

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PENNSYLVANIA PUBLIC
UTILITY COMMISSION,**

v.

METROPOLITAN EDISON

)
)
)
)
)
)
)

Docket No. R-2014-2428745

**CITIZENS FOR PENNSYLVANIA'S FUTURE
AND ENVIRONMENTAL DEFENSE FUND**

DIRECT TESTIMONY OF PATRICK GORMLEY

DATE: November 24, 2014

1 **Q: Please state your full name, business affiliation and address.**

2 A: My name is Patrick Gormley. I am President of Gormley-Farrington. My business address
3 is 339 Haymaker Road, Suite 1103 Monroeville, PA 15146. I also have offices at 5940
4 Route 60 East, Suite 3 Barboursville, WV 25504.

5
6 **Q: Please describe your education and work experience.**

7 A: I graduated with a degree in finance from the Wharton School of the University of
8 Pennsylvania in 1981. I have twenty-five years of experience selling electrical and
9 lighting products in West Virginia and Pennsylvania for major manufacturers such as
10 Berko, Reese Controls, Spaulding and Cree. My company was founded as Gormley
11 Electric in 1970 by Dale Gormley. We merged in 1989 with Farrington Electric to form
12 Gormley-Farrington. In 2005, the company merged with Dan Rowsey of C.E. Fisher in
13 West Virginia, renaming the West Virginia office Gormley-Rowsey. Today, the company
14 operates in western Pennsylvania as Gormley-Farrington and operates in West Virginia as
15 Gormley-Rowsey. We employ about 20 individuals. I previously worked as a management
16 consultant.

17
18 **Q: Describe your responsibilities as President of Gormley-Farrington.**

19 A: I oversee the entire operations of the company. We represent manufacturers and work on
20 commission based on product sales. We focus on sales of electrical and lighting equipment
21 to commercial and industrial sectors. We also sell products to utilities such as Duquesne
22 Light and FirstEnergy.

23

1 **Q: Have you previously testified before the Pennsylvania Public Utility Commission?**

2 A: Yes, I submitted testimony to the Pennsylvania Public Utility Commission in the Duquesne
3 Light Company base rate case at Docket No. R-2013-2372129.

4
5 **Q: What is the purpose of your testimony?**

6 A: My testimony is directed to the distribution rate associated with light-emitting diode (LED)
7 light fixtures. I explain the importance of LED light fixtures to my customers in the
8 Metropolitan Edison Company (MEC) service territory, the benefits of converting to LED
9 light fixtures, the cost of LED light fixtures for typical residential street lighting, and the
10 importance of approving an accurate fixture cost existing street lights to LED fixtures.

11
12 **Q: What experience do you have with LED light fixtures?**

13 A: My company has worked with a number of small municipalities across Pennsylvania. We
14 are currently working with the City of Altoona to convert its street lights from conventional
15 high-pressure sodium lighting to LED lighting. Altoona recently purchased about 100 LED
16 fixtures. We have a proposal pending for another 4000 fixtures. We have worked on
17 similar projects with Grove City and the town of Berlin.

18
19 **Q: What role does your company play on these LED projects?**

20 A: Our job is to assist the customer to (1) understand the benefits of changing to LED lights,
21 (2) assist them in writing specifications so that they can put out request for quotes (RFQ),
22 and (3) respond to the RFQ if appropriate with their product.

23

1 **Q: Do you have experience with LED products in the MEC service territory?**

2 A: Yes, Gormley-Farrington does business with private and public customers in the territories
3 of FirstEnergy. We work to recommend lighting and other electrical products to all classes
4 of users in these areas.

5

6 **Q: Are there benefits to customer municipalities of switching from standard high-**
7 **pressure sodium street lights to LED fixtures?**

8 A: LED fixtures offer significant cost savings to municipalities. The cost of electricity, and
9 particularly electricity used to light streets, is a major operational cost for municipalities.
10 LED fixtures can reduce energy usage by 50 to 80%. That is a very significant cost savings
11 for a small municipality. Additionally, the estimated life of an LED fixture is about five
12 times that of a high pressure sodium fixture. This means that the fixture will not need to be
13 maintained as frequently, which will also result in cost savings. In addition, the warranty
14 on an LED fixture is ten years. This provides significant cost savings to the municipality
15 which affords them the opportunity to offset rising cost of services elsewhere and to lower
16 municipal taxes.

17

18 **Q: Could you explain whether there are other public benefits that flow from using LED**
19 **fixtures in street lights?**

20 A: Yes, there are other public benefits of using LED lighting. LED is a white light as
21 compared to the yellow light thrown from high pressure sodium. LED's white light allows
22 for better visual acuity, which means that drivers and pedestrians can see better under LED
23 lighting. With the same number of foot candles landing on the street, a person would, for

1 example, be able to more easily identify the color of a car under LED light as compared to
2 traditional high pressure sodium.

3
4 In addition to the quality of light, LED provides a better distribution than traditional
5 lighting. LED can be aimed. LED spreads light out, which provides better uniformity.
6 You eliminate the yellow blob of light that you find walking under traditional street lights.
7 This improves a person's ability to see, which in turn improves safety. Also, LED lights
8 can be aimed so that it targets only the road, in contrast to traditional street lights that shine
9 everywhere. LED lights enables municipalities to eliminate a number of nuisance
10 complaints associated with traditional lights shining where they are not wanted, such as
11 into homes and apartments.

12 In sum, LED lighting provides a significantly better quality of light at a significantly lower
13 cost to the municipality and therefore to the tax payer.

14
15 **Q: Does LED lighting offer benefits for utilities?**

16 A: Of course, it is not in the traditional interest of utilities to sell less power. However, LED
17 lights benefit utilities by reducing their load. LED lights consumes 50-80% less energy
18 than traditional lights, which reduces KW demand. When lights are on during peak
19 demand periods, LED lights will reduce the cost of electricity because it will save the
20 utilities from having to buy as much power on the spot market. Finally, LED lights enable
21 utilities to reduce maintenance costs.

22
23 **Q: What is the primary factor that drives municipalities to want LED lights installed?**

1 A: Cost. The principal motivation driving LED lighting adoption is the financial payback to
2 the end customer. My experience is that many municipalities are anxious to adopt LED
3 lighting, but it depends on whether the rate of payback compared to the up-front costs. If
4 the economic benefit is not adequate, then there will be no change. That is why it is critical
5 that the Commission ensure that the fixture costs and overall distribution rate associated
6 with LED lighting accurately reflects market conditions.

7 In the few municipalities in Pennsylvania that own their own street lights they are adopting
8 LED street lighting at a high rate. In the private sector, outdoor lighting is one of the first
9 areas for owners to upgrade to LED. The economic payback is driving LED adoption in
10 outdoor lighting around the world. Municipalities and their citizens should have the same
11 opportunity to make this cost benefit analysis on a basis that reflects the true costs and true
12 benefits.

13

14 **Q: Have you reviewed the proposed cost of service that MEC has proposed for**
15 **installation of LED lights in its filing with the Commission?**

16 A: Yes.

17

18 **Q: Does that cost of service accurately reflect market conditions?**

19 A: No.

20

21 **Q: Please explain.**

22 A: It appears that MEC has not recently or adequately developed their LED options.

1 First, their estimated cost of acquisition is not consistent with current competitive pricing.
2 When they actually go into the market their costs are likely to be 15% to 25% lower. If the
3 rates are set based on these higher estimates, these costs savings will accrue to the benefit
4 of the utility, and not be enjoyed by the municipality and their citizens.

5 Second, the cost of LED lighting has been declining since its inception and is likely to
6 continue to decline. Again, these market benefits will only go to the utility, not the
7 municipal customer.

8 Third, the four sizes of LED lights proposed by the utility (50 watt, 90 watt, 130 watt and
9 260 watt) are not even available in the specification provided by the utility in their rate
10 proposal. They have failed to provide an adequate description of what they would provide
11 under this program.

12 Fourth, the utility's estimated useful life of an LED street light is overly conservative. The
13 industry's standard for the end of life for an LED is when it has lost 30% of its original
14 illumination (known as L70). Most competitive LED fixture manufacturers have lifetimes
15 exceeding 100,000 hours and in some cases significantly higher values, exceeding 150,000
16 hours. 100,000 hours of life translates to around 25 years. These values are calculated at
17 average temperatures that are typically higher than we experience in Pennsylvania. Since
18 LEDs last longer in cooler environments, Pennsylvania's experience should be even longer
19 life. Also, it is unlikely that many municipalities will choose to replace their LEDs when
20 they have lost 30% of the light. Today, they are using many older high pressure sodium
21 bulbs that have dissipated far more than 30% but haven't burned out and they do not
22 choose to replace them. If they make similar decisions with LEDs, they will not change
23 them until they have lost 40%, 50% or 60% of their original light. This would extend their

1 effective useful life by many, many years. It is not unreasonable to expect LED street lights
2 to still be in service 40 or 50 years after installation. 50 years of useful life is probably an
3 overly aggressive estimate, but 15 years is unnecessarily conservative. 25 years is probably
4 a safer estimate to make.

5 Fifth, the utility does not appear to make any calculation for the maintenance savings with
6 LED street lights. The cost of changing light bulbs is virtually eliminated. This is a
7 significant savings and must be part of the rate calculation.

8 Sixth, the utility should be responsible for indicating which LED street light is appropriate
9 for changing out each size of existing street lights. The commission cannot adequately
10 evaluate their offering and municipalities cannot do cost benefit analysis if there is no
11 direct comparison. It should also be incumbent on the utility to demonstrate that they are
12 choosing an appropriate offering for at least the most common sizes.

13 Seventh, the utility has not offered a sufficiently low wattage option for very common
14 residential street lights. A 70 or 100 watt high pressure sodium light can be replaced today
15 with a 25 watt LED. The lowest watt option offered by the utility is 50 watts. The 25 watt
16 LED light would cost less than the 50 watt version and obviously use half the energy. This
17 difference greatly impacts the factors considered by the municipality in consideration of the
18 request to transition to LED technology.

19 In general, the municipality must be given options that reflect the currently available
20 technology at the current competitive costs, which represent the greatest savings. As LED
21 manufacturers continue to improve their performance and lower their costs, this
22 discrepancy will only get greater.

23

1 **Q: What effect does that cost have on the proposed Distribution Rate and customer**
2 **municipalities?**

3 A: If the true costs of ownership – lower acquisition cost, lower maintenance cost and longer
4 useful life – can be correctly reflected in the distribution rate then municipal customers
5 would be more likely to make the upgrade to new technology sooner and their citizens will
6 begin enjoying the benefits sooner. The municipalities and their citizens will have better
7 lighting at a lower cost and more resources to dedicate elsewhere.

8
9 **Q: What is an accurate representation of the current cost of LED fixtures available on**
10 **the market?**

11 A: I prepared a chart showing the various costs associated with LED fixtures of differing sizes,
12 as seen below. For context, the vast majority of street light fixtures used in residential
13 areas, about 75-80%, are 70 and 100 watt fixtures. Fixtures in the 150-200 watt range tend
14 to be used in business districts. 400 and 1000 watt fixtures would be highly unusual in a
15 residential setting. 400 watt fixtures are what would be used on major roads, and the 1000
16 watt fixture is typically what the PA DOT uses on turnpike interchanges.

17
18 I represent Cree, Inc., the largest supplier of LED lights in the world. Cree recently
19 announced that it broke the \$100 barrier for commercial LED fixtures, but that is only
20 under certain circumstances. The more conservative number that a utility would expect to
21 pay for a 70 Watt replacement LED fixture would be between \$100 and \$130. This
22 number would fluctuate slightly based on the manufacturer and quantity purchased.

Traditional Wattage	LED Wattage	2013 LED Fixture Costs in Dollars
---------------------	-------------	-----------------------------------

70	26	\$130
100	42	\$145
150	53	\$200
250	101	\$300
400	171	\$400
1000	557	\$1650

Q: How does using the current cost figures for LED fixtures affect distribution rates using as an example replacement of 70 watt high pressure sodium lights?

A: The distribution rate associated with the LED fixture would be reduced significantly below the cost of continuing to use the less energy efficient high pressure sodium light. It would reflect a positive return on investment for the municipality associated with the lower cost, longer life and more energy efficient LED fixture.

Q: Can you illustrate that return on investment?

A: Yes. Exhibit 1, attached to this testimony, contains a worksheet that illustrates the return on investment using, as an example, a 150 watt high pressure sodium street light, and a replacement LED fixture. The annual cost savings for an LED fixture would be about \$63.42. Annual labor savings would be about \$34.94. The total annual savings would be about \$98.37. At a purchase price of \$200, the payback period would be 2.49 years and return on investment would be 40.1%. The two graphs illustrate the annual energy savings and cost savings associated with replacing a high pressure sodium light with an LED fixture in that scenario.

1 **Q: Are you aware of what Metropolitan Edison has proposed in its distribution rate for**
2 **installation cost of LED fixtures.**

3 A: Yes, for example the installation of 12 50 watt LED fixtures is 1385.58 or 115.46 per light.

4

5 **Q: Do you have an opinion whether the MEC proposed distribution rate accurately**
6 **reflects installation costs associated with LED fixtures?**

7 A: It does not. In 2011 the City of Pittsburgh received competitive bids from contractors to
8 replace high pressure sodium cobra heads with LED street lights. The winning bid was \$45
9 per light.

10

11 **Q: What do you suggest for the MEC tariff as a result of your review?**

12 A: Since the costs of ownership of LED lights are declining, it is important that the
13 commission make the distribution costs reflect today's true costs, as any discrepancy will
14 only get worse over time. The rationale for moving to new technology should be to drive
15 the benefits toward the rate payer, the municipal customer and their citizens.

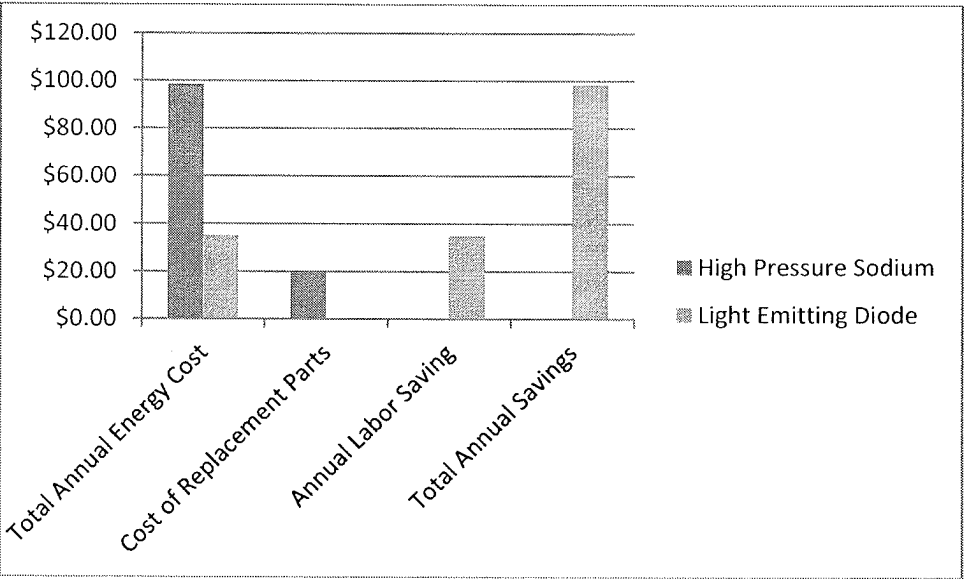
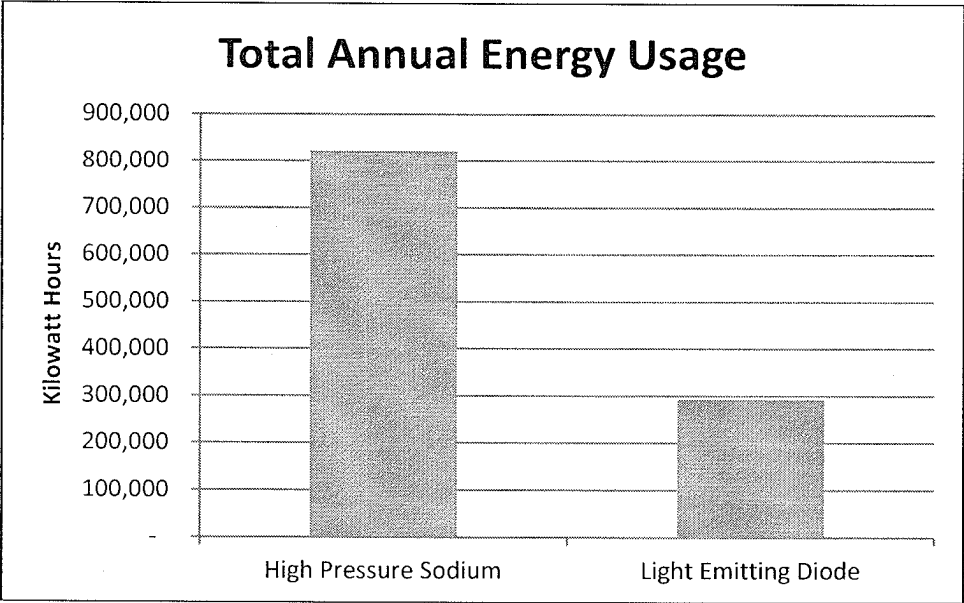
16

17 **Q: Does this complete your testimony?**

18 A: Yes. Thank you for the opportunity to share this information.

EXHIBIT 1

Commercial Payback Example		
	<u>HPS</u>	<u>LED</u>
Model	150 Watt HPS	CREE LED
Quantity	1	1
Watts per fixture	188	67
Total Wattage	188	67
Hours per Day	12	12
Days per Week	7	7
Weeks Per Year	52	52
Total Annual Energy Usage	821,184	292,656
Cost per KWH	0.12	0.12
Total Annual Energy Cost	\$98.54	\$35.12
Annual Energy Cost Savings		\$63.42
Expected Life (hours)	15,000	150,000
Project Lifetime	34.3	34.3
Cost of Replacement Parts	\$20.00	\$0.00
Labor Cost for Replacement	\$100.00	\$0.00
Annual Labor Saving		\$34.94
Total Annual Savings		\$98.37
LED Purchase Price		\$200.00
Installation Cost		\$45.00
PAYBACK PERIOD - Years		2.49
Return On Investment		40.1%



**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

**PENNSYLVANIA PUBLIC
UTILITY COMMISSION,**

v.

METROPOLITAN EDISON

)
)
)
)
)
)
)

Docket No. R-2014-2428745

CERTIFICATE OF SERVICE

I, Heather M. Langeland, do hereby certify that a true and accurate copy of the foregoing Direct Testimony of Patrick Gormley was served on all parties of record this 24th day of November, 2014 by depositing a copy of the same in the United States mail, postage prepaid and addressed to:

Allison C. Kaster, Esq.
Carrie B. Wright, Esq.
Scott B. Granger, Esq.
Bureau of Investigation and Enforcement
Pa. Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105

Darryl A. Lawrence
Aron J. Beatty
Kristine Robinson
Brandon J. Pierce
Lauren M. Burge
Office of Consumer Advocate
555 Walnut Street 5th Floor, Forum Place
Harrisburg, PA 17101

Thomas P. Gadsden, Esq.
Anthony DeCusatis, Esq.
Catherine G. Vasudevan, Esq.
Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, PA 19103

Daniel G. Asmus, Esq.
Office of Small Business Advocate
Suite 1102, Commerce Building
300 North Second Street
Harrisburg, PA 17101

Susan E. Bruce, Esq.
Vasiliki Karandikas, Esq.
Teresa K. Schmittberger, Esq.
Elizabeth P. Trinkle, Esq.
McNees Wallace & Nurick LLC
100 Pine Street
P.O. Box 1166
Harrisburg, PA 17109

Scott J. Rubin, Esq.
333 Oak Lane
Bloomsburg, PA 17815

Thomas T. Niesen
Thomas, Niesen & Thomas LLC
212 Locust Street, Suite 600
Harrisburg, PA 17101

Thomas Sniscak
William E. Lehman
Hawke, McKeon & Sniscak LLP
P.O. Box 1778
100 North Tenth Street
Harrisburg, PA 17105

David J. Dulick
General Counsel
Pennsylvania Rural Electric Association
Allegheny Electric Cooperative, Inc.
212 Locust Street
P.O. Box 1266
Harrisburg, PA 17108

David F. Boehm
Boehm, Kurtz & Lowry
36 East Seventh Street, Suite 1510
Cincinnati, OH 45202

Michael Panfil

John Finnigan
EDF
1875 Connecticut Avenue, N.W.
Washington, DC 20009

Harry S. Geller
Pennsylvania Utility Law Project
118 Locust Street
Harrisburg, PA 17101

Donald R. Wagner
Stevens & Lee
111 North Sixth Street
Reading, PA 19601

Dennis J. Buckley
Administrative Law Judge
Office of Administrative Law Judge
Pennsylvania Public Utility Commission
400 North Street
Harrisburg, PA 17120

Honorable Katrina Dunderdale
Administrative Law Judge
Office of Administrative Law Judge
Pennsylvania Public Utility Commission
Pittsburgh District Office
Piatt Place, Suite 220
301 5th Avenue
Pittsburgh, PA 15222


Heather M. Langeland