BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION v. PENNSYLVANIA POWER COMPANY	Docket No. R-2014-2428744

MAIN BRIEF OF CITIZENS FOR PENNSYLVANIA'S FUTURE

February 3, 2015

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION **v.** **PENNSYLVANIA POWER COMPANY**	**Docket No. R-2014-2428744**

MAIN BRIEF OF CITIZENS FOR PENNSYLVANIA'S FUTURE

TO THE HONORABLE DENNIS J. BUCKLEY AND KATRINA L. DUNDERDALE, ADMINISTRATIVE LAW JUDGES:

Now comes Intervenor, Citizens for Pennsylvania's Future ("PennFuture"), and, pursuant to the scheduling order in this matter, submits the following main brief.

BACKGROUND

On August 4, 2014, Pennsylvania Power Company ("Penn Power") filed with the Commission Tariff Electric – Pa. P.U.C. No. 81 ("Tariff No. 81"). On the same date, requests for an increase in distribution rates were filed by Metropolitan Edison Company ("Met-Ed"), Pennsylvania Electric Company ("PennElec"), and West Penn Power Company ("West Penn"). On October 2, 2014, the Commission adopted an Order (the "Suspension Order") suspending each of the tariff filings and referring the same to the Office of Administrative Law Judge for investigation to determine the lawfulness, justness, and reasonableness of the rates, rules, and

regulations proposed by Met-Ed, Penelec, Penn Power and West Penn. Accordingly, Penn Power's Tariff No. 81 was suspended by operation of law until May 3, 2015.

Notices of Appearance were served on behalf of I&E on September 9, 2014, OSBA on August 25, 2014, OCA on August 13, 2014 and September 29, 2014, and PICA on November 25, 2014. The OSBA and OCA also filed Complaints on August 25 and September 8, 2014, respectively. On September 12, 2014, a Complaint was filed by PICA, and on September 29, 2014, a Complaint was filed by PSU. Several Complaints were also filed by individual residential customers. On September 9, 2014, the International Brotherhood of Electrical Workers Local 459 ("IBEW") and the Utility Workers Union of America, Local 102 ("UWUA") filed a Petition to Intervene.[1] On October 3, 2014, Noble Americas filed a Petition to Intervene and EDF and PennFuture filed a Joint Petition to Intervene. CAUSE-PA filed their Petition to Intervene on October 6, 2014, and Walmart filed a Petition to Intervene on October 14, 2014.

A prehearing conference was held on October 8, 2014, at which a schedule was established for the submission of testimony and the conduct of evidentiary and public input hearings. Specifically, and consistent with Commission practice, a schedule was adopted whereby all case-in-chief, rebuttal and surrebuttal testimony would be submitted in advance of hearings and oral rejoinder could be offered at the hearings. To effectuate this schedule, Penn Power agreed to request an extension of the suspension period until May 19, 2015. This agreement provided that at the time any compliance filings are made, the Company may recoup through a surcharge revenues lost at the approved rates for the period from the statutorily prescribed end of suspension (i.e., May 3, 2015) through the date the Commission makes those

[1] UWUA filed a Petition to Withdraw on January 12, 2015.

rates effective by approving the compliance filing. All parties agreed to the terms of the conditional extension of the suspension period, and it was approved by the ALJs. A suspension tariff supplement reflecting the terms of the conditional extension of the suspension period was filed on October 29, 2014. In subsequent Orders, the ALJs found that the rate case dockets for Met-Ed, Penelec, Penn Power and West Penn would not be consolidated and further scheduled an evidentiary hearing for Penn Power on January 14, 2015 to address the base rate filing as well as smart meter cost savings issues.

Accompanying Tariff No. 81, the Company presented separate data for the historic test year ended March 31, 2014, the future test year ending March 31, 2015, and the fully projected future test year ending April 30, 2016. The Company's supporting information included the prepared direct testimony of ten initial witnesses and the various exhibits sponsored by them. Considerable additional information was supplied in response to interrogatories and data requests.

In accordance with the previously established schedule, on November 24, 2014 Complainant/Intervenor direct testimony and accompanying exhibits were served by I&E, OCA, OSBA, PICA, EDF/PennFuture, UWUA and Walmart. On December 18, 2014, rebuttal testimony and accompanying exhibits were served by Penn Power, OCA, OSBA and PICA.[2] On December 26, 2014, Penelec submitted two statements of supplemental testimony addressing issues identified in the ALJs' December 5, 2014 Prehearing Order. Finally, on January 6, 2015, surrebuttal testimony and accompanying exhibits were served by Penn Power, I&E, OCA, OSBA, PICA, EDF/PennFuture, UWUA and Walmart.

[2] Penn Power Statement No. 11-R was resubmitted in revised form on January 13, 2014.

Negotiations were conducted by the Parties in an effort to achieve a settlement of the issues in this case. As a result of those negotiations, almost all of the parties were able to agree to a Settlement. However, the Settlement does not resolve the issues raised by PennFuture concerning the scope and pricing of Penn Power's proposed LED street lighting offering. A hearing was held on January 14, 2015 solely for the purpose of entering testimony and exhibits into the record.

SCOPE AND PRICING OF LED STREET LIGHT OFFERING

In support of its arguments regarding the scope and pricing of the LED street light offering, PennFuture presented the testimony of George Woodbury and Patrick Gormley. Mr. Woodbury is the executive vice president of SolLux Technologies, which is a company specializing in street lighting and street lighting technologies as well as matters related to streetlight tariffs, acquisition of utility assets from the utility, and street lighting legislation. Woodbury direct at p. 2. In 1969, he graduated from The United States Military Academy with a Bachelor of Science degree. In 1977 he graduated from the University of Florida with a Masters degree in Construction Management. After a career in the military where he earned the rank of Colonel and commanded engineering and other units, he was the Municipal Utility Director and the Public Works Director for Fort Knox, Kentucky from 1992 to 1995. Fort Knox is the sixth largest city in Kentucky and the Municipal Utility is the largest single customer energy load of Louisville Gas and Electric. During his tenure he instituted demand management programs that reduced energy costs by 24%. From 1995 to 2000 he was the Director of Public Works in Lexington MA. During that time he authored the legislation in Massachusetts that provided for municipal ownership of street lighting and for municipal aggregation, and played a lead role in the Massachusetts Municipal Association's streetlight maintenance program. From 2000 until

the present he has helped 80 communities in eleven states acquire their streetlight systems and/or implement energy savings conversions. *Id.* at 3. For five years, from 2007 thru 2013, he worked for Republic Electric (now a division of Siemens) as a Municipal Consultant on street lighting matters. Republic Electric was the largest streetlight maintenance company in the country. In this position he was able to gain detailed insights into the maintenance and service requirements of street lighting systems. Among his current clients is a group of communities in Maine, where he has assisted with the passage of legislation allowing municipal ownership of street lighting. He has testified numerous times before various utility commissions on street lighting matters. Most recently he has served as an expert witness before the Rhode Island Public Utility Commission relative to the 2013 legislation providing for municipal acquisition of street lighting assets from the utility and the setting of tariffs for customer owned streetlights. *Id.*

Mr. Gormley graduated with a degree in finance from the Wharton School of the University of Pennsylvania in 1981. He has twenty-five years of experience selling electrical and lighting products in West Virginia and Pennsylvania for major manufacturers such as Berko, Reese Controls, Spaulding and Cree. His company was founded as Gormley Electric in 1970 by Dale Gormley and merged in 1989 with Farrington Electric to form Gormley-Farrington. In 2005, the company merged with Dan Rowsey of C.E. Fisher in West Virginia, renaming the West Virginia office Gormley-Rowsey. Today, the company operates in western Pennsylvania as Gormley-Farrington and operates in West Virginia as Gormley-Rowsey. Gormley Direct at 1.

In his review of the tariff and accompanying testimony, Mr. Gormley concluded that the Company has not recently or adequately developed their LED options and the rates did not reflect true market actualities. In summing up these conclusions, he testified:

> First, their estimated cost of acquisition is not consistent with current competitive pricing. When they actually go into the market their costs

are likely to be 15% to 25% lower. If the rates are set based on these higher estimates, these costs savings will accrue to the benefit of the utility, and not be enjoyed by the municipality and their citizens. Second, the cost of LED lighting has been declining since its inception and is likely to continue to decline. Again, these market benefits will only go to the utility, not the municipal customer. Third, the four sizes of LED lights proposed by the utility (50 watt, 90 watt, 130 watt and 260 watt) are not even available in the specifications provided by the utility in their rate proposal. They have failed to provide an adequate description of what they would provide under this program. Fourth, the utility's estimated useful life of an LED street light is overly conservative. The industry's standard for the end of life for an LED is when it has lost 30% of its original illumination (known as L70). Most competitive LED fixture manufacturers have lifetimes exceeding 100,000 hours and in some cases significantly higher values, exceeding 150,000 hours. 100,000 hours of life translates to around 25 years. These values are calculated at average temperatures that are typically higher than we experience in Pennsylvania. Since LEDs last longer in cooler environments, Pennsylvania's experience should be even longer life. Also, it is unlikely that many municipalities will choose to replace their LEDs when they have lost 30% of the light. Today, they are using many older high pressure sodium bulbs that have dissipated far more than 30% but haven't burned out and they do not choose to replace them. If they make similar decisions with LEDs, they will not change them until they have lost 40%, 50% or 60% of their original light. This would extend their effective useful life by many, many years. It is not unreasonable to expect LED street lights to still be in service 40 or 50 years after installation. 50 years of useful life is probably an overly aggressive estimate, but 15 years is unnecessarily conservative. 25 years is probably a safer estimate to make. Fifth, the utility does not appear to make any calculation for the maintenance savings with LED street lights. The cost of changing light bulbs is virtually eliminated. This is a significant savings and must be part of the rate calculation. Sixth, the utility should be responsible for indicating which LED street light is appropriate for changing out each size of existing street lights. The commission cannot adequately evaluate their offering and municipalities cannot do cost benefit analysis if there is no direct comparison. It should also be incumbent on the utility to demonstrate that they are choosing an appropriate offering for at least the most common sizes. Seventh, the utility has not offered a sufficiently low wattage option for very common residential street lights. A 70 or 100 watt high pressure sodium light can be replaced today with a 25 watt LED. The lowest watt option offered by the utility is 50 watts. The 25 watt LED light would cost less than the 50 watt version and obviously use half the energy. This difference greatly impacts the factors

considered by the municipality in consideration of the request to transition to LED technology.

Id. at 6-7. In summation, Mr. Gormley testified that the Company's proposed distribution rate for installation costs for LED fixtures for 12 50 watt LED fixtures is $1254.57 or $104.54 per light. However, this does not accurately reflect installation costs associated with LED fixtures. In 2011, the City of Pittsburgh received competitive bids from contractors to replace high pressure sodium cobra heads with LED street lights. The winning bid was less than half of that proposed by the Company at $45 per light. *Id.* at 10.

Mr. Woodbury similarly testified as to issues he saw when reviewing the Company's proposed tariff. He also testified as to the underlying cost of service study ("COSS") and some of the shortcomings of the approach taken relative to street lighting. The first issue he noticed is that the Company used a non coincidental peak method for their allocation of costs. The purpose of these COSS is to determine a causality link between costs and customer classes so these costs can be fairly allocated and the utility can realize an appropriate return on their investment. The principal shortfall of using a non coincidental peak method of allocating costs is that it essentially does not account for the marginal cost of delivery. Woodbury Direct at 4. Using the non coincidental peak method essentially ignores the Company's marginal cost of distribution as being nearly zero. For street lighting it makes more sense to "apply considerable judgment" and use a coincidental peak approach or a coincidental peak approach with some percentage allocation based on non coincidental peak. *Id.* at 6.

Converting street lighting systems to LED technology has an enormous impact on municipalities. The major impact is that the higher relative costs of A & G and other overhead are dramatically reduced. Virtually all LED manufacturers now offer minimum ten year

warranties and based on independent test lab results the anticipated life expectancy of the LED is over 20 years. Los Angeles has installed over 140,000 LED lights and to date their experienced failure rate is below .8%. As a result the number of customer calls, work orders, repair parts storage, accounting and other overhead is dramatically reduced. The cost of operating an LED system is much lower and the reliability of an LED system is much higher. *Id.* at 8.

Mr. Woodbury also observed a number of errors in the Company's analysis.

> The fixture they used was the GE Evolve series, which is an older model. Its efficacy is on the order of 66 lumens per watt, when the current family of fixtures from other manufacturers are producing over 90 lumens per watt with many over 110 lumens per watt. Cree XSP1 HE for example. This fixture is large and weighs over 27 lbs whereas the Cree XSP1 weighs in at 18 lbs and if you use the Cree XSPR it weighs 13.9 lbs. The cost of the GE fixture selected to replace a 50w HPS lamp is $215. The cost of a LED fixture for that application today is under $133. They list costs for LED fixtures beginning with 50watts and going up to 260w. This makes no sense as it implies you would replace a 50 watt HPS lamp with a 50 watt LED which is not true. The DOE Caliper 7 test results indicate that the fixture losses of an HPS fixture are on the order of 35%. When you additionally account for average mean lumens over life and the much higher efficiency of the LED fixture to put foot-candles on the roadway, the 50w HPS fixture can typically be replaced with an LED drawing less than 24 watts. In fact based on the improved response of the human eye to the higher color rendering source I have very satisfactorily replaced a 50 watt HPS lamp with an LED using as little as 19 watts.

Id. at 8-9.

Mr. Woodbury also noted that the Company had underestimated the life expectancy of an LED fixture. The Company indicated that a fixture has a 5-year limited system warranty. However, independent testing has established that a reasonable life expectancy is 20 years, and a current standard warranty is 10 years with some manufacturers considering 15 years. Thus, the Company begins its analysis with faulty assumptions to arrive at a tariff rate completely out of

line with market conditions.

PUBLIC BENEFIT

PennElec maintains over 974,000 individual streetlights of varying applications and sizes. If you replaced these lighting units with LED lighting technology, the energy savings that can be achieved would be about 433 Gigawatt Hours (433,000,000 kWh) per year. In addition to this conservation that could be achieved, LEDs offer many other benefits to both the public and the utility itself. These benefits should be encouraged through adoption of a tariff rate in line with market conditions.

LED fixtures offer significant cost savings to municipalities. The cost of electricity, and particularly electricity used to light streets, is a major operational cost for municipalities. LED fixtures can reduce energy usage by 50 to 80%. Additionally, the estimated life of an LED fixture is about five times that of a high pressure sodium fixture. This means that the fixture will not need to be maintenanced as frequently, which will also result in cost savings. In addition, the warranty on an LED fixture is ten years. This provides significant cost savings to the municipality which affords them the opportunity to offset rising cost of services elsewhere and to lower municipal taxes. Gormley Direct at 2.

There are other public benefits of using LED lighting. LED is a white light as compared to the yellow light thrown from high pressure sodium. LED's white light allows for better visual acuity, which means that drivers and pedestrians can see better under LED lighting. With the same number of foot candles landing on the street, a person would, for example, be able to more easily identify the color of a car under LED light as compared to traditional high pressure sodium.

In addition to the quality of light, LED provides a better distribution than traditional

lighting. LED can be aimed. LED spreads light out, which provides better uniformity. This improves a person's ability to see, which in turn improves safety. Also, LED lights can be aimed so that it targets only the road, in contrast to traditional street lights that shine everywhere. LED lights enables municipalities to eliminate a number of nuisance complaints associated with traditional lights shining where they are not wanted, such as into homes and apartments.

Finally, of course, it is not in the traditional interest of utilities to sell less power. However, LED lights benefit utilities by reducing their load. LED lights consumes 50-80% less energy than traditional lights, which reduces KW demand. When lights are on during peak demand periods, LED lights will reduce the cost of electricity because it will save the utilities from having to buy as much power on the spot market. Gormley Direct at 9. Finally, LED lights enable utilities to reduce maintenance costs.

Given the great benefits afforded by use of LED lights, it is respectfully requested that the approved tariff should be consistent with market actualities.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I, Heather M. Langeland, do hereby certify that a true and accurate copy of the foregoing Main Brief was served on all parties of record this 3rd day of February, 2015 by depositing a copy of the same in the United States mail, postage prepaid and addressed to:

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