Prepared Testimony of

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before the

Pennsylvania House Consumer Affairs Committee

April 18, 2017

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Introduction

Good morning Chairman Godshall, Chairman Caltagirone, and members of the House Consumer Affairs Committee. I am Gladys Brown, Chairman of the Public Utility Commission (Commission or PUC). Joining me today are my fellow commissioners: Vice Chairman Andrew Place, Commissioner John Coleman, Commissioner Robert Powelson, and Commissioner David Sweet.

Overview

As recognized during our public meeting earlier this month, the PUC – in its current form – is 80 years old. Since 1937, my colleagues, along with the Commissioners who came before us, have focused on ensuring safe, adequate, and reliable, and reasonably priced utility services to the Commonwealth's almost 13 million residents. We are very much aware that the approximately 9,000 utilities we oversee, and the cases that come before us, impact the daily lives of citizens across the state – including electricity and heat, the water they drink, transportation services, and their ability to communicate with coworkers, customers, family and friends.

Since those early days, safety has been a key focus for the PUC and its predecessors, whether that involves telephone service, railroads, electric and natural gas lines, or water service, or more distinctly modern issues, like cybersecurity, renewable energy and autonomous vehicles. The challenges facing our residents and our utilities continue to evolve, and the Commission is always working to address new challenges while remaining dedicated to our mission of serving the public interest.

As noted in the PUC's most recent annual report, the Commission is working to advance its strategic priorities:

- Ensuring the reliability and resiliency of utility service in the face of physical and cyber threats, including having hosted a June 2016 "Black Sky" exercise to test Pennsylvania's ability to respond to a large-scale disruption of power and utility services.
- Encouraging the ongoing modernization and improvement of utility infrastructure to help ensure the reliability of service as well as to provide greater access to unserved or underserved areas in all relevant areas, including in particular greater access to modern broadband services and local natural gas supply.

- Exploring the future of utility ratemaking, including discussions on how to best maintain safe and reliable infrastructure while also encouraging more aggressive energy efficiency and conservation programs.
- Further promoting the use of combined heat and power (CHP) technology, which can increase efficiency, lower costs, reduce emissions, and create greater reliability.
- Addressing advancements for transportation services, including updated regulations intended to eliminate barriers to qualified passenger carriers while still ensuring safe and reliable operations.
- Continuing implementation of the PUC's rail and pipeline safety activities.
- And exploring opportunities to enhance public participation, including the use of "Smart Hearings" to broadcast key PUC discussions live to a statewide audience, while also allowing concerned citizens to testify remotely – rather than traveling to Harrisburg or other hearing sites.

PUC Budget

The Commission's proposed fiscal year (FY) 2017-18 Budget continues all existing programs and maintains the current PUC complement of 503. We are also proposing further enhancements for key Commission safety and reliability initiatives by reallocating existing vacancies in order to add four additional gas safety inspectors (two in FY17-18), one additional electric safety inspector, a staff member dedicated to the Commission's growing cybersecurity efforts, two new auditors, and one additional staff member for our management and information systems team.

The reallocation of positions is not a one-time effort, but the continuation of several years of work within the PUC, to align our workforce with growing and evolving responsibilities. It is important to note that the state share for the Commission budget is funded by assessments and fees paid by jurisdictional public utilities, electric and natural gas suppliers, as well as assessments received for administration of Act 127 of 2011 and Act 13 of 2012 – rather than general fund revenue. Any assessments not spent by the Commission are credited back to utilities in future fiscal years.

Legislative Priorities

We appreciate the opportunity to highlight the Commission's Legislative Priorities, which include two primary issues during the 2017-18 session – one addressing what we believe to be a public safety priority, and the other impacting PUC internal operations.

The Commission continues to encourage enhancements to the Underground Utility Line Protection Law, also known as the PA One Call Law – as part of a focused effort to reduce the number of "hits" on underground utility facilities, increase public safety, and curtail costs associated with line hits for utilities, excavators and ultimately utility customers. A key element of this enhancement includes transfer of enforcement authority of the One Call Law from the Department of Labor and Industry to the Commission, as these functions more closely align with the PUC's statutory duties and adjudicative operations. In addition to the transfer of enforcement authority, the PUC encourages several other important enhancements – including the elimination of all exemptions, mandatory reporting of all line hits, and a requirement for excavators to take additional steps if they discover that facilities have not been marked as requested. These proposals are consistent with the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) recommendation, which encourage state utility commissions to enforce One Call laws; are among the safety-related recommendations offered in the Final Report of the Governor's Pipeline Infrastructure Task Force; and have been supported by numerous stakeholders.

The Commission also seeks legislative changes to the assessment language in §510(a) of Title 66. This language limits the amount the Commission can assess utilities to finance its budget. The Commission proposes to increase this cap from 3/10ths of one percent of total gross operating revenues of public utilities to 5/10ths of one percent.

Act 155 of 2014 provided the Commission with additional funding by permitting the recovery of fees from Electric Generation Suppliers (EGSs) and Natural Gas Suppliers (NGSs) to support our regulatory operations associated with these entities. Act 155 also permitted the Commission to include EGS and NGS revenues in its assessment calculation. Further, Act 155 provided that any federal funds received shall not count against this assessment cap. These provisions have facilitated appropriate funding for the Commission in the short-term.

However, the Commission's long-term budget still risks reaching the post Act 155 designed assessment cap. While the Commission continues to maintain flat operations expenses, we see sustained increases in expenses for contractual salary obligations and fringe benefits. Similarly, lower prices for natural gas and electricity, and sustained deployment of energy efficiency measures have reduced the total gross operating revenues from which the budget cap is calculated. The Commissions 2017-2018 budget, excluding Federal funds, is $73 million. The budget cap for that same time period is $78 million. It appears to be only a matter of time before we reach the budget cap; therefore we ask that you consider increasing the budget cap from 3/10ths of one percent to 5/10ths of one percent.

I also want to underscore that the Commission is committed to working with legislators to address key utility issues, as demonstrated most recently by last year's passage of a mechanism to provide for permanent statewide authority for Transportation Network Companies (TNCs), also known as ride-hailing services. Act 164 of 2016 marked the end of process that began when the PUC granted experimental authority to the state's first TNCs, while also consistently supporting a long-term legislative solution to the matter. Working together, we were able to create a framework that encourages innovation and competition, while also ensuring that important public protections are in place – including regulations governing driver integrity, vehicle safety, and insurance coverage. We look forward to repeating that process, and continuing to work constructively with all of you, to address future matters.

Staffing & PUC Efficiency Efforts

Since FY 2011-12, the Commission has reduced its overall complement by 29 positions – or 5.5 percent – while also shifting positions internally to add additional inspectors for electric safety (4), gas safety (2), and rail safety (2). At the same time, the PUC worked to address new challenges, including expanded pipeline safety responsibilities under Act 127, a new electric safety division, enhanced rail safety inspections, the collection and distribution of more than $1 billion in natural gas impact fees under Act 13, additional consumer protections in response to polar vortex issues, the safety oversight of TNCs and a growing focus on cybersecurity for our critical utilities' infrastructure.

In addition to shifting personnel and resources, we promote other ways the Commission may be able to "do more with less." The PUC's e-Filing program, which was launched in 2009, now accounts for half of all filings from regulated utilities and utility customers – a 13 percent increase from last year. Nearly 27,000 documents were e-filed with the Commission in 2016. This growing use of expedited e-Filing benefits all parties by providing quicker access to documents, increasing transparency surrounding Commission cases, and saving staff time, postage, and paper.

Another innovation fostered by the Commission involves "Smart Hearings," which were initially launched as a pilot project in 2015, and further expanded during 2016 – earning the Commission a 2016 Transformation Award from the Governor's Office of Transformation, Innovation, Management and Efficiency (GO-TIME). Smart Hearings use existing PUC live-streaming and telecommunications technology to facilitate easier public participation and comment during public input hearings, especially in matters involving wide-reaching utility territories, where individuals might be required to travel long distances to attend hearings in-person. The use of this technology not only extends the Commission's reach to more consumers, but also increases transparency – allowing concerned citizens, the media, and other parties to see and hear the proceedings from remote locations. Smart Hearings also achieve travel and productivity savings, as fewer PUC employees are needed to travel to multiple in-person hearings. This may also result in savings for other parties, including other state agencies such as the Office of Consumer Advocate and Office of Small Business Advocate as well as other stakeholders.

Savings for utility ratepayers and consumers are equally important for the Commission, as highlighted by the management audits and management efficiency investigations regularly conducted by the Commission's Bureau of Audits. During the past fiscal year, these audits and investigations identified improvement opportunities that could save utilities up to $14.6 million annually, along with one-time savings of nearly $4 million. All of these savings ultimately benefit utility customers.

Consumer outreach and education is another primary mission for the PUC, something that was highlighted this past December – which marked the 20th anniversary of electric competition in Pennsylvania. As of December 2016, nearly 2.1 million electric customers were using competitive suppliers, accounting for about 70 percent of the total electric power usage in Pennsylvania. This is a 2.3 percent increase in the number of consumers using competitive suppliers, as compared to last year. Note: A recent study produced by the Kleinman Center for Energy Policy at the University of Pennsylvania calculated the impact of electric competition in Pennsylvania. The study estimated that residential customers across the state saved over $818 million on their electricity supply in 2016, as compared to

1996 – when pre-competition electricity prices in the Commonwealth were about 15 percent above the national average.

The Commission's energy information and shopping portals – the PaPowerSwitch and PaGasSwitch websites – are constantly being improved to help educate consumers about how they can potentially reduce their energy costs. Drawing over one million visitors per year, these sites provide access to information about how to shop, how to save, energy efficiency, and different types of rates and product offerings. Our utility shopping websites serve as national and international models for retail energy shopping. A PUC survey of consumers (conducted in late 2016) helped quantify our belief that consumers are indeed getting the message about energy shopping, with 94 percent of consumers indicating that they are aware that they have the ability to shop for their electric provider. In addition, over 75 percent of consumers who have switched electric providers say that the process of switching was very/extremely easy, and 90 percent of the consumers who have visited the PaPowerSwitch website say it provides them with helpful information.

PUC Workload & Responsibilities

The Commission's workload related to utility rate cases has grown in recent years, as the number and tempo of these requests has increased. During 2016, six electric distribution companies (EDCs) filed base rate increases, requesting a combined total revenue increase of nearly $441 million; two natural gas distribution companies (NGDCs) filed rate requests for revenue increases totaling $114 million; and eight water/wastewater companies filed rate requests for revenue increases of more than $10 million. All of these cases require thorough review and draw extensive input from consumers, various advocates, and other stakeholders, commanding a great deal of Commission resources as we seek to balance the need for safe and reliable utility service with the importance of maintaining just and reasonable rates.

Equally noteworthy is the substantial number of entities the Commission oversees. Presently the PUC oversees 11 EDCs, 400 EGSs, 27 NGDCs, 250 NGSs, 660 telecommunications carriers, 83 water companies, and 8,000 transportation companies. In total, the PUC oversaw approximately 9,000 entities in FY 2016-17, furnishing the following in-state service: electricity; natural gas; telephone; water and wastewater collection and disposal; steam heat; transportation of passengers and property by motor coach; truck; taxicab and TNC; pipeline transmission of natural gas; and public highway-railroad crossings.

These utilities, and by extension the PUC, face new issues and concerns – including matters like cybersecurity, which has the potential to impact safety and reliability of key services. This is also a concern for the General Assembly, the Administration, other states, the federal governments, and the general public. As I submitted in my budget testimony, cybersecurity has been identified as the number one security threat worldwide. Hardly a week goes by when we are not reading about a cyber incident or data breach involving the loss of personal identification information or a computer system being held "hostage" until a ransom is paid. No person or entity is immune from such attacks. Utilities are continuous targets as is evidenced by attacks on electric utilities in the Ukraine and Russia in 2015 and 2016.

The PUC continues to work closely with our utilities, the Pennsylvania Emergency Management Agency, the Pennsylvania State Police, the Governor's Office of Homeland Security, the Office of Administration, and cyber experts in the federal government on ways we can identify, analyze, and prevent potential cyber incidents. We will continue our efforts by working with all of these entities on ways our utility companies can mitigate any threats that may arise. Finally, we will maintain an open dialogue with our regulated utilities to share best practices, to learn ways utilities can protect themselves from cyberattacks, and to prepare responses which can mitigate damage and timely restore essential services should such an attack occur.

Given the size and scope of Commission responsibilities, combined with the knowledge and skills of the Commission staff, Pennsylvania continues to exercise a strong voice among regional and national utility regulators. We are heavily involved in the Mid-Atlantic Conference of Regulatory Utilities Commissioners – and Commissioner Powelson is the current president of the National Association of Regulatory Utility Commissioners. So many of our utility issues – ranging from energy policy and competitive markets to infrastructure development, broadband, and transportation – are regional or national in scope and impact, and it is essential for our state to be an integral part of these discussions.

I would like to touch on some of the key issues for the major categories of public utility service regulated by the PUC: Transportation, Natural Gas, Electricity, Telecommunications and Water, in order to aid your understanding of our work.

Transportation

The Commission holds broad regulatory authority over transportation in the state. This authority encompasses the transport of people and goods via motor vehicle and railway. TNCs have been at the forefront of Commission action the past few years. This past November, the General Assembly passed, and Governor Wolf signed into law, Act 164 which provides for permanent statewide authority for these innovative services – addressing matters such as vehicle safety, driver integrity, insurance coverage, and licensing requirements. In addition, this new law gave the Philadelphia Parking Authority exclusive authority to regulate ride-sharing services originating in the city, and to require ride-sharing companies to pay a 1.4 percent tax on gross receipts from fares collected on rides that start in Philadelphia. Ride sharing in all other cities and counties in Pennsylvania is now regulated by the PUC.

As a result of this new law, the Commission acted quickly and, in December 2016, established an application process for new TNC licenses. In January of this year, the Commission granted Rasier-PA/Uber a license to transport persons via TNC services in Pennsylvania, and at our February 9, 2017 Public Meeting, the Commission granted the license applications for Lyft, Inc. and Freed Man Autonomous Vehicles, LLC. This Commission commends the General Assembly and the Governor for this groundbreaking legislation and is pleased that TNCs are now part of the state's regulatory framework.

Moving forward, "the future is now" may be the most operative phrase to describe the transportation of persons and goods in Pennsylvania. In 2016, the country witnessed the inception of autonomous vehicles, or driverless cars, right here in the Commonwealth. Presently such vehicles retain an individual seated in the driver's seat to take over the operations in the event of a problem. The Commission will be actively monitoring the future application of this technology. In fact, language in Act 164 discusses the future role of the PUC as it relates to autonomous vehicles. The Commission will continue to hold discussions with industry leaders on this technology. We encourage innovation and the development of new technologies that support improved public services. Amidst the excitement, it is essential to affirm the Commission's statutory obligation to ensure that these vehicles operate in a safe and reliable manner.

Our regulation of TNCs is only one component of a much broader responsibility we have regarding motor vehicles on our streets and highways – whether these vehicles are transporting people or goods. New rules and enforcement procedures will undoubtedly be needed to ensure safety. To uphold this responsibility the Commission communicates frequently with state and federal lawmakers, the state Department of Transportation, the state Insurance Department, public utility commissions in other jurisdictions, the U.S. Department of Transportation, the

National Highway Traffic Safety Administration, the Federal Motor Carrier Safety Administration, the insurance industry, and the general public.

The safety of utility customers is paramount to me and my fellow Commissioners. Recently, rail safety has come under an increasingly significant spotlight. There are over 5,600 miles of railways located in Pennsylvania. These railways are being utilized more due to the demand to transport petroleum based commodities and their associated production resources across the state. The Commission's rail safety inspectors work side by side with counterparts from the Federal Railroad Administration to carry out inspections and enforcement actions related to tank cars, railroad lines, bridges, signals, grade crossings, and hazardous material shipping requirements necessary to respond to the increased utilization of railways. In 2016, our Rail Safety Division inspected over 23,000 rail cars, 486 locomotives, and 1,263 miles of track while logging 135,499 trip miles. In addition, that division held 224 field meetings/inspections, approved 33 bridge project at a cost of $232 million, 128 at-grade crossings at a cost of $17.2 million, and 16 public utility municipal contracts.

Our rail safety division has several vacancies to fill during the upcoming year, including a track inspector and a signal inspector. We continue to provide inspections with less than a full complement of inspectors to ensure the safe movement of trains throughout the state. I want to assure the members of the committee that safety is not being compromised. We will continue to work to ensure that our rail network is safe and reliable, so that the people, businesses, and communities that rely on rail transportation can do so now, and in the future.

Natural Gas

Natural gas constitutes a significant role in Pennsylvania's vibrant energy sector, led by the continued production from shale formations. According to the U.S. Energy Information Association, Pennsylvania produced 18% of the natural gas drilled in the country in 2015, second only to Texas. Sustained drilling activity brings with it the responsibility for the Commission to efficiently disburse impact fee funds pursuant to Act 13 of 2012. Last year, counties and municipalities across the state directly affected by drilling received a total of $101,800,020. Additionally, $67,866,680 was placed into the Marcellus Legacy Fund, which provides financial support for environmental, highway, water and sewer projects, rehabilitation of greenways, and other projects throughout the Commonwealth.

Since the passage of Act 13, the Commission has distributed more than $1 billion to communities throughout Pennsylvania – and, as affirmed by a recent review conducted by the Auditor General's Office, the PUC accurately collected and distributed the fees to municipalities, counties, conservation districts and state agencies, in accordance with the law. I underscore this point because the Auditor General's report also raised other issues regarding the structure of Act 13, which are policy matters for the General Assembly rather than operational or functional issues for the PUC. As we continue to implement our Act 13 responsibilities, we will endeavor to improve the informational awareness of all affected stakeholders through coordination with the County Commissioners Association of Pennsylvania, the Pennsylvania State Association of Township Supervisors, and the Pennsylvania State Association of Boroughs.

A keystone of the Commission's mission is the prudent development of a robust gas market in the state. In support of this mission, we continue to evaluate and administer policies that will foster healthy retail gas competition. There is ample room for improvement in this market, with 14.2 percent of customers shopping for gas in the state (though "shoppers" account for more than 78 percent of the natural gas load). This past year the Commission launched PaGasSwitch.com. This website is founded on the proven success of PaPowerSwitch.com's online and mobile designs. Additionally, the Commission's Office of Competitive Market Oversight continues to pursue means that can enhance the viability of the marketplace. Case in point, the Commission is presently evaluating the viability of accelerated three-day switching for gas shopping.

We also remain steadfast in our duty to answer the call of increasing demand for natural gas distribution service. Seven regulated NGDCs now offer alternative financing options for the extension of service to homes. Further, a number of NGDCs now also offer these types of programs to commercial customers. There are approximately three million natural gas customers in the state. This number may seem significant, but the Commission maintains there is room for growth and will strive to achieve that in an economically responsible manner.

While extending natural gas service to unserved and underserved areas is a priority, our ultimate responsibility is to foster a safe natural gas distribution and transmission network. The Commission employs 15 Gas Safety Inspectors who monitor over 47,000 miles of distribution lines and over 1,100 miles of intrastate transmission lines. This responsibility entailed over 2,200 inspections in 2016. However, the state's distribution system still consists of a significant amount of at-risk pipe, predominantly populated by unprotected steel and cast iron lines. Over

10,000 miles of the state's distribution system can be categorized under the federal government's definition of "at risk". This represents approximately 22 percent of total distribution mileage. In an effort to reduce this figure, the Commission has approved Long Term Infrastructure Improvement Plans for six of our major gas utilities. These plans lay out the timeline for replacement of all at-risk pipes. Five utilities have a range of replacement from 17 years to 28 years. Philadelphia Gas Works has a schedule of 48 years. This timeline, although an outlier when compared to other gas utilities, represents a significant reduction achieved in 2016 through Commission action because as this utility's previous timeframe was 80 years.

The Commission also believes that enabling safe construction environments around utility infrastructure, particularly natural gas given its combustible nature, is vital to our Commonwealth. Consequently, the PUC maintains support of enhancements to the PA One Call program, with a central focus of reducing the number of hits on underground lines. These hits are a threat to the safety of workers and bystanders, and can impact the cost and reliability of utility service.

Electricity

One of the most ubiquitous yet evolving industries the Commission regulates is electricity. We strive to navigate the challenges inherently created by advancements in technologies within the demand and supply side of this industry. Thanks to this General Assembly's foresight in its passage of Act 129 of 2008, Pennsylvania is in the vanguard of energy efficiency. Each of Pennsylvania's seven largest investor-owned EDCs (more than 100,000 customers) offers a plethora of efficiency rebates and incentives for all customer classes. From June 1, 2016 until May 31, 2021, these EDCs will invest over $1.8 billion to support efficiency investments. These expenditures are estimated to return a total benefit to ratepayers of $2.7 billion, resulting in a savings of $1.40 for every dollar spent. Initial results of the most recent phase of Act 129 energy efficiency programs (2013-2016) indicate savings of approximately $1.70 for every dollar spent.

Understanding the benefits of efficiency, the Commission is presently investigating the means to foster increased development above and beyond the existing 3,000 megawatts of combined heat and power (CHP) in Pennsylvania. This technology recycles the energy from an existing process to create additional energy for a facility's heating, cooling, or processing demands. Through a series of *en banc* hearings conducted in 2015, the Commission learned about the benefits created from the application of this technology. First, overall energy demand from the local

EDC is lowered which in turn reduces the utility bill for the end-user. Second, CHP systems can reduce emissions by increasing the amount of energy harnessed per unit of fuel. Third, the technology offers reliability and resiliency benefits by providing energy to end-users even when the electric distribution grid is down.

In 2016, the Commission issued a proposed Policy Statement intended to support best practices and policies for CHP investments. The Commission is currently reviewing comments to this proposal and we look forward to making a final determination this year.

The advent of distributed generation and increased energy efficiency investments has led the Commission to evaluate whether conventional ratemaking principles will adequately compensate utilities, as customers consume less electricity, gas, and water. For instance, the number of distributed energy facilities interconnected to the electric distribution grid has increased from 4,400 in 2011 to 10,600 in 2016. Under traditional rate design, utilities recover the majority of their fixed costs from volumetric charges. When sales volumes fall, utilities recover fewer fixed costs. The Commission held an *en banc* hearing in March 2016, to gather perspectives on alternative ratemaking principles. These alternatives, such as revenue decoupling, involve re-thinking existing ratemaking principles to make utilities' fixed cost recovery less dependent on customer usage volumes. Alternative ratemaking advocates suggest this could support greater energy efficiency and conservation by diminishing or removing the link between utility revenues and the volume of product sold, colloquially referred to as the "throughput incentive." Opponents raise concerns regarding impacts on consumers, particularly small volume or low-income consumers, who can best exert control over their utility bills by limiting their usage. This year, as part of the ongoing study of alternatives to traditional ratemaking principles, the Commission solicited comments from key stakeholders to further explore potential benefits or shortcomings of different rate methodologies, and also to consider issues or concerns that may be unique to particular utility sectors.

Like transportation and natural gas, our authority over electricity involves a significant safety component. Over the past ten years, there has been an average of 26 incidents per year involving serious injuries and fatalities related to contact with regulated EDCs' lines, resulting in approximately six fatalities per year. In response, the Commission formed its Electric Safety Division (ESD) in 2014. The ESD conducts inspections, audits, and accident and fatality investigations concerning our 11 regulated EDCs. The ESD has jurisdiction over the activities and equipment that are utilized for each EDC's distribution facilities (meters, poles, wires, transformers, substations, etc.). This includes over 120,000 miles of distribution lines and over 38,000 miles of transmission lines. Conversely, the ESD does not have purview over customer-owned equipment or facilities. As previously noted, the ESD currently has three field inspectors and one supervisor with a proposal to add one additional safety inspector in FY 2017-18. In 2016, the ESD investigated 4 fatalities, 30 reportable incidents, and 59 electric safety complaints. The inspectors logged over 45,000 miles of travel to facilitate these actions.

Moving on, the Commission continues to administer the Alternative Energy Portfolio Standards (AEPS) Act of 2004, which requires that EDCs and EGSs include a specific percentage of electricity from alternative resources in the generation they sell to customers in Pennsylvania. These requirements gradually increase according to a 15-year schedule, ultimately peaking at 18 percent by 2021. Presently the percentage is set at 14.2 percent.

EDCs and EGSs meet their AEPS requirements by acquiring Alternative Energy Credits (AECs) in amounts corresponding to the percentage of electricity that is required from qualified alternative energy sources. Examples of qualifying resources include hydro, geothermal, wind, solar, and biomass. These generation facilities must be located within Pennsylvania or within the PJM Interconnection (PJM) footprint to be eligible under the AEPS. One AEC represents one megawatt hour of electricity generated from a qualified alternative energy source and can be purchased separate from the electric generation commodity. For the AEPS compliance year ending May 31, 2015, over 16 million AECs were used by over 90 different entities to comply with the AEPS. The Commission reviewed each of these entities' credit liabilities and balances to ensure that AEPS mandates were met. For that same year, approximately 50 percent of credits used for compliance were generated within Pennsylvania.

Another topic of high interest is net-metering. Net-metering is a service under the AEPS which permits a customer – called in this case a "customer-generator" – to generate their own electricity to power a home or business, and sell the excess back to the grid. Last year marked the completion of a long-standing rulemaking related to net metering. The rulemaking commenced on February 20, 2014, when the Commission issued a Notice of Proposed Rulemaking (NOPR) to amend certain regulations pertaining to net-metering, interconnection, and compliance provisions.

The NOPR received significant public comment and was disapproved twice by the Independent Regulatory Review Commission (IRRC). The Commission subsequently modified the regulations in response to the concerns of the IRRC and to address issues raised by the Office of Attorney General. On October 27, 2016, the

Commission voted 5-0 to implement the modified regulations. The final form regulations revised certain rules consistent with Act 129 of 2008; clarified language related to virtual meter aggregation and independent load; refined net-metering compensation rules, including adding a definition for the term utility; and, further explained the program administrator's authority.

Consistent with the Commission's mandate under Act 129, Pennsylvania is making significant progress toward the installation of advanced electric meters. Each of the seven major EDCs now has an approved plan to implement advanced meter roll-out. As of June 2016, more than 2.4 million Act 129 compliant meters were installed in the state. This represents 49 percent of the Commonwealth's meters. PECO is complete after installing 1.7 million meters; the four FirstEnergy utilities have installed 800,000 meters; Duquesne has installed 350,000 meters, and PPL commenced installation of meters with 19,000 deployed by late 2016. Utilities which have not finalized deployment are well on track to completion by 2021-22, with most estimating full deployment by the close of 2019.

The Commission's goal is to assure that Pennsylvania's ratepayers receive the best value from this investment. That means using meter information not only for incumbent utility reliability management and more efficient utility operations, but also for third-party company innovations such as time-of-use rates and demand response implementation. With this goal in mind, in 2016 the Commission completed its design and implementation mandates for web portals which EGSs and customer authorized entities can use to harness smart meter data. These web portals will support the offering of value added services and dynamic rate designs in the retail electric market.

While the Commission no longer regulates wholesale generation facilities, we nonetheless are charged with ensuring that our distribution companies provide safe, adequate, and reliable service to customers. Because reliability is of utmost importance to the Commission, we monitor the generation sector through our interactions with PJM, our participation in the Organization of PJM States Incorporated (OPSI), and our participation in the National Association of Regulatory Utility Commissioners.

We monitor power plant construction and retirements within the Commonwealth for effects on reliability and rates. Of particular interest, given the abundance of affordable natural gas in Pennsylvania, is the construction of natural gas-fired generation plants within the Commonwealth. Shale gas has supported an evolution in the wholesale generation market, driving construction of highly economic natural gas generation. From 2007 to 2016, 5,500 megawatts of Pennsylvania-based coal generation was retired. During that same time period 3,300 megawatts of Pennsylvania-based natural gas generation capacity was constructed. Further, 5,000 megawatts of natural gas generation capacity is presently under construction in the state. This is an example of market efficiency, as the wholesale market is working efficiently to support the least cost generation resource with feedstock produced domestically. Look no further than the PJM energy price for proof. The price has dropped from $71.13 per megawatt hour (MWh) in 2007, to $29.23 per MWh in 2016. Additionally, this migration toward natural gas generation has significantly reduced the state's carbon, nitrous oxide, mercury, and sulfur dioxide emissions.

Lastly, the Commission continues to support the effective integration of demand response into wholesale and retail electricity markets. Demand response compensates electric customers for their voluntary reduction in consumption during times of peak system demand, or, during grid emergencies. Over 5,000 electric accounts in Pennsylvania currently offer this service resulting in total savings exceeding $1 billion statewide. The Commission maintains an active voice within PJM and nationally to foster market designs which appropriately recognize the value of demand response.

Telecommunications

The Commission maintains a concerted focus to ensure that telephone voice service and, increasingly, broadband internet access service, is available to all Pennsylvanians. Universal service historically meant telephone voice service only. However, due to changes in technology and governmental policies, broadband, or internet service, has become an essential service, with federal support of such service eventually moving away from voice to broadband, emphasizing its elevated importance.

Related to voice service, the Commission continues to monitor the Verizon exchanges that were reclassified as competitive in 2015, to ensure that local service quality is not diminished. Verizon's local service in non-competitive exchanges is still price regulated under Chapter 30 of our Public Utility Code. Irrespective of the competitive reclassification, Verizon's local services are still under regulatory safeguards for adequacy, quality, reliability, safety, and privacy. This continued oversight appears to be fostering positive impacts in the long run. For example, 98 percent of Pennsylvania households have telephone service. This is higher than the national average of 96.3 percent based on the Federal Communication Commission's (FCC's) 2017 Universal Service Monitoring Report. This difference may appear small, but it signifies that an additional 109,076 households out of Pennsylvania's 4.9 million have telephone service when compared to the national average.

Pennsylvania's record is even better at lower income levels. In 2015, for example, 99.1 percent of Pennsylvania households with incomes in the $10,000 to $19,000 range had telephone service compared to a 96.4 percent nationwide average based on the same FCC 2017 Monitoring Report. This translates to an additional 133,866 low-income Pennsylvania households with telephone service when compared to the national average. Finally, Pennsylvania is one of the top six states for voice telephone service levels nationwide, an accomplishment attributable to prudent regulatory oversight and upholding of the statutory universal service principles in Chapter 30.

The Commission has effectively overseen the industry's compliance with the General Assembly's Chapter 30 legislation, a law requiring incumbent local telephone companies (ILECs), the only telecommunications carriers subject to Carrier of Last Resort (COLR) obligations, to provide broadband service at speeds of 0.128 Megabits per second (Mbps) up and 1.544 Mbps down by the end of 2015. Broadband access at those speeds is now available on demand or no later than ten business days of a request. However, as evidenced by consumer demand and actions at the FCC, the evolution of technology has rendered these state-statutory speeds outdated.

The FCC is addressing this change by reforming the way it provides federal support to our carriers in Pennsylvania. These carriers are required to provide voice service and build broadband networks capable of providing high-speed access to the internet. This FCC support is vital because without it, Pennsylvania would exacerbate its net-contributor status at the federal level. In 2015, Pennsylvania paid $169 million more into the federal Universal Service Fund than the state received back in federal universal service support. Pennsylvania consistently is the fifth largest net contributor state to the federal universal service fund mechanism.

In 2016, the FCC offered approximately $51 million to Pennsylvania's price cap ILECs to build a network that can provide voice service and broadband internet access service at 10 Mbps down and 1 Mbps up. This support is limited to high cost locations in census blocks where no unsubsidized competitor exists. In order to increase the availability of broadband internet access service, each of these price cap carriers except Verizon Pennsylvania and Verizon North (Verizon) accepted the aggregate annual $27.7 million offered for a six-year period. Those carriers are now in the process of constructing a broadband network that can support both voice service and broadband internet access service at 10 Mbps down/1 Mbps up to an additional 76,777 locations (residences or businesses) in census blocks that currently lack that internet speed. This represents about 54.3 percent of all the federal support offered to Pennsylvania.

The FCC objective cost model allocated the remaining 46 percent to support broadband deployment in the Verizon territories. Verizon, however, declined that support, refusing $23.27 million per year for six years, or just under $140 million, and putting Pennsylvania at risk of losing that amount of federal funding to support high-speed internet infrastructure deployment. The Commission has been actively involved in the proceeding before the FCC, arguing that the FCC should allow that funding to remain available to other providers in Pennsylvania. This is important because only 60 percent of Pennsylvanians have access to broadband at the currently identified standard of 25 Mbps down/3 Mbps up compared to 61 percent nationwide, and the sum of funding declined by Verizon is substantial. A similar effort before the FCC by the New York Public Service Commission succeeded. First, New York had established a process that replicated the reverse auction contemplated under the FCC's rules and, therefore, could review bids in compliance with a process the FCC condoned. More importantly, however, New York had appropriated $500 million to a dedicated state broadband fund administered by its Empire State Development, akin to our Department of Community and Economic Development (DCED), that provided state grants available to match, and thereby extend the reach of the federal support. New York thus satisfied the dual goals of the FCC that states complement both the cost-effectiveness and efficiency of the federal support as a means of retaining access to it. In the Commission's actions, which continue at the FCC, we have engaged the support of other entities, including the Governor's Offices of Budget, Policy, and General Counsel, the DCED, and the Rural Development Council of the Department of Agriculture, in an effort to identify and harness all potential financial resources available within the state, including infrastructure economic development grants. We have also received the support of U.S. Senator Bob Casey and U.S. Representatives Mike Doyle and Ryan Costello, and we continue to reach out to other Congressional delegates.

In addition, the FCC implemented an annual $2.25 billion Broadband Lifeline Program that helps eligible low-income consumers and households to buy voice or broadband service with support from the federal universal service fund mechanism. This program went into effect December 1, 2016. The Commission worked closely with the FCC and the Department of Health and Human Services to ensure the Commonwealth can confirm eligibility and to ensure eligible Pennsylvanian households are aware of this new support, including who provides it and how to access it.

Finally, the Commission is actively involved in multiple federal telecommunications proceedings at the FCC and in the federal courts advancing Pennsylvania's interests, including opposing FCC or other efforts to limit the General Assembly's authority over intrastate rates and services through federal preemption.

Water

Access to clean water at reasonable rates has always been a foundation of this Commission's responsibilities, and we continue to administer regulations to foster a healthy water industry.

Presently, the water industry in Pennsylvania faces three distinct challenges. The first concerns infrastructure of existing regulated utilities. These companies still use pipes that are upwards of 60 or more years old. Thanks to the foresight of the General Assembly, each major water utility continues to utilize the Distribution System Improvement Charge (DSIC) in effort to accelerate infrastructure replacement. Meanwhile, this Commission continues to monitor and implement appropriate customer protections.

Second, many small regulated water companies as well as municipal water systems are in dire need of repairs and have little resources to support these projects. Larger regulated utilities have consistently seen these utilities as opportunities for growth while the Commission has seen this as an opportunity to upgrade infrastructure and expand access to adequate and reliable water supplies that meet appropriate environmental quality standards. This has resulted in a significant amount of industry consolidation throughout the state. In the 1990s the Commission regulated approximately 400 water companies. At present we regulate 83.

House Bill (HB) 1326, from the 2015-16 legislative session, further accelerated the opportunities for investor-owned utilities to step in and purchase municipal water and wastewater systems in need of repairs. This bill expands the valuation options permitted for these purchases to include market value as an option separate from the traditionally used original cost book value. This option will provide incentives for investor-owned firms to purchase more municipal water and wastewater systems so they can expand operations and grow their rate base while providing better service to the acquired customers. Applications filed under HB 1326 are just beginning to be filed with the Commission.

Last, the presence of lead in water has arisen recently as a significant public health issue. This Commission is presently considering methods to accelerate the replacement of lead pipes in the state. As with any challenge, there are obstacles, most notably the prevalence of lead service lines which are owned by customers, rather than utilities. However, we are working diligently with our regulated utilities to protect the health and safety of Pennsylvania residents.

For example, on March 2nd 2017 the Commission approved a joint settlement regarding York Water Company that allowed for the immediate replacement of both company-owned and customer-owned lead service lines, with the total line replacement done at the same time and solely at the company's cost. The efficiency of this approach expedites lead line replacement, regardless of the owner, minimizes system disturbance and thereby total costs, and provides better service to York Water customers, particularly to those who might find the total cost of replacing customer-owned lines to be burdensome or too expensive a task to undertake independently.

Closing

In closing, I submit that the details contained in this testimony are not an exhaustive listing, but rather, a sample of the responsibilities this Commission tackles everyday as an administrative agency. The industries we oversee constantly evolve - look no further than recent changes in the transportation sector as a prime example.

This Commission is well equipped to decisively promulgate and administer regulations in an objective manner. As we continue to do so, we will never stray from our true mission: to balance the needs of consumers and utilities; ensure safe and reliable utility service at reasonable rates; protect the public interest; educate consumers to make independent and informed utility choices; further economic development; and foster new technologies and competitive markets in an environmentally sound manner.

My colleagues and I are at your service if you should have any questions.