

May 31, 2019

Via Electronic Filing

Rosemary Chiavetta, Esquire
Secretary
PA Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

**Re: Docket No. C-2018-3004871
Chet and Michele Duffy v. Pennsylvania Power Company
Completed Testing Reports**

Dear Secretary Chiavetta:

Pursuant to the Fifth Interim Order, dated April 22, 2019, attached for filing are the Completed Testing Reports directed by the Honorable Katrina L. Dunderdale.

A copy of the filing has been forwarded to the Complainants in the manner indicated on the attached Certificate of Service.

If there are any questions, please do not hesitate to contact me.

Very truly yours,

Reger Rizzo & Darnall LLP


Margaret A. Morris

MAM/lam
Attachments

cc: Hon. Katrina Dunderdale, OALJ [w/enc.]
Teresa K. Harrold, Esquire, FirstEnergy Service Company [w/enc.]
Chet and Michele Duffy [w/enc.]

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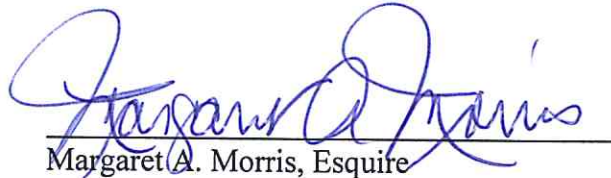
CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been served upon the following person(s) listed below, in the manner indicated, in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant).

Via Electronic and First Class Mail

Chet Duffy
Michele Duffy
P.O. Box 295
135 Liberty Road
Harmony, PA 16037
Mad24@zoominternet.net
ceduffy@zoominternet.net

Dated: May 31, 2019


Margaret A. Morris, Esquire

PennPower
Duffy Foreign Load/Grounding Test Report

Date of Test 5/21/2019

Test Conducted by Greg Swantek, PennPower Engineer

On 5/21/2019 at approximately 10:30 AM Greg Swantek, Dave Peterson, Brian Mulichak all from PennPower as well as Mr Duffys electrician went out to the transformer that serves 135 Liberty Rd in Harmony PA to perform the Grounding and Foreign Load Tests.

Grounding Test

We opened the transformer to inspect all connections inside the transformer and confirm that connections were tight and there was no corrosion on the connections. We then took a Ohm reading on the grounding of the transformer to confirm that there was a good ground there. Pictured below is the reading of 0.5 Ohms that we read off the ground. Good ground resistance as stated in section 9.096B of NESC is 0 to 25 Ohms.



Foreign Load Test

We then took current readings at the transformer on each leg of the transformer as well as the neutral leg. The results of those readings were as follows:

X1 – 42.7 A

X2 – 25.2 A

Neutral – 17.7 A



We then went to the meter at Mr Duffy's house and measured the current at the meter on the two legs there. The results of those readings were:

X1 – 42.5 A

X2 – 24.7 A

Neutral – 17.8



With both readings being relatively the same that is proof that there are no foreign loads between the transformer and the meter at the Duffy residence. The slight variance can be explained by some devices cycling off in the time it took us to walk from the transformer to the meter.

As a final test the voltages at the transformer and meter socket were taken to ensure that good voltages were present at both locations. Acceptable voltages are +/- 5% of 120V (114V – 126V). The readings at both locations were as follows:

At Transformer:

X1 to N – 122.9 V

X2 to N – 122.9 V

At Meter Panel

X1 to N – 122.3 V

X2 to N – 123 .3 V

Voltage readings at both locations are well within the tolerances of +/- 5% of 120 V (114V -126V).

As a result of this testing there is no evidence of any grounding issues at this location nor is there any evidence of any foreign load that would be running through the meter. All voltages are well within the tolerances needed.

Penn Power

Duffy Consumption Audit Report

Date of Audit: May 21st, 2019

Audit conducted by:

Ben Wagner, Penn Power Customer Support
Rick Brumbaugh, Penn Power Customer Support
Brian Mulichak, Penn Power Customer Support
Greg Swantek, OE/PP Reliability Engineer
David Peterson, OE/PP Reliability Engineer

Overview:

On Tuesday, May 21st, 2019, the five above employees met at Chet and Michele Duffy's home at 10:00 am. The purpose of this audit was to gather information about all the electrical devices and appliances that consume electricity and to calculate the potential monthly electricity consumption at the Duffy residence based on the appliances and devices that are in use at the Duffy's home and barn.

We spent an hour and a half at the Duffy property. Their home was built in 1992 and is approximately 4,000 square feet. The outbuilding is 40X60 with approximately 16 ft ceilings. Rick and Ben reviewed with Chet and Michele the heating systems and appliances that are currently in use at their home. We went over with them, room by room, which devices are currently in use and which devices have been upgraded or replaced in the last 10 years, since the last home audit was done.

Brian, Greg and David were outside this time doing meter tests with the Duffy's personal electrician.

Chet and Michele have a secondary meter in the basement that measures kWh in conjunction with our meter. They did **NOT** question our meter. Their secondary metering shows that our meter has accurately measured their kWh usage since they installed this secondary meter.

Chet and Michele mentioned that they feel their electric bill was so high based on estimates. Billing shows that the Duffy's have not had an estimated reading since January of 2016.

Chet and Michele did not understand the demand portion of their bill. It was explained to them that a residential account that exceeds 25 kw will be put on a demand meter, based on the tariff. The portion of the tariff is attached. Their usage shows that they exceed the 25-kw threshold.

The Duffy's home requires 2-4-ton heat pumps and 2 electric furnaces. They have 2 water heaters in the barn (1 40 gallon for heating water and 1 80 gallon for heating the glycol that they use as the floor heating system.) The Duffy's larger equipment in the home shows that they indeed can pull over 25-kw and the breakdown is as follows: *(these values are approximate based on our research)*

Heat Pump #1 (4 ton unit)	14kW
Heat Pump #2 (4 ton unit)	14kW
Furnace #1	10kW
Furnace #2	10kW
House 80-gallon hot water tank	4.5kW
Barn 80-gallon hot water tank	4.5kW
Barn 40-gallon hot water tank	4.5kW
Electric Clothes Dryer	2.79kW
Electric Range	9.6kW
Refrigerator	.225kW
Dishwasher	.330kW

Based on the above values, it is evident that the Duffy home can and does pull more than the 25kW threshold to trigger the residential demand component. Depending on hours of use their kWh will vary monthly which their billing shows.

Tariff language:

Special Monthly Charges Load in Excess of 25 kilowatts:

The Company shall install a suitable demand meter to determine the maximum 15-minute integrated demand when (i) a Customer's service requires the installation of an individual transformer, (ii) a Customer's total monthly consumption exceeds 10,000 kilowatt-hours for two (2) consecutive months, or (iii) when the Customer's service entrance requirements exceed 600 amperes.

(D)

If the demand so determined under this provision exceeds twenty-five (25) kilowatts, a monthly distribution demand charge of One Dollar and eighty-eight cents (\$1.88) per kW for all kW shall apply to such excess as set forth in this provision, in addition to the General Monthly Charges. In no event shall the demand charge be based upon less than seventy-five percent (75%) of the highest excess demand during the preceding eleven (11) months.

(I)

Understanding Electricity Usage & Costs

Understanding how you use electricity in your home is the first step in making smarter, more informed decisions regarding your energy consumption. This fact sheet can help you learn what it costs to run some common electrical devices and where you might have opportunities to save money.

By using the formula below, you can calculate a device's kilowatt-hour (kWh) usage and approximate cost. Wattage can usually be found on the bottom or back of the device. If it is not, you can multiply the amperage, which is required to be listed on the device, by the voltage, which is typically 120. Larger appliances, such as clothes dryers, use 240 volts.

$$\frac{\text{Appliance wattage} \times \text{hours in use}}{1,000} \times 11.84 \text{ cents} = \text{Average cost} \text{ (0.1184)}$$



Electronic Devices	Approximate Wattage	Avg. Hrs. Used/Mo.	Avg. kWh Used/Mo.	Average Cost/Mo.
Kitchen				
Coffee maker	1,000	5	3	\$0.59
Dishwasher	330	13.75	4.5	\$0.53
Microwave oven	1,000	95	30.5	\$0.66
Refrigerator	325	288	66.8	\$0.67
Laundry				
Clothes dryer	2,790	16.75	63.2	\$0.88
Clothes washer	355	18	4.6	\$0.54
Iron	1,100	5	3.5	\$0.45
Lighting				
Compact fluorescent bulb (CFL)	35	30	0.8	\$0.09
LED light bulb (equivalent to 100w incandescent)	13	30	0.4	\$0.05
Incandescent bulb	100	30	3	\$0.36
Heating & Cooling				
Whole house fan	350	360	126	\$14.93
Ceiling fan	35	360	12.6	\$1.49
Dehumidifier	750	360	270	\$31.97
Furnace fan	395	290	113.4	\$13.15
Portable space heater	1,320	77.75	103.6	\$12.05
Water heater, 40 gal.	4,500	75	337.5	\$39.96
Window fan	70	360	25.2	\$2.98
Home Electronics				
Desktop computer	75	60	4.5	\$0.53
Monitor	62	60	3.7	\$0.40
Laptop	35	60	2.1	\$0.20
Television, standard 28"	120	180	21.6	\$2.56
Television, LCD 22"	120	180	21.6	\$2.56
Television, LED 42"	80	180	14.4	\$1.70
Gaming Systems				
PS4™	137	10	0.1	\$0.09
Wii U™	34	10	0.1	\$0.10
Xbox One™	113	10	0.1	\$0.09
Miscellaneous				
Clock radio	5	720	3.6	\$0.43
Electric blanket	600	90	36	\$4.26
Vacuum cleaner	647	3	1.1	\$0.13
Well pump	775	14	10.2	\$1.21

Here are a few common household electronic devices. The costs shown on this sample fact sheet are based on an average total price of 11.84 cents per kWh. The costs for electricity in your home may vary depending on usage patterns, actual electric rate, the wattage of appliances and the amount of time they are in use.

For a better understanding of your usage and how you can help reduce your electricity consumption, visit www.energysavepa.com and click on the Home Energy Analyzer.

Important Notes: These estimates are based on average size and use of each device. Operating costs may vary considerably due to the type, size, frequency and duration of use, as well as differences in family living habits. Older products often use far more energy than new, energy-efficient models.

The wattages listed on this chart came from several sources, including the U.S. Department of Energy's website: www.energy.gov.

The price per kWh is subject to change.

