actual kWh usage vs 932 kWh meter reading. Proving the meter was inaccurate.

In conclusion I believe that it is apparent that for the years from 1988 up to February 14, 2012 the Duncan meter that was attached to my house was substantially inaccurate. Examination of the exhibits will prove firstly that there is a drastic difference in kWh usage in the years prior to February 14, 2012 and the subsequent months following February 14, 2012. Examination of the exhibits also proves that the kWh usage prior to February 14, 2012 is substantially higher than would be expected by either referring to Empire Electric’s own appliance usage estimation or my amp draw and time study statistics Given the testimony of the commission’s own Dan Beck; that once a meter runs inaccurate it is always inaccurate, one can only come to the conclusion that the Duncan meter attached to the side of my house was altered in some way on February 14, 2012. According to John Crawford and Dan Beck’s testimony the Duncan meter could be changed out with the use of the original glass bowl and identification plate. Given that my amp draw and time study proves that my appliances were operating as expected according to Empire Electric’s own appliance calculations estimator and given that the kWh usage prior to February 14, 2012 was excessively high and given these calculations one can only come to the conclusion that the Duncan meter attached to my house was registering inaccurately, in particular noting the exceedingly high kWh recorded for the time period of 9/16/10 billing cycle when the residence was only occupied 4 days. I maintain that Empire Electric has been over charging me since 1988 and that Ms. Carter’s attempt to convince the judge and the commission that Empire Electric is free from fault is due to misrepresentation and misunderstanding of specific appliance usage, temperature variance, and her general lack of knowledge concerning amp draw, time studies and kWh usage.