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September 6, 2018

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Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street, 2nd Floor North
P.O. Box 3265
Harrisburg, PA 17105-3265

VIA EMAIL AND FIRST-CLASS MAIL

RE: Pennsylvania PUC v. Duquesne Light Company; Docket No. R-2018-3000124; R-2018-3000829

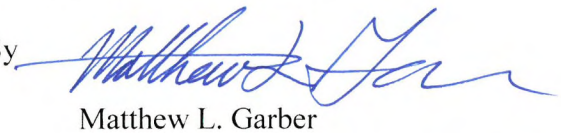
Dear Secretary Chiavetta:

Enclosed for filing please find the Brief of the Duquesne Industrial Intervenors ("DII") in the above-referenced proceeding.

As evidenced by the attached Certificate of Service, all parties to the proceeding are being served with copies of this document. Thank you.

Sincerely,

McNEES WALLACE & NURICK LLC

By 
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Enclosure
c: Administrative Law Judge Katrina L. Dunderdale (via E-Mail and First-Class Mail)
Stephen Jakab, Bureau of Technical Utility Service (via e-mail)
Certificate of Service

CERTIFICATE OF SERVICE

I hereby certify that I am this day serving a true copy of the foregoing document upon the participants listed below in accordance with the requirements of 52 Pa. Code Section 1.54 (relating to service by a participant).

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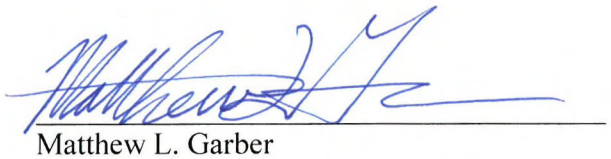

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Dated this 6th day of September, 2018, at Harrisburg, Pennsylvania

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	Docket No. R-2018-3000124
	:	
Office of Consumer Advocate	:	C-2018-3001029
Jason Dolby	:	C-2018-3001074
Peoples Natural Gas Company LLC	:	C-2018-3001152
Office of Small Business Advocate	:	C-2018-3001566
Duquesne Industrial Intervenors	:	C-2018-3001713
Leonard Coyer	:	C-2018-3002424
NRG Energy Center Pittsburgh LLC	:	C-2018-3002755
	:	
v.	:	
	:	
Duquesne Light Company	:	
1308(d) Proceeding	:	
	:	
Tax Cuts and Jobs Act – Duquesne Light Company	:	Docket No. R-2018-3000829
	:	

BRIEF OF THE
DUQUESNE INDUSTRIAL INTERVENORS

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Dated: September 6, 2018

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I. INTRODUCTION

The parties to Duquesne Light Company's ("DLC" or "Company") rate case have resolved all issues in settlement save one – the proper rate, terms, and conditions for DLC's Rider No. 16 ("Rider 16"), which determines Back-up Service costs for customer-owned distributed generation systems.

The rate and structure of Rider 16 is intertwined with the fate of many future projects in the Pittsburgh region. These projects have the potential to serve as a bulwark against rising threats to the grid, supporting DLC in its mandate to provide safe, reliable service. They would support manufacturing in southwestern Pennsylvania, reduce environmental impact, and help maintain order and calm in a grid emergency.

Unfortunately, in its current state, Rider 16 is not designed to provide accurate cost signals. Not only does Rider 16 fail to account for the broad benefits to ratepayers of distributed generation, it unfairly overstates the rate for Back-up Service.

This brief will demonstrate that Rider 16's current Back-up Service rate is much higher than the cost to serve Rider 16 customers. DII respectfully requests that the Pennsylvania Public Utility Commission ("Commission" or "PUC") order DLC to: (1) establish a Rider 16 Back-up rate based on a 5% load factor, at approximately $0.352 cents per kW; (2) establish a distinct Maintenance Rate for planned outages at $0.235 cents per kW; and (3) ensure that Rider 16 costs are determined based on an accurate analysis of distributed generation characteristics of non-coincidental outages in future rate proceedings.

II. PROCEDURAL BACKGROUND

On March 28, 2018, DLC filed Supplement No. 174 to Tariff Electric Pa. P.U.C. No. 24, to be effective May 29, 2018, which contained a proposed general increase in electric distribution rates of $133.8 million.

At various dates in March, April, and May, 2018, numerous parties filed Complaints, Motions to Intervene, and/or Notices of Appearance.[1]

On May 3, 2018, the Honorable Administrative Law Judge Katrina L. Dunderdale held a Prehearing Conference, discussing procedural matters and establishing a litigation schedule.

On May 7, 2018, Duquesne Industrial Intervenors ("DII") filed a formal Complaint against DLC.[2] On May 8, 2018, Judge Dunderdale issued a Prehearing Order, consolidating DII's and other parties' Complaints into the Rate Case.[3]

Non-Company Parties' Direct Testimony was submitted on June 25, 2018; Written Rebuttal Testimony was submitted on July 23, 2018; and Written Surrebuttal Testimony was submitted on August 6, 2018. The parties exchanged Written Rejoinder Testimony or outlines on

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[1] Parties participating in this rate proceeding include the Bureau of Investigation and Enforcement ("BIE"), the Office of Consumer Advocate ("OCA"), the Office of Small Business Advocate ("OSBA"), ChargePoint, National Resources Defense Council ("NRDC"), CAUSE-PA, International Brotherhood of Electrical Workers Local 29 ("IBEW"), Community Action Association of Pennsylvania ("CAAP"), Clean Air Council, Wal-Mart Stores East, LP and Sam's East, LP ("Wal-Mart"), Keystone Energy Efficiency Alliance ("KEEA"), Peoples Natural Gas Co. ("Peoples"), Duquesne Industrial Intervenors ("DII"), NRG Energy Center Pittsburg ("NRG"), and individuals Leonard Coyer, Jason Dolby, and James Fedell.

[2] DII's members for the purposes of this proceeding are: University of Pittsburgh ("Pitt"), United States Steel Corporation ("U.S. Steel"), Duquesne University, Linde Energy Services, Inc. ("Linde"), and the Allegheny County Airport Authority ("ACAA").

[3] On May 21, 2018, and June 7, 2018, DII filed an updated Appendix A, supplementing its Complaint to include additional members.

August 10, 2018. A table describing DII's prepared testimony and exhibits is attached as Appendix A.

On August 14, 2018, DLC informed the ALJ that a partial settlement (including all parties except Peoples Natural Gas ("Peoples")) had been reached. The partial settlement addressed all issues except Rider 16. Peoples, DII, and DLC would continue litigation regarding Rider 16.

Hearings were held from August 15 to August 17, 2018, in Harrisburg, Pennsylvania. The subjects for the hearings were Peoples' objection to the partial settlement and the disputes regarding Rider 16. The first two days of hearings addressed the appearance for cross-examination of DLC witnesses Davis, Moul, Milligan, Gorman, Hildebrand, Ogden, DeMatteo, and Fisher; DII witnesses Crist and Heller; and Peoples witness Nehr.

At the beginning of the scheduled third day of hearings, DLC informed Judge Dunderdale that it was withdrawing its proposed changes to Rider 16.[4] Peoples indicated that it no longer opposes the partial settlement or Rider 16. DII continues to support its positions set forth in testimony and in this brief regarding the appropriate rates, terms, and conditions for Rider 16.

On August 23, 2018, DII filed a Motion to Admit on Record Data Request Response and proposed DII Cross Exhibit No. 3. Judge Dunderdale issued the Tenth Interim Order on August 29, 2018 admitting DII Cross Exhibit No. 3 into the record.

III. SUMMARY OF ARGUMENT

In its Final Policy Statement on Combined Heat and Power, the Commission recognized that excessive Back-up rates for distributed generation facilities can hamper the development of Combined Heat and Power ("CHP") facilities in Pennsylvania. DLC's Rider 16 presents this exact

[4] Tr. at 645-646 (Fisfis).

scenario in this proceeding. Back-up Service rates must be calculated using a load factor or diversity adjustment (as embraced by DLC in its last rate case). The correct load factor based on the record evidence is 5%, which reflects actual historic and projected use of DLC's distribution system. Consequently, the Back-up Service rate should be $0.352 per kW based on the proper reflection of the historic availability of the Rider 16 Customer and expected future availability of CHP generation. DII has also conclusively established that a separate Maintenance Service provision should be added to Rider 16.

In contrast, DLC has not met its burden to establish that its existing Rider 16 rates, terms, and conditions are just and reasonable. In fact, DLC has not produced any evidence to defend its current rate of $2.50 per kW.

This proceeding provides the Commission a unique opportunity to provide clear direction regarding the rates, terms, and conditions of service for distributed generation customers in DLC's territory and throughout the Commonwealth. Studies and customer testimony demonstrate that many opportunities exist in DLC's territory for distributed generation to play an important regional role by promoting reliability, resilience, efficiency, and environmental concerns. At the same time, distributed generation enables the region to beneficially use the local natural gas resources our Commonwealth is fortunate to have. Dramatic changes to Back-up rates (as DLC initially proposed in this proceeding), unsubstantiated rates, and built-in disincentives to schedule maintenance outages undermines the motivation and ability of customers to pursue distributed generation. In contrast, using a consistent and cost-based methodology, as DII proposes in this proceeding, enables customers to accurately analyze CHP options over the lifetime of a CHP investment. Consequently, consistently-applied Commission precedent will signal to consumers

that the Commonwealth presents a safe climate in which to invest – making our communities safer, reducing energy costs, and enhancing reliability and resilience.

DII respectfully requests the Commission to adopt the rates and conditions for Rider 16 set forth in this brief and the language for Rider 16 set forth in Exhibit No. JC-8.

IV. ARGUMENT

A. Rider 16 is an important issue that must be resolved in this proceeding.

DLC's existing retail tariff contains Rider 16, *Service to Non-Utility Generating Facilities.* As indicated by its title, Rider 16 is applicable to customer-owned, non-utility generating facilities connected to DLC's distribution system.[5] Distribution generation can be described as generation at or near the end customer's point of use.[6]

A major form of customer generation impacted by Rider 16 is CHP or cogeneration facilities. CHP technologies have been in use since the 1960s.[7] CHP is a type of distributed generation that produces heat (thermal energy) and electricity from a single fuel source.[8] CHP captures heat that normally would be lost in the generation process and uses it to provide needed heating or cooling.[9] CHP facilities have efficiency of over 50% because they recover waste heat

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[5] Rider 16 states that it is applicable to Qualifying Facilities under Federal PURPA regulations.

[6] DII Statement No. 1, p. 14 (Crist). Distributed Generation refers to customer owned or controlled generation serving all or a portion of the customer's electrical load, that is located behind the meter connected to a utility's distribution system and that may operate in parallel with the utility's system. Peoples Statement No. 2, p. 5 lines 23-26 (Daniel).

[7] DII Statement No. 1, p. 11 (Crist).

[8] Peoples Statement No. 4, p. 4 (Kefer); DII Statement No. 1, p. 10 (Crist). CHP systems tend to involve long-term capital investments. DII Statement No. 1-S, p. 24 (Crist).

[9] DII Statement No. 1, p. 10 (Crist). Thermal energy produced by the CHP process can be used for process heating, space heating or cooling, and other purposes. DII Statement No. 1, p. 12 (Crist).

and convert it to useful thermal energy such as steam or hot water.[10] CHP generation projects are often sized based on the account's thermal load requirements, not the electrical load requirements.[11] This factor makes the rates, terms, and conditions for services provided by the utility a critical aspect of the customer's economic decision when evaluating a potential CHP project.

As with most distributed generation systems, CHP systems typically operate in parallel with the local electric utility, and the CHP system power output is often supplemented by energy purchased from an electric generation supplier ("EGS") or default service provider. Consequently, the current Rider 16 addresses both *Supplementary Service* and *Back-up Service*.[12] Supplementary Service is distribution service needed on a regular basis in excess of the customer's generation capacity. Back-up Service is the monthly demand in excess of Supplementary Service.[13] The rates at issue in this proceeding are for the distribution of the energy, regardless of whether it is supplied by DLC as the default service provider or by an EGS.

Customers using Rider 16 are assigned to one of DLC's General Service rates.[14] Customers purchase Supplementary Service based on their applicable General Service rate. Back-up Service is purchased based on the distribution demand used in excess of the customer's Supplementary

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[10] DII Statement No. 1, p. 13 (Crist). In contrast, utility scale generation wastes thermal energy by exhausting most through the stacks or cooling towers, and typically has an efficiency of 30-35%. DII Statement No. 1, p. 13 (Crist).

[11] DII Statement No. 1, pp. 15-16 (Crist).

[12] Rider 16 currently refers to these services as Supplementary Power and Back-up Power. DLC had originally proposed to rename them to Supplementary Service and Back-up Service. In this brief, Supplementary Power and Supplementary Service will be used interchangeably; Back-up Power and Back-up Service will also be used interchangeably.

[13] Back-up Service in DLC's current Rider 16 is applicable to both planned and unplanned outages.

[14] Currently, Rider 16 is applicable to all General Service rates except GS/GM customers that are not metered for demand.

Service when the on-site generation is not fully operational. Currently, the Rider 16 Back-up rate is $2.50 per kW, with a penalty rate of $5.00 per kW if contract demand is exceeded.[15]

As described above, DLC filed a rate increase on March 28, 2018. As a part this rate filing, DLC proposed substantial changes to Rider 16. These changes involved eliminating all consideration of a load factor, meaning the "percentage of time that the customer relies on the DLC system for Back-up Service because the generator is not operating."[16] In other words, DLC proposed to treat any use of its distribution system by a Rider 16 customer as if the customer consistently used the system. The proposed changes also included:

(a) Changing the definition of billing determinant for Supplementary Service from *actual use* of supplemental service to a *fixed monthly charge* based on a Supplementary Service Contract Demand; however, based on further clarification during cross-examination, DLC confirmed that this definition change would not modify the actual billing for Supplementary Service[17];

(b) Changing the definition of billing determinant for Back-up Service in a similar fashion and fixing a monthly charge based on the designated Back-up Service Contract Demand, which DLC confirmed on cross-examination would result in a change in the actual billing for Back-up Service in comparison to how the current Rider 16 customer has been billed for Back-up Service[18];

(c) Increasing the Back-up Service rate by 220% from $2.50 per kW to $8.00 per kW; and

(d) Increasing the penalty rate by 220% from $5.00 per kW to $16.00 per kW if the Back-up Service Contract Demand is exceeded by 10%.

Peoples and DII opposed the increases to Rider 16. At a high level, Peoples proposed to (a) separate Back-up Service into Maintenance Service (for pre-scheduled outages of the

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[15] As a per-kW rate, this is a measure of peak demand, not energy (which would be measured in kilowatt-hours (kWh)).

[16] Tr. at 598, lines 10-14 (Crist).

[17] Tr. at 451, line 24 – 454, line 7.

[18] Tr. at 454, line 8 – 455, line 2.

customer's on-site generation) and Standby Service (for unplanned outages);[19] (b) separate Standby Service charges into peak months and non-peak months; (c) establish the Back-up Service rates using DLC Exhibit No. 6-4H, applying the 30% load factor adjustment used in the 2013 case; and (d) allow for reduction in Supplementary Service to provide an opportunity to decrease need for Standby Service.[20]

DII's position is that Back-up Service rates must be calculated using a load factor or diversity adjustment (as embraced by DLC in its last rate case), but the 30% load factor used in that proceeding is excessive in light of the one Rider 16 customer's actual unplanned outage rate of 2.5% (and other factors such as general availability statistics for CHP and other distributed generation systems). DII witness Mr. Crist accepted DLC's analysis in DLC Exhibit No. 6-4H but applied a proper cost-based allocation factor of 5% to reflect expected usage by Rider 16 customers of Back-up Service. Applying DLC's average allocation amount of $8.02/kW and a load factor of 5%, DII proposed a Back-up Service rate for unplanned outages of $0.40/kW.[21] DII also proposed to establish a separate charge for Maintenance Power on a daily (not monthly) demand rate at $0.27/kW. This was derived by dividing DLC's calculation in DLC Exhibit No. 6-4H by 30 days (in the month).[22]

After initial confusion during the hearing about whether the revenue requirement settlement in the partial settlement would reduce DLC's original litigation position, Mr. Gorman

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[19] Exhibit No. JWD-5; JWD Statement No. 2, p. 24, lines 13-15.

[20] Peoples Statement No. 2, p. 24, lines 16-19; p. 26, lines 1-9 (Daniel). Alternatively, Peoples proposed that if the Commission agrees with Company's new Rider 16 distribution rate calculation methodology (no load factor), it should charge an energy- or kWh-based distribution charge. Statement No. 2, p. 23, lines 11-15.

[21] DII Statement No. 1, p. 25 (Crist).

[22] DII Statement No. 1, p. 26 (Crist).

provided a "back of the envelope" calculation that each $1 million reduction in the revenue requirement reduced the Back-up rate proposal by 2 cents per kW.[23] This resulted in the $7.20 rate that was discussed during the hearings.[24] Mr. Gorman subsequently provided the workpapers supporting the revised Back-up rate of $7.04 per kW.[25] Applying Mr. Crist's methodology, this results in a Back-up rate of $0.352 per kW and a Maintenance rate of $0.235 per kW.[26]

After two full days of evidentiary hearings, DLC announced that it was withdrawing all changes to Rider 16.

While DII was pleased to learn that DLC withdrew its proposal to triple its Rider 16 rates, it is clear that the existing rate is excessive, unjust, and unreasonable. The PUC must calculate the load factor on a reasonable basis, applying known facts, industry standards, and legal principles. DLC has provided no evidentiary support for the existing $2.50 per kW rate or a 30% load factor, which is twelve times higher than the actual load factor of its sole Rider 16 customer.

This brief will demonstrate that DLC has not met its burden to establish that its existing Rider 16 rates, terms, and conditions are just and reasonable. In fact, DLC has not produced any evidence to defend its current rate. In contrast, voluminous evidence in this proceeding shows that a 5% load factor is just and reasonable. Furthermore, DII has conclusively established that a separate Maintenance Service provision should be added to Rider 16.

B. Duquesne Light's Rider 16 does not comply with directives in Federal law, the Pennsylvania Code, the Commission's CHP Policy Statement, other state

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[23] Tr. at 339 (Gorman).

[24] Tr. at 407-408 (Ogden).

[25] DII Cross Exhibit No. 3 (Gorman revised Allocated Cost of Service Study).

[26] Mr. Crist's methodology begins with Mr. Gorman's figure of $7.04 / kW. Back-up Service is calculated by multiplying $7.04 times a 5% load factor ($7.04 x 0.05 = **$0.352 / kW**). Maintenance Service is calculated by dividing $7.04 by 30 days to result in a daily rate ($7.04 / 30 days = **$0.235 per kW**).

policies, and regional environmental initiatives that support cost-based Back-up and Maintenance Service rates.

Federal law, PUC regulations, PUC policy statements, recent legislation enacted by the General Assembly, and major regional efforts in the Pittsburgh area provide a framework for appropriately evaluating the benefits and costs of CHP to a distribution system.

1. Long standing Federal law and Commonwealth regulations provide the legal foundation for the necessary changes to Rider 16

In 1978, Congress passed the Public Utility Regulatory Policies Act ("PURPA")[27] with the intent to remove existing regulatory and financial barriers to allow the creation of independent, non-utility generators. The Federal Energy Regulatory Commission ("FERC") and the PUC adopted regulations to ensure that utilities provided appropriate services (including Supplementary Power, Back-up Power, Maintenance Power, and Interruptible Power) to owners of non-utility generation. Over the past three decades, the electric generation industry has changed in many states; generation choices are now offered to customers in states like Pennsylvania. Concurrently, customers have taken steps and made investments into their own generation facilities, sited at the point of use. Initially this option was pursued by larger customers, but now many smaller customers are investing in distributed generation. When configured as a CHP facility, distributed generation technology allows for reduction of line losses and substantial increases in efficiency through the recovery of waste heat.

A key to the success of distributed generation economics is the removal of unjust rates charged by electric distribution utilities for the additional services provided to self-generators. These services are described in Title 18 of the Code of Federal Regulations. 18 CFR § 292.305

[27] 16 U.S.C. § 2601 et seq.

specifically requires that rates for Back-up Power and Maintenance Power "[s]hall not be based on an assumption (unless supported by factual data) that forced outages or other reductions in electric output by all qualifying facilities on an electric utility's system will occur simultaneously, or during the system peak, or both." Additionally, rates for Back-up Power and Maintenance Power "[s]hall take into account the extent to which scheduled outages of the qualifying facilities can be usefully coordinated with scheduled outages of the utility's facilities." The Pennsylvania Code has stated the same in § 57.35(c):

> (c) A utility's rate for sales of Back-up Power to qualifying facilities may not be based upon an assumption that forced outages or other reductions in electric output by qualifying facilities on an electric utility's system will occur simultaneously or during the system peak, or both, unless supported by factual data.

Duquesne Light's Rider 16 does not comply with the Federal and State regulation and must be brought into compliance as DII has recommended in its testimony. While the Commission cannot control all of the factors that influence the economic decisions that customers will make regarding whether to pursue distributed generation, approving the rates, terms, and conditions for additional services provided by the utilities to self-generators is squarely within the jurisdiction and control of the PUC. The PUC should take advantage of the opportunity presented in this case to establish proper, just, and reasonable rates, terms, and conditions for DLC's Rider 16.

2. The Commission's CHP Policy Statement urges EDCs to reduce barriers to CHP deployment.

On April 5, 2018, after two years of study and stakeholder input, the Commission adopted a Final Policy Statement on Combined Heat and Power ("CHP Policy Statement"). Recognizing CHP as "an efficient means of generating electric power and thermal energy from a single fuel source," the Commission determined to promote CHP investments. As to the EDC's role in CHP, the Commission encouraged EDCs to both *promote the deployment of CHP* and *reduce barriers to deployment*.

The basis of this policy determination is rooted in several broad benefits of CHP systems in Pennsylvania, including *enhanced reliability, reduced environmental impact, economic development*, and *lowered consumer costs*. As to enhanced reliability, the Commission stated that CHP systems are an "integral part of the defense to natural disasters and manmade attacks on the electric distribution system." As to reduced environmental impact, the Commission stated that CHP systems are an "important component in addressing environmental concerns" including "reducing greenhouse gas emissions." Regarding economic development, CHP "offers significant potential for economic development" including "improving manufacturing competitiveness." On lowered consumer costs, the Commission noted that, "in conjunction with natural gas from shale gas resources," CHP offers the potential of reduced costs for customers. CHP also "benefits businesses by reducing energy costs and enhancing reliability for the user."[28]

Unsurprisingly, voluminous testimony in this proceeding supports the Commission's assessment of CHP, summarized below.

Enhanced Reliability. Peoples witness James Daniel attached excerpts of a 2007 United States Department of Energy report, entitled *The Potential Benefits of Distributed Generation and Rate-Related Issues That May Impede Their Expansion,* ("DOE Report") to his pre-filed written testimony.[29] The DOE Report highlights potential benefits of distributed generation, including several reliability-related benefits. For example, locally produced fuels reduce the risk of fuel disruption. Reduced peak loading and conductor and transformer cooling can result in improved

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[28] CHP Policy Statement, p. 1.

[29] Peoples Statement No. 2 at p. 17 (Daniel); see *The Potential Benefits of Distributed Generation and Rate-Related Issues That May Impede Their Expansion,* Department of Energy (February 2007) ("DOE Report") (citing Lovens, et al, *Small is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size,* Rocky Mountain Institute (2002)).

transmission and distribution reliability. The DOE Report also notes that distributed generation can result in reduced *consequences* within a region when there is a system failure.

As discussed in more detail later in this brief, DII witnesses James Crist, Richard Heller, and Eric Sprys all testified to CHP's reliability and/or resiliency benefit to customers.[30] Even DLC, in seeking a ratepayer-funded microgrid at Woods Run, argued for the benefit of having certain essential functions up and running quickly, providing a base of operations in the midst of a catastrophic regional event.[31] Peoples witness Jennifer Kefer explained that a CHP's ability to operate independently from the grid enables CHP facilities to "keep the lights and power on during extreme weather events . . . enhanc[ing] reliability for the user."[32] Ms. Kefer wrote:

> CHP produces electricity at the point of use. As a result, line losses associated with transmission and distribution are eliminated. Additionally, peak loads experienced by electric distribution companies are reduced. This increases the reliability of the grid and helps reduce the need for additional investment in generation and transmission facilities and equipment, thereby keeping costs down for all energy consumers.[33]

Environmental Impact. The efficiency and environmental benefits identified by the Commission are also well-supported by record evidence in this proceeding. Peoples witness Jeffrey Nehr discussed the efficiency benefits of a CHP project Peoples is installing. Mr. Nehr explained that the CHP system is "2.6 times as efficient as electricity produced by conventional centralized power plants." Mr. Nehr stated: "By using energy efficiently, the carbon footprint can be reduced by as much as 50% over conventional means. Producing electricity and heat in one

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[30] *See, e.g.*, DII Statement No. 1, pp. 14, 23; DII Statement No. 2-S, pp. 2-3; DII Statement No. 3, pp. 7-8.

[31] DLC Statement No. 4, pp. 18-19 ("The primary need for the Woods Run Microgrid project is to increase the electrical resilience of the greater Pittsburgh region").

[32] Peoples Statement No. 4, p. 4, lines 22-23 (Kefer).

[33] Peoples Statement No. 4, p. 6, lines 16-20 (Kefer).

device in one combustion process efficiently also provide for savings on electricity and heating. Those are benefits to both Peoples and its ratepayers."[34] Along similar lines, Ms. Kefer stated:

> By generating both heat (thermal energy) and electricity from a single fuel source, CHP dramatically increases overall fuel efficiency compared to the separate generation of heat and electricity. CHP can more than double the fuel efficiency of a conventional plant, using more than 70 percent of the fuel inputs. *As a result, CHP can produce electricity while lowering costs for both host companies and all Pennsylvania ratepayers.*[35]

The DOE Report cited by Mr. Nehr also pointed to the benefit of reduced line losses, explaining that distributed generation can displace the portion of the customer load with the highest line losses, greatest reactive power requirements, and highest marginal energy costs.[36]

These efficiencies directly result in reduced environmental impact. Ms. Kefer stated: "[H]igher efficiency translates to lower emissions. In fact, according to the Environmental Protection Agency, a CHP system produces one-half the emissions of the separate generation of heat and power. CHP helps to reduce greenhouse gases and thereby helps fight climate change."[37]

Economic Development and Consumer Costs. Evidence presented during this proceeding also support the Commission's conclusions on economic development and consumer costs. Ms. Kefer described the benefits to the manufacturing sector and to society more broadly, stating:

> CHP has many benefits for the user and for society as a whole. CHP reduces energy costs for the user. Because CHP allows manufacturers and other large enterprises to save money on their energy bills, it allows them to improve their bottom line and

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[34] Peoples Statement No. 1, p. 5, lines 12-15 (Nehr). CHP systems produce one-half of the emissions of the separate generation of heat and power. Peoples Statement No. 4, p. 5 (Kefer) (citing U.S. Environmental Protection Agency, *Combined Heat and Power Partnership: CHP Benefits* (https://www.epa.gov/chp/chp-benefits) (visited Jun. 15, 2018)).

[35] Peoples Statement No. 4, p. 4, lines 1-5 (Kefer) (emphasis added).

[36] DOE Report at p. 1-12.

[37] Peoples Statement No. 4, p. 5, lines 1-4 (Kefer).

> reduce prices for their products, thereby making them more competitive in the global marketplace. Lower energy costs allow manufacturers and other large users to invest in new technology and/or hire additional employees. In this sense, CHP aids in economic development and job creation…. [T]he planning, construction and operation of CHP projects [also] creates jobs and stimulates the economy.[38]

The above-cited evidence demonstrates the profound level of support for the Commission's findings on CHP. The CHP Policy Statement provides a framework for evaluating the environmental, economic, pricing, and reliability benefits of CHP that should be considered in designing rates.

3. Act 58 of 2018 and the Commission's Proposed Policy Statement on Alternative Ratemaking provide additional context for developing appropriate Back-up rates for CHP systems.

On June 28, 2018, Act 58 was signed into law.[39] Recognizing that advancements in technology are creating new opportunities for customers, the General Assembly affirmed the importance of "facilitat[ing] customer access to these new opportunities while ensuring that utility infrastructure costs are reasonably allocated to and recovered from customers and market participants *consistent with the use of the infrastructure*."[40]

The General Assembly declared it is Commonwealth policy "that utility ratemaking should encourage and sustain investment through appropriate cost-recovery mechanisms to enhance the safety, security, reliability or availability of utility infrastructure and be consistent with the efficient consumption of utility service." This policy declaration, enacted into law by the General

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[38] Peoples Statement No. 4, p. 4, lines 6-14 (Kefer).

[39] During the legislative process, Act 58 was known as House Bill 1782. *An Act amending Title 66 (Public Utilities) of the Pennsylvania Consolidated Statutes, in Rates and Distribution Systems, Providing for Alternative Ratemaking for Utilities*, Jun. 28, 2018, P.L. 417, No. 58.

[40] 66 Pa.C.S. § 1330(a) (emphasis added).

Assembly, supports the development of reasonable, use-based back-up distribution rates for CHP systems in Pennsylvania.

Similarly, the Commission is in the process of considering a Proposed Policy Statement on Alternative Ratemaking.[41] The Commission's Proposed Policy Statement and Proposed Policy Statement Order on Alternative Ratemaking recognize that encouraging distributed generation is important for Pennsylvania. The Commission's goals include incentivizing system economic efficiency, avoiding future capital investments, and ensuring adequate revenue for fixed utilities to safely and reliably maintain their distribution systems.[42] The Proposed Policy Statement Order notes the importance of matching costs with system use and the need to revise rates that inappropriately burden distributed generation customers.[43]

Regarding standby and back-up charges, the Commission's Proposed Policy Statement Order on Alternative Ratemaking states that a utility proposing a rate plan will need to demonstrate, among other things, "that the proposed rate plan *does not discourage efficiency measures*, appropriately aligns costs in accordance with *cost causation principles*, and *does not inappropriately impact [distributed energy resources]*."[44]

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[41] Proposed Policy Statement Order, *Fixed Utility Distribution Rates Policy Statement*, Docket No. M-2015-2518893 (Order entered May 23, 2018).

[42] *Id.* at p. 27. Some of the guidelines the Commission proposes to use in evaluating rates include: (1) impact on aligning revenues with cost causation principles; (2) fixed utility's capacity utilization; (3) effectiveness at limiting or eliminating inter-class and intra-class cost shifting; (4) how the rates limit or eliminate disincentives for the promotion of efficiency programs; (5) how the rates impact customer incentives to employ efficiency measures and distributed energy resources; and (6) if the proposed rates are understandable and acceptable to consumers. *Id.* at p. 27-28.

[43] *Id.* at p. 27.

[44] Proposed Policy Statement Order, *Fixed Utility Distribution Rates Policy Statement*, Docket No. M-2015-2518893 (Order entered May 23, 2018), p. 19.

In the Proposed Policy Statement Order on Alternative Ratemaking, the Commission recognized commenters' concern about tariffs "that are based on the unlikely assumption that utilities must maintain excess capacity equivalent to a CHP facility's generation capacity." These rates "do not consider the diversity of customer load and the actual cost of service imposed by partial use customers that generate their own power 95% of the time."[45]

The Commission intends for utilities to justify their proposed rates and provide a transparent picture of the impact of those rates. The Proposed Policy Statement on Alternative Ratemaking states that "[i]n any distribution rate filing by a fixed utility under 66 Pa. C.S. § 1308 (relating to voluntary changes in rates), the fixed utility shall explain how these factors impact the distribution rates for each customer class." The Commission's statements on alternative ratemaking support reasonable, cost-based Back-up and Standby rates for CHP systems.

4. The Pittsburgh 2030 Initiative and other regional efforts demonstrate that the viability and pricing of CHP is a significant issue.

The Pittsburgh region is at the forefront of national energy efficiency, conservation, and alternative energy initiatives. Witnesses representing the Allegheny County Airport Authority ("ACAA") and the University of Pittsburgh ("Pitt") both testified to significant institutional endeavors to reduce costs and/or reduce environmental impact. Pitt is a major participant in the Pittsburgh 2030 District initiative.[46] Pitt witness Mr. Heller explains that the Pittsburgh 2030

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[45] Proposed Policy Statement Order, *Fixed Utility Distribution Rates Policy Statement*, Docket No. M-2015-2518893 (Order entered May 23, 2018), p. 22 (citing Comments of the CHP Advocates). Some commenters encouraged the Commission to work with utilities toward the adoption of fair, transparent standby tariffs that "allow utilities to recover costs and encourage reductions in peak load." Proposed Policy Statement Order, *Fixed Utility Distribution Rates Policy Statement*, Docket No. M-2015-2518893 (Order entered May 23, 2018), p. 22 (citing AIE Comments at 3, 4; KEEA Comments at 19, 20).

[46] DII Statement No. 2, p. 4 (Heller).

District is a collaboration of local institutions and businesses working to reduce energy use, water use, and transportation emissions by 50% from established baselines by the year 2030.[47] The participants are working to increase competitiveness in the business environment and owners' returns on investment as well.

As described by Mr. Heller, Pitt has already made significant strides toward these goals[48] and is now evaluating a CHP system in furtherance of these goals.[49]

Meanwhile, ACAA anticipates additional regional benefits by its proactive evaluation of CHP at the Pittsburgh International Airport. Mr. Sprys, Chief Commercial Officer at ACAA,[50] described the win-win nature of its planned project:

> ACAA wants to pursue this project because we see it as a win-win for everyone. We can reduce costs, enhance our sustainability, provide better service during outages of DLC's system, utilize the Marcellus Shale gas produced in our region and enhance the economy for all consumers and businesses in the region. When we attract new businesses to the Airport, those businesses employ people and create additional customers for the utilities in the area, including DLC.[51]

Robert Morris University is likewise considering CHP.[52] These movements in the Pittsburgh region indicate the time is ripe for the region to benefit from the efficiency, reliability, environmental, and economic benefits provided by grid-connected CHP systems.

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[47] DII Statement No. 2, lines 11-19 (Heller); Exhibit No. RH-3, pp. 5, 10.

[48] Mr. Heller stated: "The University has installed rooftop solar, converted a former coal-fired steam plant (Bellefield) to natural gas and complemented that with an ultra-low NOx boiler plant (Carrillo), and made many construction-related and operations improvements that increase efficiency and reduce energy use." DII Statement No. 2, p. 6, lines 3-12 (Heller).

[49] The City of Pittsburgh's Uptown Eco Innovation plan contemplates construction of Microgrids and CHP. DII Statement No. 1, p. 4, lines 4-7 (Crist); DII Exhibit No. JC-2 (Crist).

[50] DII Statement No. 3, p. 2 (Sprys).

[51] DII Statement No. 3, pp. 11-12 (Sprys).

[52] Tr. at 103-104.

C. Pennsylvania is poised to experience growth in CHP and distributed generation.

1. There is significant technical potential for CHP expansion in Pennsylvania.

While the Commission's CHP Policy Statement makes evident the broad-based benefits of CHP, testimony in this proceeding also indicates that there is significant opportunity for CHP growth within the Commonwealth. According to Ms. Kefer, Pennsylvania currently has 153 CHP sites, generating a total of 2,948 megawatts (MW). The Department of Energy estimates there is nearly *8 gigawatts* (8,000 MW) of remaining CHP and waste heat to power ("WHP") technical potential.[53] An Alliance for Industrial Efficiency report found that "if an economically viable portion of the state's CHP and WHP was deployed, Pennsylvania industrial sector customers would save over $3.2 billion in cumulative electricity costs from 2016 to 2030."[54] This is a sector that accounts for 12% of the gross state product and employs almost 10% of Pennsylvania's workforce.

Additionally, the Department of Energy has identified 575 MW of technical potential for CHP in DLC's service territory alone – roughly the equivalent of a conventional power plant.[55] As of December 31, 2016, there were 5 MW of CHP generation installed at commercial sites in DLC's territory and 74 MW installed industrial or other sites.[56] Ms. Kefer concludes, "Clearly, there is an opportunity for much more CHP deployment in Duquesne's service territory."[57]

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[53] Exhibit No. JRK-1, p. 2 (Kefer). As of December 31, 2016, the U.S. Department of Energy calculated technical potential for an additional 242 MW of commercial CHP and 333 MW of industrial (or other) CHP in Duquesne's service territory. Peoples Statement No. 4, p. 6 (Kefer).

[54] Exhibit No. JRK-1, p. 2 (Kefer).

[55] Peoples Statement No. 4, p. 6 (Kefer).

[56] Peoples Statement No. 4, p. 6 (Kefer). There are three current CHP systems in Duquesne's service territory. Tr. at 250, lines 14-21 (Davis).

[57] Statement No. 4, p. 6 (Kefer). Pennsylvania has "tremendous opportunity for additional CHP implementation, which can be encouraged by removing barriers such as arbitrary, excessive, and opaque standby rates." Peoples Statement No. 4, p. 7 (Kefer). The majority of the CHP potential

Peoples witness Jamie Scripps points to growing interest in CHP across the nation. The Minnesota Public Utility Commission, the Michigan Public Service Commission, the Indiana Utility Regulatory Commission, the Public Utility Commission of Ohio, and the Missouri Department of Economic Development either presently or recently have held workgroups or proceedings evaluating issues connected to cogeneration, including standby rates. Ms. Scripps stated:

> These proceedings not only demonstrate a growing interest in CHP development, but, as more directly related to this specific rate case, they show that as states explore ways to remove barriers and/or encourage its deployment, there is a recognition that *any serious effort to promote CHP must be done in the context of a fair, cost-based approach to standby rate design.*[58]

Even DLC acknowledged there is a general industry trend for customers to explore distributed generation.[59] Customers explore distributed generation for a variety of reasons, including cost-effectiveness and increased reliability.

Not only is Pennsylvania home to a substantial manufacturing sector, it is a plentiful source of natural gas, a fuel source commonly used to power CHP systems. As stated by Ms. Kefer, Pennsylvania has "tremendous opportunity for additional CHP implementation, which can be encouraged by removing barriers such as arbitrary, excessive, and opaque standby rates."[60] The national interest in CHP underscores its strategic importance to the Commonwealth. CHP and

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in Duquesne's service territory are accounts in primary metals, chemical manufacturing, hospitals, and universities. Peoples Statement No. 4, p. 6 (Kefer).

[58] Peoples Statement No. 3, p. 7, lines 17-21 (Scripps) (emphasis added).

[59] Tr. at 489, lines 13-20 (DeMatteo).

[60] Peoples Statement No. 4, p. 7 (Kefer). The majority of the CHP potential in Duquesne's service territory are accounts in primary metals, chemical manufacturing, hospitals, and universities. Peoples Statement No. 4, p. 6 (Kefer).

other distributed generation should be viewed as a significant potential contributor to reliability, resiliency, and efficiency of electric service in Pennsylvania.

2. The University of Pittsburgh and the Allegheny County Airport Authority are actively evaluating CHP for reliability, cost, and environmental reasons.

As described above, numerous institutions in the Pittsburgh region are considering CHP as a critical piece of an overarching strategy to reduce costs, improve efficiency, and/or reduce environmental impact. Mr. Heller from Pitt and Mr. Sprys from ACAA both testified that their respective employers are currently exploring major plans for on-site generation. The rates, terms and conditions for Rider 16 determined in this proceeding will impact the viability of those projects.

ACAA operates the Allegheny County Airport and Pittsburgh International Airport, serving millions of passengers annually.[61] The Pittsburgh International Airport is 8,800 acres in size and includes a fire station, fire training academy, police station, five business parks, cargo facilities, a fixed-base and charter aircraft facility (FBO), a hotel, a rental car facility, natural gas wells, and three military bases. ACAA's current back-up generation facilitates the retention of security lighting and fire safety functions during a DLC service interruption.[62] Mr. Sprys explained ACAA's plans for expansion:

> ACAA is currently pursuing the development of a major on-site generation project. To accomplish this, ACAA published a Request for Qualifications ("RFQ") and then a Request For Development Proposals ("RFDP") to construct behind-the-meter generation systems at our Hangar Substation and our Midfield Substation, which serves the Pittsburgh International Airport terminal. . . .

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[61] DII Statement No. 3, pp. 4-5 (Sprys).

[62] DII Statement No. 3, p. 6 (Sprys). ACAA's baseload is approximately 5 MW, which occurs during off-peak hours. DII Statement No. 3, p. 7 (Sprys).

> The RFDP is seeking a developer to build, own, and operate a large installation from which ACAA would purchase power. ACAA's goal is to improve the economics of power purchasing for the Airport. Though ACAA will consider any qualified proposals and is open-minded in its approach to selecting a project, ACAA is particularly interested in an installation up to, but not exceeding, ACAA's base load of approximately 5 MW which occurs during off-peak hours. Consequently, ACAA envisions a generation system that provides additional resiliency but would use supplemental power from the DLC system on a regular daily basis. Primarily, ACAA is looking for proposals for a combined heat and power ("CHP") system and would like to incorporate a solar component, if possible.[63]

Mr. Sprys also explained how a CHP project could benefit ACAA:

> A CHP project could benefit ACAA by utilizing the waste heat from the generator for both air conditioning and heating needs. Much of ACAA's HVAC infrastructure allows for both hot and chilled water to function at the same time. A well-designed CHP project could provide power to ACAA while supporting the facilities' HVAC needs.[64]

According to Mr. Sprys, economics is the primary driver of ACAA's interest in installing on-site generation.[65] However, safety and reliability are also part of the equation for ACAA management. Mr. Sprys explains:

> [T]here have been major electrical outages in our industry that impacted passenger transportation and comfort. Most recently, in December 2017, Atlanta's Hartsfield Jackson International experienced an eleven-hour outage due to a fire in Georgia Power's underground electrical system. The fire damaged two substations serving the airport, including the back-up feed. This resulted in stranded flights and an almost complete blackout in the airport. . . .
>
> [CHP] will also enhance the level of emergency power we have if the DLC facilities serving our substations go down. This could be critical to maintaining order and passenger safety for short or extended outages.

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[63] DII Statement No. 3, p. 6, line 22 – p. 7, line 15 (Sprys). However, the ACAA reserves the right to develop a CHP system that provides 100% of the load needed to operate the airport. *Id.* at p. 7, line 9.

[64] DII Statement No. 3, p. 8, lines 11-14 (Sprys).

[65] DII Statement No. 3, p. 7 (Sprys).

Like ACAA, Pitt has already invested in cost-reduction measures and is evaluating its options for significant on-site generation. Pitt's main campus is served by six substations, owned by DLC; Pitt has purchased redundant transformers in five of them to enhance reliability. The campus already has two steam plants and two chilled water plants. The steam and chilled water are used for heating and cooling as well as in various research labs.

Mr. Heller stated:

> The University has installed rooftop solar, converted a former coal-fired steam plant (Bellefield) to natural gas and complemented that with an ultra-low NOx boiler plant (Carrillo), and made many construction-related and operations improvements that increase efficiency and reduce energy use. . . .
>
> The University is looking at many options for onsite generation, as onsite generation counts towards net energy use reduction. . . . [We] are looking at how to best expand our onsite generation profile. With our steam needs, installing CHP to generate electricity and useful steam is one of the ideas we are evaluating.[66]

In his testimony, Mr. Heller revealed that Pitt has had significant and recent reliability concerns with DLC. DLC's distribution system is constrained in the Oakland area, which has resulted in urgent requests from DLC to Pitt to restrict usage.[67] Constraints on the DLC system and the resulting need for Pitt to curtail usage is one reason that Pitt is actively considering CHP development.[68] Mr. Heller stated that a large CHP system on Pitt's campus could provide

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[66] Pitt's CHP analysis contemplates constructing two 4.6 MW generators. Tr. at 571, lines 8-10 (Heller). Pitt's two potential CHP generators would feed into two different substations – Posvar and Panther. Pitt's Energy Plan study includes two potential generators because of the thermal (steam) needs. Tr. at 571, lines 22-25 (Heller). Pitt's two potential CHP generators would operate independent of each other. Tr. at 572, line 10 (Heller).

[67] DII Statement No. 2-S, p. 4 (Heller).

[68] DII Statement No. 2-S, p. 5 (Heller). Pitt's distribution system feeds hospitals, a police station, and critical research facilities. DII Statement No. 2-S, p. 3 (Heller).

substantial benefits to DLC, its customers, and the public during catastrophic distribution system outages.[69]

Even though the environmental and reliability benefits of CHP are attractive to Pitt, a utility-related project must make economic sense before it will be considered.[70] The capital costs of Pitt's potential CHP project exceed $40 million. According to Mr. Heller, this would be a significant investment for Pitt.[71]

Pitt looks very closely at life cycle cost analyses when making decisions on utility-related projects.[72] Pitt has foregone renewable or energy conservation measures that are calculated to have payback periods of 20 years or longer.[73] Using DLC's current $2.50 per kW Back-up rate, the payback period for Pitt's potential CHP project is estimated at 15.7 years.[74] A 15.7 year time period is at the "far fringes" of what Mr. Heller has observed as a viable project. Pitt has not approved any energy conservation project with a payback of that length.[75] In contrast to the 15.7-year payback period with a $2.50 per kW Back-up rate, Ms. Kefer indicates a typical economic recovery period for a CHP plant can be seven to ten years.[76] Pitt's extended payback period calculation is consistent with the evidence provided by Mr. Crist demonstrating that DLC's Back-up rates are excessive.

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[69] DII Statement No. 2-S, p. 3 (Heller).

[70] Tr. at 566, lines 7-10 (Heller).

[71] DII Statement No. 2-S, p. 6 (Heller); Exhibit No. RH-2S.

[72] Tr. at 566, lines 6-7 (Heller).

[73] Tr. at 566, line 21 – 567, line 2 (Heller).

[74] DII Statement No. 2-S, p. 6 (Heller); Exhibit No. RH-2S.

[75] Tr. at 566, lines 4-13 (Heller).

[76] A typical economic recovery period for a CHP plant can be seven to ten years. Peoples Statement No. 4, p. 9 (Kefer).

3. Additional testimony in this proceeding points to a growing interest in CHP in DLC's territory.

Other participants in this proceeding have testified to exploring or planning CHP projects. Peoples is working on a CHP system. Mr. Nehr explained:

> Peoples is installing CHP to provide efficient delivery of electricity and heating, lower emissions for the benefit of the environment, and cost savings. Peoples is installing a Yanmar CP35Dl Reciprocating Engine. According to Yanmar, the CP35Dl will produce 35 [kWh] electricity and 204,040 Btu/hr heat. It is 2.6 times as efficient as electricity produced by conventional centralized power plants. By using energy efficiently, the carbon footprint can be reduced by as much as 50% over conventional means. Producing electricity and heat in one device in one combustion process efficiently also provide for savings on electricity and heating. Those are benefits to both Peoples and its ratepayers.[77]

Additionally, at the public input hearing, Jonathan Potts, a Vice President at Robert Morris University, indicated that his employer was evaluating CHP as well.[78] Mr. Potts stated: "Currently, RMU is exploring the possibility of developing a combined heat and power, or CHP system, in order to increase energy efficiency on campus and provide a more reliable and resilient energy supply." Several members of the National Association of Industrial Office Parks are also in various stages of developing cogeneration projects in DLC's service territory.[79]

The four entities named above that are exploring or planning for CHP (Pitt, Peoples, ACAA, and Robert Morris University) all expressed alarm at DLC's initial plans for Rider 16. It is clear that DLC's approach to Back-up Service is raising significant concern. High rates for standby or Back-up Service – or the potential of large future increases – can be a barrier to CHP development by adversely impacting the expected economic viability of projects.[80]

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[77] Statement No. 1, p. 5, lines 8-15 (Nehr).

[78] Tr at 102-103 (Potts).

[79] Tr. at 110 (White).

[80] Peoples Statement No. 4, pp. 8-9 (Kefer).

D. The CHP Policy Statement recognizes the central role of Back-up rates and encourages parties to address those issues in rate cases.

In its CHP Policy Statement Order, the Commission stated that costs of backup power (planned and unplanned) were identified by commenters as a barrier to CHP development. Commenters suggested various rate mechanisms or policies to encourage CHP development. The Commission stated that "these issues are best proposed and litigated through rate proceedings."[81] Stakeholders also suggested that EDCs be required to include a cost of service study to affirmatively justify their CHP standby rates.[82]

Standby rates are also being discussed in an ongoing Commission-sponsored workgroup.[83] In the workgroup, PUC Technical Utility Services ("TUS") staff acknowledged that standby rates have been broadly criticized as being a barrier to CHP deployment.[84] TUS Staff is planning to develop a list of suggested best practices regarding the design and implementation of standby rates.[85]

Consistent with its statements in the Proposed Policy Statement Order on Alternative Ratemaking, the Commission has clearly expressed its intent to address back-up and standby rates in rate cases. DII respectfully suggests that this is the appropriate time and place for the Commission to address the high Back-up rates in DLC's territory. The Commission should

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[81] CHP Policy Statement, p. 9.

[82] CHP Policy Statement, p. 9.

[83] *See* CHP Policy Statement, p. 9-10; *see also* Secretarial Letter, *Policy Statement in Support of CHP*, Docket No. M-2016-2530484 (Letter issued April 6, 2018) (announcing first meeting of CHP working group).

[84] Meeting Summary (July 16, 2018), *CHP Working Group*, available at http://www.puc.state.pa.us/Electric/pdf/CHPWG/CHPWG_Meeting-Summary_071618.pdf (last visited Sept. 2, 2018).

[85] *Id*.

establish a cost-based rate as proposed by DII, consistent with best practices recognized in Pennsylvania and nationwide.

E. DLC bears the burden to demonstrate that its proposed rate for Rider 16 is just and reasonable.

It is well-established that utilities proposing rate increases bear the burden of demonstrating that their proposed rates are just and reasonable.[86]

While DLC has withdrawn its proposed language changes to Rider 16, the burden of proof remains with DLC to justify the proposed rate, for three reasons. First, when proposing a rate increase, the utility bears the burden to show that its *entire rate request* is just and reasonable, and this burden remains with the utility throughout the proceeding. Second, a party proposing adjustments to a rate proposal does not shoulder the burden of proof but must present some evidence or analysis demonstrating the reasonableness of the adjustment. Third, the Commission's decision must be based on substantial record evidence, and *no* evidence supports DLC's $2.50 per kW rate.

1. When proposing a rate increase, the utility bears the burden to show that its entire rate request is just and reasonable, and this burden remains with the utility throughout the proceeding.

In *West Penn Power Co.*, the Commission described the utility's affirmative burden "to establish the justness and reasonableness of *every component* of its rate request."[87] This is logical considering the interrelated nature of the many rules and rates within a utility's tariff. A utility's

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[86] 66 Pa. C.S. §§ 315(a); 1301. *See also* Tentative Implementation Order, *Implementation of Act 58 of 2012*, Docket No. M-2018-3003269 (Order entered August 23, 2018) ("It is well-established that in any Section 1308 proceeding, the utility has the burden of establishing the justness and reasonableness of tariff proposals").

[87] *Pa. PUC, et al.*, v. *West Penn Power Co.*, Docket No. R-2014-2428742, 2015 Pa. PUC LEXIS 97, *159 (Order entered March 9, 2015) (emphasis added).

revenue requirement has direct bearing on total costs, and allocation of costs to one class affects all other classes.[88] For example, in this proceeding, Rider 16 is a distribution service and is directly connected to other rates which are increasing even under the parties' proposed settlement. Rider 16 addresses two types of rates: Supplementary Power (Supplementary Service) and Back-up Power (Back-up Service). Supplementary Service rates are established *by reference* to the customer's General Service rate. Revenues from Back-up Service are reflected in the bill frequency at present and proposed rates set forth in the Company's filing.[89]

Additionally, the Commission has clearly established that "the utility's burden, to establish the justness and reasonableness of every component of its rate request, is an affirmative one and *remains with the public utility throughout the course of the rate proceeding.*"[90] In any distribution rate case, the utility can propose to increase, decrease or hold constant rates for each class. The utility bears the burden to prove that each increase, decrease or unchanged distribution rate is just and reasonable. Because DLC initiated the rate request, DLC carries the burden to prove its distribution rates for each service classification are just and reasonable until the conclusion of the proceeding.

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[88] While the Commission has indicated that a "party that raises an issue that is not included in a public utility's general rate case filing bears the burden of proof" if that item was previously approved by the Commission, that is not the case here. First, substantial changes to Rider 16 were proposed in this case by DLC, which means that DLC initiated the discussion of Rider 16. Second, the Rider 16 charges are for distribution service, which is the primary subject of DLC's filing. *See* Opinion and Order, *Pa. PUC, et al. v. Duquesne Light Company,* Docket No. R-2013-2372129 (Order entered April 23, 2014) at 20.

[89] Attachment DFR IV-C-Proof, Part 9 of 18 (contained in Exhibit IV of DLC Rate Filing).

[90] *Pa. PUC, et al. v. West Penn Power Co.*, 2015 Pa. PUC LEXIS 97, *159 (Pa. P.U.C. March 9, 2015).

2. The responsibility of a party proposing adjustments to a rate proposal is to present some evidence or analysis demonstrating the reasonableness of the adjustment.

A party proposing an adjustment to a utility's rate proposal does not assume the utility's burden of proof. The Commission has clearly articulated the requirements placed on a party proposing an adjustment to a rate proposal: (1) provide notice that the rate is being challenged, and (2) present some evidence or analysis demonstrating the reasonableness of the adjustment.[91] DII has met both of these requirements.

The Commission has stated:

> In general, rate increase proceedings, the burden of proof does not shift to parties challenging a requested rate increase. Rather, the utility's burden of proof to establish the justness and reasonableness of every component of its rate request is an affirmative one and that burden of proof remains with the public utility throughout the course of the rate proceeding. *There is no similar burden placed on other parties to justify a proposed adjustment to the public utility's filing.*[92]

The Commission recognized in *Pennsylvania Public Utility Commission v. HIKO Energy, LLC* that the proponent of a rule or order bears the burden of proof pursuant to Section 332(a) of

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[91] The Commission stated:

> As the Commonwealth Court explained: "While it is axiomatic that a utility has the burden of proving the justness and reasonableness of its proposed rates, it cannot be called upon to account for every action absent prior notice that such action is to be challenged."
>
> Therefore, while the ultimate burden of proof does not shift from the utility, a party proposing an adjustment to a ratemaking claim bears the burden of presenting some evidence or analysis tending to demonstrate the reasonableness of the adjustment.

Pa. PUC, et al., v. *West Penn Power Co.*, Docket No. R-2014-2428742, 2015 Pa. PUC LEXIS 97, *160 (Order entered March 9, 2015) (emphasis added).

[92] *Pa. PUC, Office of Consumer Advocate v. Borough of Quakertown*, Docket No. R-2011-2251181, 2012 Pa. PUC LEXIS 1102, *9 (Order entered July 11, 2012).

the Code.[93] Importantly, the Commission noted that "[w]hile the burden of going forward with the evidence may shift back and forth during a proceeding, *the burden of proof never shifts*. The burden of proof always remains on the party seeking affirmative relief from the Commission."[94]

The Pennsylvania Supreme Court has described the burden of proof as the "risk of nonpersuasion."[95] The Supreme Court explained that "the term 'burden of proof' imports the duty of ultimately establishing any given proposition" and indicated that the party bearing the burden of proof "will lose the case if he does not make this proposition out." The Supreme Court wrote:

> [W]hen a litigant "has the burden of proof" it means that he has made a claim which he cannot expect to have accepted until he offers proof sufficient to support it; and the least degree of proof any claimant can offer in order to obtain persuasion is proof which fairly out-weighs the probative value of any proof offered against the claim.[96]

As the party seeking relief through its 2018 rate filing, DLC maintains its burden of proof to justify all aspects of the rate proposal.

DLC must, to meet its burden of proof, "present evidence more convincing, by even the smallest amount, than that presented by any opposing party."[97]

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[93] *Pa. PUC v. HIKO Energy, LLC*, Docket No. C-2014-2431410 (Order entered December 3, 2015); 66 Pa.C.S. § 332(a) (emphasis added).

[94] *Id.* (citing *Milkie v. Pa. PUC*, 768 A.2d 1217 (Pa. Cmwlth. 2001)). *See also Berner v. Pa. PUC*, 116 A.2d 738 (Pa. 1955).

[95] *Se-Ling Hosiery, Inc. v. Marguilies*, 70 A.2d 854, 856 (Pa. 1950).

[96] *Se-Ling Hosiery* at 856 (Pa. 1950) ("If the evidence does not fairly preponderate in favor of his claim he has failed to carry his burden of proof. Since proof by 'a preponderance of the evidence' is the lowest degree of proof recognized in the administration of justice, the evidence the burdened party offers does not become proof until it preponderates in evidentiary weight against the opposing evidence.").

[97] *OCA v. Peoples Natural Gas Company*, Docket No. C-2013-2348777 (Order entered October 2, 2014) at 10 (citing *Se-Ling Hosiery v. Marguilies*, 70 A.2d 854 (Pa. 1950)).

3. The Commission's determination must be supported by substantial evidence.

It is well established that the Commission's decision must be supported by substantial evidence in the record. Commonwealth Court has held that a "litigant's burden of proof is satisfied by establishing a preponderance of evidence which is substantial and legally credible."[98] As the Commission has itself stated, "More is required than a mere trace of evidence or a suspicion of the existence of a fact sought to be established."[99]

Consequently, to approve DLC's $2.50/kW rate requires the support of substantial record evidence.

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[98] *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600 (Pa. Cmwlth. 1990), alloc. denied, 602 A.2d 863 (1992). *See also* 2 Pa.C.S. § 704.

[99] *In re Application of Peregrine Keystone Gas Pipeline, LLC*, Docket No. A-2010-2200201, 2012 Pa. PUC LEXIS 896, *182 (Order entered May 3, 2012) (citing *Norfolk & Western Ry. V. Pa. Publ. Util. Comm'n*, 413 A.2d 1037 (1980); *Erie Resistor Corp. v. Unemployment Com. Bd. Of Review*, 166 A.2d 96 (Pa. Super. Ct. 1960); *Murphy v. Comm., Dept. of Public Welfare, White Haven Center*, 480 A.2d 382 (Pa. Cmwlth. Ct. 1984)). *See also Leung on behalf of House of Lee, Inc. v. Pennsylvania Public Utility Com.*, 582 A.2d 719, 721 (Pa. Commw. 1990) ("Our scope of review is limited to determining whether the PUC violated constitutional rights, made an error of law, or whether the findings of fact are supported by substantial evidence.")

F. DII has conclusively established that the Back-up Service rate should be $0.352 per kW based on the proper reflection of the historic availability of the Rider 16 customer's generation and other evidence demonstrating the expected availability of distributed generation.

1. The Back-up Service rate calculation must reflect diversity and the forced outage (or load factor) rate.

The heart of the dispute over Back-up Service in this proceeding centers on two issues – whether a "load factor" or availability assumption should be reflected in the calculation and, if so, what is the appropriate load factor to use.[100] DLC denied that any load factor should be applied to Rider 16. In contrast, DII argued that a load factor should be established, and that it should be based on historic experience and consistent with industry norms (i.e., 5% based on the record evidence in this case).

The fundamental inequity with DLC's argument can be illustrated as follows: if a customer group uses the distribution system for Back-up Service only 2.5% of the time, it should not be charged based on the assumption that it is using the system 100% of the time. Nor should it be charged for an arbitrary "compromise" rate higher than the 5% load factor (DLC's current position). The distribution system is comprised of many users with a variety of demand profiles. This "diversity" enables the distribution utility to account for spikes and dips in demand of any single customer. However, DLC's original proposed approach to Rider 16 would have treated Rider 16 customers in a way dramatically inconsistent with their use of the distribution system and fundamentally inconsistent with how DLC treats other customers.

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[100] In the context of calculating a rate for Back-up Service under Rider 16, load factor means the percentage of time that the customer relies on the DLC system for Back-up Service because the generator is not operating. Tr. at 598, lines 10-14 (Crist).

Now that DLC has withdrawn its proposed changes to Rider 16, it has effectively agreed to using a load factor in the calculations. Because DLC considers its "withdrawal" as meaning that the $2.50 per KW rate is just and reasonable,[101] there is no record basis for DLC's position. DII agrees that there should be a load factor,[102] and DII has conclusively shown that the appropriate load factor is 5%.

a. Evidence presented by DII and Peoples supports inclusion of a load factor in Back-up rates.

Expert witnesses from DII and Peoples demonstrated the crucial importance of Back-up rates considering diversity or a load factor.[103] As described above, load factor means the percentage of time that the customer relies on the DLC system for Back-up Service because the generator is not operating.[104] DLC's witness Mr. Pfrommer used this term in the 2013 proceeding to describe the assumption that was being applied in determining the current Back-up Service rate.[105]

To fully appreciate load factor as an essential component of Back-up rates, it should be recognized that the class demand for multiple self-generation customers is not the sum of the individual customer peaks, because Back-up Service is not required at the same time by every self-

[101] Tr. at 649, lines 19-21.

[102] Mr. Crist stated that the conceptual methodology of using a load factor reflecting the availability of the customer's generator is reasonable, as DLC did to establish the current Back-up rate of $2.50 per kW. DII Statement No. 1, p. 25 (Crist).

[103] Mr. Crist has extensive experience addressing CHP issues in Pennsylvania. DII Statement No. 1, pp. 1-2 (Crist).

[104] Tr. at 598, lines 10-14 (Crist).

[105] Exhibit No. JC-6 (Pfrommer 2013 Testimony).

generator.[106] Consequently, distributed generation customers do not impose the same costs on the distribution system as full-requirements customers.[107] As stated by Mr. Daniel,

> A major flaw with the Company's [originally proposed] revised methodology is that it relies entirely on the full costs allocated to seven rate classes that include regular full requirements customers that use electricity and Duquesne's distribution system 24/7. Those customers have much different usage patterns and energy requirements than the Rider 16 customers that only need Back-up Power service when their [distributed generation] facility is down for scheduled maintenance or due to an unscheduled outage. Because of these much different load characteristics, it can be expected that the costs of serving the Rider 16 rate class will be much different than the costs allocated to the seven regular, full requirements rate classes. The [now withdrawn] Duquesne methodology fails to recognize this.[108]

Mr. Crist also addressed the importance of reflecting the diversity in the expected use by Rider 16 customers of the distribution system.[109]

Ironically, even some testimony by DLC pointed toward the need for a load factor, despite DLC's witnesses' rejection of the concept. For example, Mr. Gorman stated that a non-coincident peak (NCP) allocation is most reflective of factors such as load diversity and the system cost that a utility incurs to meet the distribution service needs of a customer class.[110] In the absence of a proper cost of service study that analyzes Rider 16 as a separate class, incorporating a load factor ensures that the self-generation customers get the appropriate diversity recognition in establishing Back-up rates.

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[106] DII Statement No. 1-S, p. 11 (Crist).

[107] Peoples Statement No. 4-SR, p. 3 (Kefer).

[108] Peoples Statement No. 2, p. 18, lines 15-24 (Daniel).

[109] Tr. at 595-598; *see also* DII Statement No. 1, p. 25.

[110] Tr. at 333, lines 9-22 (Gorman). Mr. Gorman, at the direction of a Rhode Island electric utility he consulted for, has even designed Back-up rates to reflect a 10% usage factor. Tr. at 346, lines 2-19 (Gorman); DII Cross Exhibit No. 1. Mr. Gorman testified that this Back-up rate with the 10% usage factor promotes distributed generation. Tr. at 351, lines 4-7 (Gorman); DII Cross Exhibit No. 1, p. 42 of 46.

b. PURPA and associated federal and state regulations provide clear principles supporting a load factor for Back-up rates.

While not all Rider 16-eligible facilities are Qualifying Facilities under the PURPA, Rider 16 states explicitly that it is applicable to Qualifying Facilities.

PURPA provides rate design criteria for back-up and Maintenance Power. PURPA regulations at 18 CFR § 292.305 state that rates for back-up and maintenance service must: (1) not be based on an assumption that outages, or other reductions in generation by all Qualifying Facilities on a utility's system will occur at the same time, or at the time of the system's peak; and (2) consider the extent to which scheduled outages of Qualifying Facilities can be beneficially coordinated with the utility's operations.[111]

The Pennsylvania Code implements PURPA for Pennsylvania with the same principles. 52 Pa. Code § 57.35 requires that every electric utility maintain rates, rules and regulations for the following services: (1) supplementary power, (2) Back-up Power, and (3) Maintenance Power. Regarding providing Back-up Power to Qualifying Facilities, § 57.35(c) states:

> A utility's rate for sales of Back-up Power to qualifying facilities may not be based upon an assumption that forced outages or other reductions in electric output by qualifying facilities on an electric utility's system will occur simultaneously or during the system peak, or both, unless supported by factual data. The utility's rate for Back-up Power shall recover energy costs incurred by the utility plus an appropriate portion of fixed costs. Fixed costs shall be prorated over the actual days in a billing period during which Back-up Power is consumed by the qualifying facility.

Further, subsection (4) indicates that scheduled outages should be differentiated between peak and non-peak periods.[112]

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[111] *See* 18 CFR § 292.305.

[112] 52 Pa. Code § 57.35(d) states:

> A utility's rate for sales of firm maintenance power to qualifying facilities shall include energy costs and a demand or capacity charge required to recover the

PURPA's goal of promoting Qualifying Facility projects is similar to the Commission's goals articulated in the CHP Policy Statement.[113] As Mr. Crist and Mr. Daniel explained, the principles established in PURPA's regulations at 18 CFR § 292.305 apply to distribution service in the unbundled environment.[114] The history of Rider 16 demonstrates that DLC's Back-up rate was "unbundled" and set at a level similar to DII's proposal. In DLC's Restructuring proceeding, its Rider 16 Back-up Service was unbundled into distribution, Competitive Transition Charge, Transmission Charge and Generation Charge components effective January 1, 1999.[115]

As stated by Mr. Crist, the PURPA structure for providing supplemental power, Back-up Power and Maintenance Power is a just and reasonable way for the PUC to establish rates for all distributed generation.[116] There is no reason PURPA's rate design principles should not apply to non-Qualifying Facilities as well as Qualifying Facilities.

c. A major study by the Regulatory Assistance Project emphasizes the importance of load diversity in standby rates.

Peoples witness Jamie Scripps sponsored Exhibit No. JWS-6: *Standby Rates for Combined Heat and Power Systems: Economic Analysis and Recommendations for Five States* ("RAP

> appropriate transmission plant and full distribution plant costs. When the scheduled outages of a qualifying facility cannot be scheduled during other than utility peak periods, the demand or capacity charge shall be the full charge stated in the utility's filed tariff under which the qualifying facility receives this service.

[113] DII Statement No. 1, p. 26 (Crist).

[114] The principles of PURPA apply to unbundled distribution rates. DII Statement No. 1-S, pp. 15, 23-24 (Crist); Peoples Statement No. 2-S, p. 6, lines 23-24 (Daniel).

[115] Peoples Cross-Examination Exhibit No. 1, Attachment No. 5, p. 2 of 7.

[116] DII Statement No. 1, p. 26 (Crist).

Study"), prepared in part by the Regulatory Assistance Project. The RAP Study provides strong evidence that diversity or a load factor must be included in the design of standby rates.[117]

The RAP Study provides a summary of best practices in standby rate design. Key takeaways include:

- Standby rates *should not assume simultaneous outages*, nor should they assume outages will occur at the utility's system peak.[118]
- "Generation reservation demand charges should be *based on the utility's cost and the forced outage rate* of customers' generators on the utility's system."[119]
- "Transmission and higher-voltage distribution demand charges should be designed in a manner that *recognizes load diversity*."[120]
- "Standby rate design should assume that maintenance outages of on-site generators would be coordinated with the utility and scheduled during periods when system generation requirements are low." In recognition of this distinction, "Daily maintenance demand charges should be discounted relative to daily backup demand charges."[121]

For the specific jurisdictions that it analyzed as representative of the utilities in the entire country, the RAP Study repeatedly recommends that standby rates and charges for distribution facilities should reflect load diversity.

d. Cases in other states demonstrate support the use of a load factor in Back-up rates.

Various state utility commissions have embraced the use of a load factor in back-up or standby rates. The Rhode Island Public Utility Commission, in Case 4232, affirmed a settlement placing a Back-up Retail Delivery Service at a factor of 10%. The Commission wrote:

> The Distribution Charge per kW applicable to Back-up Retail Delivery Service shall be equal to $5.22 per kW, multiplied by a factor of 10%, representing the likelihood that, on average, an outage of an individual customer's generator will

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[117] Exhibit No. JWS-6 at 4-7.

[118] Exhibit No. JWS-6 at 5.

[119] *Id.*

[120] *Id.*

[121] *Id.*

> occur coincident with the Company's distribution system peak demand approximately 10% of the time.[122]

In a rate case for DTE Electric Company, the Michigan Public Service Commission ("Michigan PUC") rejected DTE's proposal for a reservation charge of 16% of the full-time use power supply reservation charge.[123] Instead, the Michigan PUC lowered the reservation charge to 10% for unscheduled standby use and 5% for scheduled standby use (based on a 5% forced outage rate). The Michigan PUC found that it was

> "reasonable to approve [a] standby tariff that sets a monthly power supply reservation charge based on the forced outage rates of the best performing generators, an on-peak daily power supply demand charge based on a proration of the full service . . . monthly power supply demand charge, and a maintenance on-peak demand charge of [one half] of the on-peak daily power supply demand charge."[124]

The Minnesota Public Utilities Commission recently approved a negotiated settlement reducing Xcel Energy's standby reservation fee from 12% to 7.4% of the amount included in base

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[122] Order No. 21097, *Re Narragansett Electric Company dba National Grid*, Docket No. 4232 (Jul. 12, 2013), *available at* http://www.ripuc.org/eventsactions/docket/4232-NGrid-Ord21097_7-12-13.pdf.

[123] Order, *In the Matter of the Application of DTE Electric Company For Authority to Increase Its Rates*, Michigan Public Service Commission Docket No. U-18255, 2018 Mich. PSC LEXIS 122 (Order dated April 18, 2018).

[124] *Id.* at *126. The Michigan PUC also rejected a proposed increase in standby rates by Consumers Energy Company and pointed out the company's failure to reflect the different characteristics of back-up and maintenance power, as well as its unclear proration language. The Michigan PUC ordered Consumers, in its next rate case, "to provide actual and projected peak metered demand billing determinants for Rate GSG-2 customers, including any ratchet that would be applied. In addition, if the company chooses to rely on contracted demand, Consumers shall provide justification for its departure from the standardized framework. Order, *In the Matter of the Application of Consumers Energy Company For Authority to Increase its Rates*, Michigan Public Service Commission Docket No. U-18322, 2018 Mich. PSC LEXIS 70 (Order dated March 29, 2018).

tariff demand rates to better reflect outage rates for CHP systems,[125] which was reported by commenters in that proceeding to be 5%.[126] Remarkably, the thrust of these decisions was not *if* a load factor should be applied, but what the load factor should be.

2. Developing a rate based on a 5% availability is an appropriate action based on the examination of the existing customer and other sources of information.

Having demonstrated a load factor is appropriate for Back-up rates, a specific load factor must be determined. There are several key data points that support Mr. Crist's 5% rate.[127]

- **The existing Rider 16 customer's generation has been available 97.5% of the time.**[128] Using a load factor of 5% to develop the Back-up rate is reasonable based on the historic availability of Duquesne University's CHP system.[129] As stated above, Duquesne University's generation has been unavailable only 2.5% of the time. Additionally, DLC admitted that over the course of the last three years, Duquesne University did not exceed the 15% limitation on back-up usage established in the current Rider 16.[130]

- **The assumed availability of Peoples' and Pitt's systems is 95%.** The manufacturer of the generator for Peoples' CHP project has projected the generator will be available 95% of the time.[131] Pitt's CHP analysis also assumes a 95% utilization factor.[132]

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[125] Order Approving Solar PV Demand Credit Rider With Modifications and Standby Service Rider, *In the Matter of a Commission Inquiry Into Standby Service Tariffs*, Docket No. E-999/CI-15-115, 2018 Minn. PUC LEXIS 139 (Minnesota PUC April 20, 2018).

[126] Reply Comments of Midwest Cogeneration Association and Fresh Energy, *In the Matter of a Commission Inquiry Into Standby Service Tariffs*, Minnesota PUC Docket No. E-999/CI-15-115 (Dec. 21, 2017).

[127] Mr. Crist does not dispute the calculations in overall analysis that resulted in DLC's proposal for an $8.00 per kW Back-up rate. However, Mr. Crist and DII fervently object to the failure of DLC to propose any load factor multiplier, let alone a load factor that is accurate and reasonable.

[128] DII Statement No. 1, p. 25 (Crist); Exhibit No. JC-7, p. 15; *see also* Tr. at 608, lines 3-5 (Crist).

[129] DII Statement No. 1, p. 25 (Crist).

[130] Tr. at 442, lines 1-4 (Ogden).

[131] Tr. at 634, lines 12-13 (Nehr).

[132] Exhibit No. RH-1S.

- **A major analysis of distributed generation indicates the forced outage rate for gas turbines and reciprocating engine systems averages under 3%.** The *Final Report: Distributed Generation Operational Reliability and Availability Database*, produced by Energy and Environmental Analysis, Inc., compiled operating and reliability data for distributed generation and CHP systems.[133] The authors studied 121 units with the goal of estimating the operational reliability of various distributed generation and CHP technologies. Depending on the size of the unit, the summary statistics point to an average forced outage rate of only 0.85% to 1.76% for reciprocating engine systems and only 1.37% to 2.89% for gas turbine systems. Availability factors, which take into account both planned and unplanned downtime,[134] ranged from 93.53% to 98.22%. Additionally, the authors favorably noted that most failures appeared to be "random occurrences of short duration" That were not systemic problems with the generation systems.[135] These statistics are consistent with the 97.5% availability history of DLC's one current Rider 16 customer.

- **Determinations by other state utility commissions support a low load factor.** Above, several examples of other state utility commission decisions are discussed. Those commissions approved factors of 10% and less for back-up and maintenance power based on projected uptime levels of around 5%.[136] Here, the historic downtime of the one Rider 16 customer is only 2.5%, which is similar to industry projections. State commission decisions support a low load factor in this proceeding.

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[133] Exhibit No. JWS-5 at ES-1, ES-2.

[134] *Id.* at ES-2 – ES4.

[135] *Id.* at ES-4.

[136] *See* Order Approving Solar PV Demand Credit Rider With Modifications and Standby Service Rider, *In the Matter of a Commission Inquiry Into Standby Service Tariffs*, Docket No. E-999/CI-15-115, 2018 Minn. PUC LEXIS 139 (Minnesota PUC Apr. 20, 2018); Order, *In the Matter of the Application of DTE Electric Company For Authority to Increase Its Rates*, Michigan Public Service Commission Docket No. U-18255, 2018 Mich. PSC LEXIS 122 (Order dated April 18, 2018); and Order No. 21097, *Re Narragansett Electric Company dba National Grid*, Docket No. 4232 (Jul. 12, 2013), *available at* http://www.ripuc.org/eventsactions/docket/4232-NGrid-Ord21097_7-12-13.pdf.

3. Summary of argument supporting DII's $0.352 per kW Back-up Service rate

DII's proposed Back-up rate for Rider 16 is an accurately cost-allocated rate.[137] Mr. Crist's Back-up rate analysis is a reasonable substitution for a fully allocated cost of service study that treats Rider 16 customers as a distinct class.[138] Mr. Crist's Back-up rate analysis resolves alleged "subsidization" concerns by providing a cost-based rate based on the expected availability of the generation owned by Rider 16 customers.[139] DII has conclusively established that the PUC should establish a Back-up Service rate for DLC of $0.352 per kW.

4. No record evidence supports DLC's $2.50 per kW Back-up Service rate.

As indicated above, DLC has provided no support for the $2.50 per kW rate for Back-up Power. No witness testified to support a $2.50 per kW rate. The Commission cannot adopt a position unless it is supported by substantial record evidence.[140] DLC's position is supported by *no* record evidence.

The basis of Rider 16 rate design in DLC's last case remains murky. No party contested DLC's $2.50 per kW rate or use of the 30% load factor in the 2013 rate case.[141] None of DLC's current witnesses in this proceeding testified as witnesses supporting the $2.50 per kW Back-up

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[137] Tr. at 584, lines 14-15 (Crist). Because the existing Rider 16 does not distinguish between Back-up and Maintenance Service, DLC's analysis of the existing customer peaks in the table on page of Mr. Gorman's Rebuttal Testimony is irrelevant to establishing the Back-up rate in this proceeding. DII Statement No. 1-S, pp. 12-13 (Crist).

[138] Tr. at 585, lines 13-15 (Crist). When Mr. Gorman conducted the cost of service study, he was not instructed by DLC to analyze Rider 16 as a separate class.[138]

[139] Tr. at 585, lines 15-24 (Crist).

[140] *Lower Frederick Twp. v. Pa. PUC*, 409 A.2d 505, 507 (Pa. Cmwlth. 1980).

[141] Tr. at 607, line 24 (Crist).

Power rate in the 2013 proceeding.[142] On the stand, DLC witness Mr. Ogden could not identify the reason that the 30% load factor was applied in 2013, suggesting it could have been a customer-specific proposal or "it could have just been a percentage to get to an end result…"[143]

Nor has DLC presented evidence in this proceeding to justify the 30% load factor either.[144] DLC's witness Mr. Gorman indicated that he did not know why a 30% availability figure was used.[145] Peoples witness Daniel "accepted" the 30% load factor but did no independent analysis of the assumption. As stated by Mr. Crist, no analysis was done to support a 30% load factor. The Commission must make its decision based on the evidentiary record established in this proceeding, which has support only for Mr. Crist's proposal of a 5% load factor.[146] The 30% load factor used in 2013 is excessive based on the actual experience of outage hours of the Duquesne University CHP system and other industry norms discussed above.[147]

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[142] See Tr. at 230, lines 10-12 (Davis); Tr. at 323, line 25 (Gorman); Tr. at 405, line 21 – 406, line 1 (Ogden); Tr. at 521, lines 10-15 (Fisher).

[143] Tr. at 411, line 25 – 412, line 2 (Ogden).

[144] DLC did not examine the historic usage patterns of the Rider 16 customer in developing its Rider 16 proposal originally submitted in this proceeding. Tr. at 413, line 24 – 414, line 7 (Ogden). DLC also did not take into account general statistics regarding the utilization rate of CHP facilities when it developed its now-withdrawn Rider 16 proposal. Tr. at 417, lines 14-17 (Ogden).

[145] Tr. 323-26 (Gorman).

[146] Tr. at 607, lines 21-22 (Crist).

[147] DII Statement No. 1, p. 25 (Crist).

5. Developing the Back-up Service rate is a "rate design" choice for the Commission to make consistent with cost-based principles and public policy.

DII has demonstrated that "partial use" customers impose different (and lower) costs on the electric distribution system than full requirements customers.[148] DII respectfully requests that the Commission consider this in designing DLC's Back-up rate and adopt DII's methodology.

There are many factors that affect the development of distributed generation, such as resiliency, reliability, broader economic trends, efficiency, and environmental benefits. Many of these factors are not directly within Commission control or oversight.

The Commission does, however, have significant authority in the area of rate design. The Commission has discretion to determine how rates for Back-up Service should be designed in light of the various arguments and evidence presented in this proceeding.[149]

DII respectfully submits that the Commission should require utilities to apply consistent and predictable requirements and methodologies throughout the Commonwealth for back-up, maintenance and supplemental services.[150] In fact, this expectation is already implied by 52 Pa. Code § 57.35 and reinforced by the CHP Policy Statement. However, as demonstrated by

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[148] *See, e.g.*, DII Statement No. 1-S, p. 11 (Crist); Peoples Statement No. 2, p. 18, lines 15-24 (Daniel); Peoples Statement No. 4, pp. 12-13 (Kefer).

[149] 66 Pa. C.S. §§ 501, 1308(c); *Consolidated Communications Enterprise Services v. Omnipoint Communications*, Docket No. C-2010-2210014 (2012 Pa. PUC LEXIS 479, *81) (Order entered March 15, 2012). The Commission wrote, "The Pennsylvania Supreme Court has held that the intent of Section 501 is to give the Commission full powers in regulating utility service and rates." *Id.* (citing *Fairview Water Company v. Pa. PUC*, 509 Pa. 384, 502 A.2d 162 (Pa. 1985)).

[150] DII Statement No. 1-S, p. 24 (Crist).

DLC's failure to consider the Commission's CHP Policy Statement in this proceeding, some utilities remain resistant to designing appropriate rates for "partial use" customers.[151]

As described above, Pennsylvania stands at the cusp of a significant opportunity. There is no doubt that the utility landscape is changing. While this presents new opportunities, it also unveils new threats such as security breaches and outages due to extreme weather patterns.

In light of these threats, DII urges the Commission to continue the substantial work it has been doing to promote distributed generation and CHP in Pennsylvania. The PUC has an opportunity in this proceeding to provide clear direction regarding the rates, terms, and conditions of service for distributed generation customers in DLC's territory and throughout the Commonwealth. If institutions like Pitt choose to make multi-million-dollar investments in CHP, community safety and well-being will be advanced. In the context of a grid emergency, the ability for major facilities like airports, police stations, campuses, and hospitals to keep operating could limit the fallout of a blackout. It could provide shelter for people in a crisis situation. It could, quite literally, save lives.

DII's members believe firmly that their investments in distributed generation and CHP will not only benefit them, but the entire Pittsburgh region. DLC's actions in this case – particularly in proposing a 220% increase to Back-up Service – threaten potential investments and shake the confidence these institutions need to proceed. The ability for utilities to dramatically change methodologies undermines the motivation and ability of customers to pursue distributed

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[151] On the stand, DLC witness David Ogden indicated that he had no more than a cursory understanding of the CHP Policy Statement. Despite two years of research and investigation culminating in an official Commission statement of policy, he essentially admitted the CHP Policy Statement was a non-factor for DLC in developing its proposed rates. Tr. at 417, line 18 – 429, line 6 (Ogden).

generation.[152] In contrast, using a consistent methodology enables customers to accurately analyze CHP options over the lifetime of a CHP investment.[153]

This case presents a meaningful opportunity for the Commission to act on its CHP Policy Statement through a utility rate case and to set expectations for other utilities. The Commission's determination in this case could have a profound effect in the DLC territory, but also reverberate throughout Pennsylvania, signaling to consumers that the Commonwealth presents a safe climate in which to invest.

DII has established by substantial evidence that 5% is an appropriate and reasonable load factor for DLC's Rider 16 Back-up Service. Consequently, the Back-up Service rate should be $0.352 per kW based on the proper reflection of the historic availability of the Rider 16 Customer and expected future availability of CHP generation.

G. DII has conclusively established that the charge for Back-up Service should apply to "as used" service rather than as a monthly reservation charge.

In its original Rider 16 proposal in this proceeding, DLC proposed revised language that would have determined back-up costs based on a contract demand or reservation charge as opposed to actual demand. This was a change from DLC's current practice.[154]

DII opposes the imposition of monthly "reservation" charges for Back-up Service. Any Rider 16 charge for Back-Up Service should be based on actual demand, not a contract demand, as affirmed by Mr. Crist and Mr. Daniel,[155] for the following reasons.

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[152] DII Statement No. 1-S, p. 24 (Crist).

[153] DII Statement No. 1-S, p. 24 (Crist).

[154] Tr. at 454, line 24 – 455, line 2 (Ogden).

[155] Applying a Rider 16 charge to a distributed generation or CHP customer's back-up contract demand rather than actual monthly demand is improper. Peoples Statement No. 2, p. 8, lines 6-8 (Daniel).

First, using the actual demand encourages efficient operation of the CHP system to repair any problems that might result in unexpected outages. With actual demand charges, the operators of CHP systems are motivated to avoid outages, because even a brief outage can increase the system's demand charges for the month. In contrast, using a fixed monthly fee charges the customer the same regardless of whether back-up is used, reducing motivation for efficient behavior.

Second, use of actual demand is consistent with how DLC measures and evaluates demand with its non-Rider 16 customers. Non-Rider 16 customers on demand-based distribution rates have a variety of spikes and dips in their usage. DLC plans for that and charges based on the peak in the month (subject to minimum charge calculations as described by Mr. Ogden).[156] DLC's distribution system has hundreds of thousands of customers with a variety of load profiles. Except for the HVPS class, which has dedicated facilities and is served at transmission voltage, these customers are not subjected to billing based solely on contract demand. Rider 16 customers, who relieve substantial load from the distribution system, should not either.

Third, basing charges on actual demand is consistent with the current application of Back-up Service for the existing Rider 16 customer. DLC's existing Rider 16 facilitates billing customers for Back-up Service based on actual monthly demand, rather than a fixed monthly reservation charge. The current Rider 16 customer has been billed by DLC for Back-up Service based on actual usage rather than a contract demand.[157] This is appropriate and should be continued for current and future Rider 16 customers.

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[156] Tr. at 428-30, 435-36.

[157] Tr. at 454, line 24 – 455 line 2 (Ogden).

H. Rider 16 should be revised to establish a rate for scheduled maintenance that is separate from unplanned Back-up rates.

A significant flaw in DLC's Rider 16 is the lack of distinction between *unplanned* Back-up rates (sometimes referred to as standby rates) and Back-up rates for *planned* outages (often referred to as maintenance rates). In effect, DLC's current definition of Back-up Power does not distinguish between unplanned outages and scheduled maintenance outages.[158] Instead, as explained by Mr. Daniel and Mr. Crist, Rider 16 should provide for both a Back-Up and Maintenance Rate.[159]

The central reason to differentiate between unplanned Back-up rates and planned maintenance rates is that planned maintenance can generally occur at times the distribution system is off-peak, thus reducing systemwide peaks.[160] Distributed generation customers generally have some flexibility as to when maintenance can be performed.[161] Maintenance can be planned and prescheduled with the EDC during lower usage periods. Consequently, maintenance power should be provided at a rate lower than the rate for Back-up Power.

Having a separate and lower rate for maintenance service encourages routine maintenance of the distributed generation units, which increases availability and reliability of the generation. As noted by Mr. Crist, setting the Maintenance Power rate lower than the Back-up rate encourages customers to engage in necessary maintenance to avoid unplanned outages.[162] This, in turn, provides additional benefits to the distribution utility and its customers.

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[158] DII Statement No. 1, p. 19 (Crist).

[159] Peoples Statement No. 2, p. 25, lines 17-19 (Daniel).

[160] Peoples Statement No. 2, p. 22, lines 20-22 (Daniel).

[161] Peoples Statement No. 2, p. 22, lines 19-20 (Daniel).

[162] DII Statement No. 1, p. 26 (Crist).

PURPA and PUC regulations, discussed above, make a distinction between emergency backup and maintenance rates. PURPA regulations state that maintenance power rates "[s]hall take into account the extent to which scheduled outages of the qualifying facilities can be usefully coordinated with schedule outages of the utility's facilities."[163]

Maintenance Power should be charged on a daily rate rather than monthly. The daily rate for Maintenance Power should be established by dividing Mr. Gorman's calculation in Exhibit 6-4H by 30 (days of the month).[164] Because maintenance rates are planned to not have any disruptive effect, a Rider 16 customer should not be subjected to an entire month of demand charges for one day of planned outage within the utility's non-peak periods (particularly when the outage is planned in cooperation with the utility). Allowing time for CHP systems to be appropriately maintained – in a way that does not disrupt the grid – supports the optimal operation of CHP systems and assists in maintaining excellent availability rates.

Notably, DLC's Rider 16 had a separate rate for Scheduled Maintenance through 2006.[165] DII respectfully requests that the Commission require DLC to re-establish a separate maintenance rate according to the calculations presented in this proceeding by Mr. Crist.

I. Once there are multiple customers on Rider 16, DLC should perform a cost of service study for Rider 16 customers as a class that includes non-coincidental outages.

DLC's recent cost of service study did not include an evaluation of Rider 16 customers as a class.[166] Similarly, Duquesne's Rider 16 rate calculation methodology in the 2013 rate case did

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[163] DII Statement No. 1, p. 24 (Crist); 18 CFR § 292.305(c).

[164] DII Statement No. 1, p. 25 (Crist).

[165] Peoples Cross-Examination Exhibit No. 1, Attachment No. 2, p. 14; *c.f.* Attachment No. 1.

[166] Tr. at 342, lines 15-17 (Gorman); Peoples Statement No. 2, p. 7, lines 8-9 (Daniel).

not include allocating costs to the Rider 16 rate class.[167] When this issue was questioned by ALJ Dunderdale, Mr. Gorman did not dispute if there should be a separate class but simply that currently there is not a separate class:

> JUDGE DUNDERDALE: So you're not stating an opinion on page 27. You are simply stating what you believe to be fact. In other words, it's not that they should be a separate rate class; you're simply indicated that it's your information that they are not a separate rate class?
>
> THE WITNESS: There's no separate rate class established for Rider 16, correct.[168]

With more self-generators in DLC's territory, a separate cost-of-service study class can be created for Rider 16 that allocates costs based on the class demand.[169] Mr. Crist and Mr. Daniel indicate that separately allocating costs to the Rider 16 rate class for purposes of determining the Rider 16 distribution charge would be appropriate to determine Back-up Service costs.[170] Mr. Crist stated that studying Rider 16 customers as a class would ensure that the Rider 16 class gets demand costs assigned based on the class non-coincident peak (NCP), which is lower than adding the peaks of the customers in the class.[171]

Other classes get the benefits of "load diversity" by using the NCP to allocate demand costs for the class.[172] DLC witness Mr. Gorman described the benefits of load diversity as follows:

> Within a class, not all customers will have the same peak. So, if we add up the peaks for all the customers in the class, then that would be X. But if we looked at the instant case where the class as a whole was drawing the greatest demand on the system, that would be less than X, because while some customers might be hitting

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[167] Peoples Statement No. 2, p. 20, lines 14-17 (Daniel).

[168] Tr. at 356, lines 12-18.

[169] DII Statement No. 1-S, p. 11 (Crist).

[170] Peoples Statement No. 2, p. 19, lines 13-17 (Daniel).

[171] Tr. at 585-86, 590 (Crist); DII Statement No 1-S, p. 11-12 (Crist); *see* Tr. at 333 (Gorman).

[172] Tr. at 341-42 (Gorman).

> their peak at that time and probably a good portion of them are, *not all of them will*.[173]

As admitted by DLC witness Neil Fisher, rates generally are developed based on class averages using billing determinants such as customer charges and volumetric charges.[174] Developing a separate Rider 16 rate class for cost allocation is a preferred method for determining costs attributable to providing Back-up Service.[175] Rider 16 customers will have different load factors and usage characteristics compared to customers on Rates GL or L without on-site generation.[176] As reflected in DII Cross Exhibit No. 3, the Company can distinguish within the class based on whether the customer is served by the primary or secondary distribution system.[177] Conducting a cost of service study separately for Rider 16 customers will best reflect the different load factor characteristics for back-up customers, including the non-coincidental nature of their generation outages.[178]

Currently, DLC does little to monitor CHP development in its territory. DLC tracks potential CHP projects for load forecasting based only on submitted applications for interconnection.[179] DLC's employees responsible for rates do not regularly interface with DLC's sales or business development representatives who discuss potential CHP projects with customers.[180] As a result, it is not clear that DLC has adequately understood or fairly evaluated

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[173] Tr. at 342 (Gorman) (emphasis added); *see also* Tr. at 333.

[174] Tr. at 540, lines 20-22 (Fisher).

[175] Peoples Statement No. 2, p. 19, lines 13-17 (Daniel).

[176] Tr. at 585, lines 4-8 (Crist).

[177] DII Cross Exhibit No. 3.

[178] Tr. at 585, lines 4-12 (Crist).

[179] Tr. at 236, lines 11-15 (Davis).

[180] Tr. at 236, lines 16-18 (Davis); Tr. at 431-32 (Ogden).

how costs should be allocated to Rider 16 customers. This should be corrected in the next rate case by a cost of service study that treats Rider 16 customers as a class.[181]

[181] As described herein, Mr. Crist's Back-up rate analysis is a reasonable substitution for a fully allocated cost of service study that treats Rider 16 customers as a distinct class. Tr. at 585.

V. CONCLUSION

DII Exhibit No. JC-8 incorporated all of the language changes necessary to bring Rider 16 into compliance with regulations by (1) defining a distinct Back-up rate for unplanned outages and a distinct Maintenance Service Rate for scheduled outages and (2) using the actual measured billing demand as the billing determinate for supplementary, back-up, and maintenance service charges. The DII-revised Rider 16 should be accepted as the replacement for DLC's current tariff.

In addition, for all the foregoing reasons, the Duquesne Industrial Intervenors respectfully request that Your Honor recommend that the Pennsylvania Public Utility Commission order Duquesne Light Company to (1) establish a Rider 16 Back-up rate based on a 5% load factor, at $0.352 cents per kW; (2) establish a distinct Maintenance Rate for planned outages at $0.235 cents per kW; and (3) ensure that Rider 16 costs are determined based on an accurate analysis of distributed generation characteristics of non-coincidental outages in future rate proceedings.

Respectfully submitted,

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Dated: September 6, 2018

APPENDIX A

TABLE DESCRIBING DII'S PREPARED TESTIMONY & EXHIBITS

Witness	Statement	Exhibit	Exhibit Description
James L. Crist	**Statement No. 1 (Direct)**	JC-1	Partial List of Regulatory Experience of James L. Crist
		JC-2	District Energy Databook
		JC-3	Revenue Requirements by Class (Crist Alternative Proposal to Move to Cost of Service)
		JC-4	Interrogatory Response of Benjamin B. Morris (I&E-RE-41)
		JC-5	Company Tariff Redline from DLC's 2013 Rate Case (Docket R-2013-2372129)
		JC-6	Phrommer Testimony, pp. 19-20, from DLC's 2013 Rate Case (Docket R-2013-2372129)
		JC-7	Duquesne University Presentation to Public Utility Commission on the University's Cogeneration Facility (2014)
		JC-8	Revised Proposed Rider 16 (Crist)
James L. Crist	**Statement No. 1-R (Rebuttal)**	n/a	
James L. Crist	**Statement No. 1-S (Surrebuttal)**	JC-1S	Data from 2013 DLC Rate Case
		JC-2S	Interrogatory Response of Joseph DeMatteo (Peoples-DLC II-12)
		JC-3S	Redline of Company's proposed Rider 16
Richard Heller	**Statement No. 2 (Direct)**	RH-1	Pitt Campus Substation Maps
		RH-2	Pitt Substations Switchgear Photos
		RH-3	Pitt Sustainability Plan
Richard Heller	**Statement No. 2-S (Surrebuttal)**	RH-1S	Comparison of potential CHP generation alternatives at Pitt (Interrogatory Response DLC-DII-28(a)
		RH-2S	Calculation of impact of increased Back-Up rates
Eric R. Sprys	**Statement No. 3**	ES-1	Resume of Eric R. Sprys
Eric R. Sprys	**Statement No. 3-S**	n/a	
n/a		DII Cross Exhibit No. 1	Testimony of Howard S. Gorman in National Grid case before the Rhode Island Public Utilities Commission
n/a		DII Cross Exhibit No. 2	Distribution charge analysis provided to customer – General Service with On-site Generation not an option
n/a		DII Cross Exhibit No. 3	Updated Exhibits 6-4H-S and 6-4I-S prepared by Mr. Gorman

APPENDIX B

FINDINGS OF FACT

Distributed Generation and Combined Heat & Power ("CHP")

1. Distribution Generation is generation at or near the point of use of the end customer. DII Statement No. 1, p. 14 (Crist).

2. Distributed Generation refers to customer owned or controlled generation serving all or a portion of the customer's electrical load, that is located behind the meter that is connected to a utility's distribution system and that may operate in parallel with the utility's system. Peoples Statement No. 2, p. 5 lines 23-26 (Daniel).

3. The DLC's potential Woods Run Microgrid is a Distributed Generation project. DII Statement No. 1, pp. 14-15 (Crist).

4. Combined Heat and Power is a type of Distributed Generation that also provides thermal energy (e.g. heat) used by the customer. Peoples Statement No. 2, p. 5 lines 26-28 (Daniel).

5. CHP produces heat (thermal energy) and electricity from a single fuel source. Peoples Statement No. 4, p. 4 (Kefer); DII Statement No. 1, p. 10 (Crist).

6. CHP captures heat that normally would be lost in the generation process and uses it to provide needed heating or cooling. DII Statement No. 1, p. 10 (Crist).

7. CHP technologies have been in use since the 1960s. DII Statement No. 1, p. 11 (Crist).

8. The "prime mover" in a CHP refers to the device causing the generator to produce electricity. DII Statement No. 1, p. 12 (Crist).

9. The typical prime mover is a reciprocating engine or a gas turbine. DII Statement No. 1, p. 12 (Crist).

10. CHP systems can include heat recovery boilers or heat steam recovery generators (HRSG) to use the heat produced by the prime mover. DII Statement No. 1, p. 12 (Crist).

11. Thermal energy produced by the CHP process can be used for process heating, space heating or cooling, and other purposes. DII Statement No. 1, p. 12 (Crist).

12. Utility scale generation wastes thermal energy by exhausting most through the stacks or cooling towers. DII Statement No. 1, p. 13 (Crist).

13. Newer CHP packaged systems are available with smaller sizes. DII Statement No. 1, p. 12 (Crist).

14. Utility scale generation has an efficiency of 30-35%. DII Statement No. 1, p. 13 (Crist).

15. CHP facilities have efficiency of over 50% because they recover waste heat and convert it to useful thermal energy such as steam or hot water. DII Statement No. 1, p. 13 (Crist).

16. CHP generation projects are often sized based on the account's thermal load requirements, not the electrical load requirements. DII Statement No. 1, pp. 15-16 (Crist).

Benefits of CHP Systems

17. Producing generation on-site reduces the customer's risks associated with power interruptions. DII Statement No. 1, p. 13 (Crist).

18. Packaged CHP systems are attractive for businesses such as hospitals, hotels and nursing homes. DII Statement No. 1, p. 13 (Crist).

19. Investments in self-generation are long-term capital investments. DII Statement No. 1-S, p. 24 (Crist).

20. Installing on-site generation will help Duquesne's customers to maintain electric service during catastrophic events. Tr. at 247, lines 9-12 (Davis).

21. Installing on-site generation will help Duquesne's customers to maintain electric service during general distribution system interruptions. Tr. at 247, lines 13-16 (Davis).

22. Distributed Generation, including CHP, provide increased electric system resilience. Peoples Statement No. 2, p. 27, lines 9-12 (Daniel).

23. The general benefits provided by CHP include "reduced energy costs, avoided capital costs, lower transmission and distribution system losses, environmental benefits and grid resilience." Peoples Statement No. 2, p. 29, lines 2-4 (Daniel).

24. CHP benefits users by decreasing energy costs. Peoples Statement No. 4, p.4 (Kefer).

25. CHP can make manufacturers more competitive in the global marketplace. Peoples Statement No. 4, p. 4 (Kefer).

26. Lower energy costs can result in businesses increasing investments in new technologies and/or hiring additional employees. Peoples Statement No. 4, p. 4 (Kefer).

27. The design, planning, construction and operation of CHP creates jobs and stimulates the economy. Peoples Statement No. 4, p. 4 (Kefer).

28. CHP reduces transmission and distribution losses. Peoples Statement No. 4, p. 4 (Kefer).

29. CHP reduces peak loads experienced by EDCs. Peoples Statement No. 4, p. 4 (Kefer).

30. CHP increases grid reliability. Peoples Statement No. 4, p. 4 (Kefer).

31. CHP helps reduce the need for additional investment in generation and transmission facilities, thereby reducing costs for all energy consumers. Peoples Statement No. 4, p. 4 (Kefer).

32. CHP enhances reliability for end users. Peoples Statement No. 4, p. 4 (Kefer).

33. Facilities with CHP can maintain electricity during extreme weather events. Peoples Statement No. 4, p. 4 (Kefer).

34. CHP systems produce one-half of the emissions of the separate generation of heat and power. Peoples Statement No. 4, p. 5 citing U.S. Environmental Protection Agency, Combined Heat and Power Partnership: CHP Benefits (https://www.epa.gov/chp/chp-benefits) (visited June 15, 2018).

35. CHP helps to reduce greenhouse gases. Peoples Statement No. 4, p. 5 (Kefer).

36. CHP helps to fight climate change. Peoples Statement No. 4, p. 5 (Kefer).

37. CHP can more than double the fuel efficiency of a conventional generation plant. Peoples Statement No. 4, p. 4 (Kefer).

Public Policy & Economics

38. It is good public policy to be prepared to maintain electric service during catastrophic events. Tr. at 247, lines 5-8 (Davis).

39. The CHP Policy Statement addressing standby rates says, "they should not pose a barrier, and if they do, there should be ways to reduce those barriers." Tr. at 229, lines 23-25 (Davis).

40. High rates for standby or back-up service can be a barrier to CHP development by adversely impacting the expected economic viability of projects. Peoples Statement No. 4, p. 8 (Kefer).

41. Uncertainty of standby rates can be a barrier to development of CHP because large future standby rate increases can impact the economic viability of the project after it is constructed. Peoples Statement No. 4, pp. 8-9 (Kefer).

42. A typical economic recovery period for a CHP plant can be seven to ten years. Peoples Statement No. 4, p. 9 (Kefer).

43. The Commission should apply consistent and predictable requirements and methodologies throughout the State for back-up, maintenance and supplemental services. DII Statement No. 1-S, p. 24 (Crist).

44. Using a consistent methodology enables customers to accurately analyze CHP options over the lifetime of the investment. DII Statement No. 1-S, p. 24 (Crist).

45. Dramatically changing methodologies to calculate back-up, maintenance and supplemental rates undermines customers' motivation and ability to explore distributed generation. DII Statement No. 1-S, p. 24 (Crist).

46. For Microgrids to be economically viable, the generator should be a CHP. DII Statement 1, p. 16 (Crist).

Commonwealth Policy Conclusions

47. CHP is an efficient process for generating electric power and thermal energy from a single fuel source. *Final Policy Statement on Combined Heat and Power,* Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 1.

48. The Commission issued the CHP Final Policy Statement to promote CHP investments. *Final Policy Statement on Combined Heat and Power,* Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 2.

49. The Commission encouraged Electric Distribution Companies to both promote the deployment of CHP and reduce barriers to deployment. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), pp. 1-2, 11-12.

50. CHP provides a benefit to businesses by reducing energy costs and enhancing reliability for the user. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 1.

51. CHP systems are an integral part of the defense to both natural disasters and man-made attacks on the electric distribution system. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 14; 52 Pa. Code § 3201(b).

52. CHP systems are an important component of addressing environmental concerns such as reducing greenhouse gas emissions. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 14; 52 Pa. Code § 3201(b).

53. CHP offers significant potential for economic development. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 14; 52 Pa. Code § 3201(b).

54. CHP offers the potential of reduced costs for customers in conjunction with natural gas from shale gas resources. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 14; 52 Pa. Code § 3201(b).

55. CHP is subject to the Commission in regards to service reliability, energy efficiency and consumer rates. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 14; 52 Pa. Code § 3201(b).

56. This rate proceeding is the appropriate place to review and approve policy proposals related to CHP. *Final Policy Statement on Combined Heat and Power*, Docket No. M-2016-2530484 (Order entered April 5, 2018), p. 9.

Current Projects & Technical Potential

57. As of December 31, 2016, there were 5 MW of CHP generation installed at commercial sites in DLC's territory and 74 MW installed industrial or other sites. Peoples Statement No. 4, p. 6 (Kefer).

58. There are three current CHP systems in Duquesne's service territory. Tr. at 250, lines 14-21 (Davis).

59. There is a general industry trend for customers to explore distributed generation. Tr. at 489, lines 13-16 (DeMatteo).

60. Customers explore distributed generation for a variety of reasons such as cost-effectiveness and increased reliability. Tr. at 489, lines 18-20 (DeMatteo).

61. As of December 31, 2016, the U.S. Department of Energy calculated technical potential for an additional 242 MW of commercial CHP and 333 MW of industrial (or other) CHP in Duquesne's service territory. Peoples Statement No. 4, p. 6 (Kefer).

62. DLC's business customer representatives are aware of prospective distributed generation and/or CHP projects in the service territory. Tr. at 490, lines 19-21 (DeMatteo).

63. Confidential Exhibit JWD-8 identifies twelve customers that have had discussions with DLC since 2009 regarding distributed generation. See Exhibit JWD-8.

64. There are at least three distributed generation projects under current consideration in DLC's service territory – a university, a utility customer and a transportation sector entity. Tr. at 490 line 25 to 491 line 13 (DeMatteo).

65. The majority of the CHP potential in Duquesne's service territory are accounts in primary metals, chemical manufacturing, hospitals and universities. Peoples Statement No. 4, p. 6 (Kefer).

66. Pennsylvania has "tremendous opportunity for additional CHP implementation, which can be encouraged by removing barriers such as arbitrary, excessive, and opaque standby rates." Peoples Statement No. 4, p.7 (Kefer).

67. Duquesne University's CHP unit is 5MW. DII Statement No. 1, p. 3; Exhibit JC-7, p. 6 of 21 (Crist).

68. Duquesne University's CHP unit was completed in 1997. DII Statement No. 1, p. 3, Exhibit JC-7, p.4 of 21 (Crist).

69. Duquesne University's CHP project contains many components, including a natural gas turbine, a waste heat boiler, compressors, control system, chillers, pumps and cooling tower cells. Exhibit JC-7, pp. 6 & 7 of 21 (Crist).

University of Pittsburgh

70. The City of Pittsburgh's Uptown Eco Innovation plan contemplates construction of Microgrids and CHP. DII Statement No. 1, p. 4; DII Exhibit No. JC-2 (Crist).

71. Pitt is a founding member of the Pittsburgh 2030 initiative, which is designed to reduce 50% of energy use, water use and transportation emissions by the year 2030. DII Statement No. 2, p. 4 (Heller).

72. The Pittsburgh 2030 challenge aims to enhance environmental goals and increase the competitiveness of the business environment and owners' returns on investment. DII Statement No. 2, p. 4 (Heller).

73. Pitt has six substations that connect to the DLC system. DII Statement No. 2, p. 5 (Heller); Exhibit RH-1, p. 1 & 4.

74. Pitt paid for redundant transformers in five of the six substations to enhance service reliability. DII Statement No. 2, p. 5 (Heller).

75. Pitt's distribution system feeds hospitals, a police station and critical research facilities. DII Statement No. 2-S, p. 3 (Heller).

76. There are two steam plants and two chilled water plants on the Pitt Campus. DII Statement No. 2, p. 5 (Heller).

77. Pitt uses steam and chilled water for heating and cooling, and in various research labs. DII Statement No. 2, p. 5 (Heller).

78. Pitt has developed a comprehensive Sustainability Plan. DII Statement No. 2, p. 6 (Heller); Exhibit No. RH-3.

79. Pitt is working towards a 50% reduction below the national average in energy use intensity by 2030. DII Statement No. 2, p. 6 (Heller).

80. Pitt has undertaken multiple projects to increase efficiency and reduce energy use, including conversion of the Bellefield Steam Plant from coal to natural gas, constructing the Carillo Steam Plant with ultra-low NOx boilers and state of the art emissions controls, rooftop solar and many construction and operations improvements. DII Statement No. 2, p. 6 (Heller).

81. Pitt also has a goal to produce or procure 50% of its electricity from renewable sources. DII Statement No. 2, p. 6 (Heller).

82. Pitt plans to reduce greenhouse gas emissions by 50% by 2030 from a 2008 baseline. DII Statement No. 2, p. 6 (Heller).

83. DLC's distribution system is constrained in the Oakland area, which has resulted in requests from DLC to Pitt to restrict usage. DII Statement No. 2-S, p. 4 (Heller).

84. Pitt is considering many options for on-site generation to reach the energy reduction goals. DII Statement No. 2, p. 10 (Heller).

85. Constraints on the DLC system and the resulting need for Pitt to curtail usage is one reason that Pitt is actively considering CHP development. DII Statement No. 2-S, p. 5 (Heller).

86. A large CHP on Pitt's campus could provide substantial benefits to DLC, its customers and the public during catastrophic distribution system outages. DII Statement No. 2-S, p. 3 (Heller).

87. Pitt's Energy Plan study includes two potential generators because of the thermal (steam) needs. Tr. at 571, lines 22-23 (Heller).

88. Because Pitt can use the steam, installing CHP is a technically viable strategy. DII Statement No. 2, p. 10 (Heller).

89. Pitt's CHP analysis contemplates constructing two 4.6 MW generators. Tr. at 571, lines 8-10 (Heller).

90. Pitt's two potential CHP generators would feed into two different substations – Posvar and Panther. Tr. at 571, lines 23-25 (Heller).

91. Pitt's two potential CHP generators would operate independent of each other. Tr. at 572, line 10 (Heller).

92. For Pitt, a utility-related project like energy efficiency or CHP must make economic sense before it will be considered. Tr. at 566, lines 7-10 (Heller).

93. Utilities are the second largest cost for Pitt behind payroll. DII Statement No. 2-S, p. 6 (Heller).

94. The capital costs of Pitt's potential CHP project exceed $40 million. DII Statement 2-S, p. 6 (Heller); Exhibit RH-2S.

95. A $40 million investment in a CHP project would be significant for Pitt. DII Statement No. 2-S, p. 6 (Heller).

96. Using the $2.50 per kW back-up rate, the pay back period for Pitt's potential CHP project is 15.7 years. DII Statement No. 2-S, p. 6 (Heller); Exhibit RH-2S.

97. Pitt looks very closely at life cycle cost analyses when making decisions on utility-related projects. Tr. at 566, lines 6-7 (Heller).

98. Pitt has not approved any energy conservation project with a payback of 15.7 years or longer. Tr. at 567, lines 4-5 (Heller).

99. The 15.7-year payback period for a potential CHP project at the existing Rider 16 back-up rate is the "far fringes" of what Mr. Heller has observed as a viable project during his 16 years at Pitt. Tr. at 566, lines 10-13 (Heller).

100. Pitt has foregone renewable or energy conservation measures that are calculated to have payback periods of 20 years or longer. Tr. at 566 line 21 to 567 line 2 (Heller).

Allegheny County Airport Authority

101. The Allegheny County Airport Authority operates the Allegheny County Airport and Pittsburgh International Airport. DII Statement No. 3, p. 4 (Sprys).

102. The Pittsburgh International Airport is 8,800 acres and includes a fire station, fire training academy, police station, five business parks, cargo facilities, a fixed-base and charter aircraft facility (FBO), a hotel, a rental car facility, natural gas wells and three military bases. DII Statement No. 3, p. 5 (Sprys).

103. Pittsburgh International Airport serves nearly 9 million passengers annually on 17 carriers. DII Statement No. 3, p. 5 (Sprys).

104. The Airport currently has 1.8 MW of diesel fired generators for back-up power. DII Statement No. 3, p. 6 (Sprys).

105. The Airport's current back-up generation facilitates the retention of security lighting and fire safety functions during a DLC service interruption. DII Statement No. 3, p. 6 (Sprys).

106. ACAA is in the process of conducting a Request for Development Proposal ("RFDP") to construct distributed generation at two substations – Hangar and Midfield. DII Statement No. 3, p. 7 (Sprys).

107. The RFDP seeks a developer to build, own and operate distributed generation from which ACAA will purchase power. DII Statement No. 3, p. 7 (Sprys).

108. ACAA's goal in pursing the project is improving the economics of purchasing for the Airport. DII Statement No. 3, p. 7 (Sprys).

109. ACAA is looking for proposals for CHP and solar. DII Statement No. 3, p. 7 (Sprys).

110. ACAA's baseload is approximately 5 MW, which occurs during off-peak hours. DII Statement No. 3, p. 7 (Sprys).

111. The airline industry has experienced electric outages at airports that impacted passenger transportation and comfort. DII Statement No. 3, p. 8 (Sprys).

112. ACAA's potential on-site generation project will enhance safety and provide regional benefits. DII Statement No. 3, p. 8 (Sprys).

113. Enhancing the level of emergency power if the DLC facilities serving the Airport are inoperable could be critical to maintaining order and passenger safety for short or extended outages. DII Statement No. 3, p. 8 (Sprys).

114. The airport does not use taxpayer money for operation funding. DII Statement No. 3, p. 10 (Sprys).

115. ACAA must make prudent economic decisions to keep user fees for tenants, airlines and passengers at reasonable levels. DII Statement No. 3, p. 10 (Sprys).

116. Robert Morris University is considering the construction of CHP on its campus to increase energy efficiency and provide a more reliable and resilient energy supply. Tr at 102-103 (Potts).

117. Several members of the National Association of Industrial Office Parks are in various stages of developing co-generation projects in Duquesne's service territory. Tr. at 110 (White).

Federal & State Law

118. DLC's Rider 16 specifically states that it applies to cogeneration and small power production facilities under PURPA. DII Statement No. 1, pp. 17-18 (Crist); Exhibit No. JC-5.

119. PURPA was a significant federal law that resulted in additional CHP development. DII Statement No. 1, p. 11 (Crist).

120. PURPA provides rate design criteria for back-up and maintenance power. DII Statement No. 1, p. 24 (Crist).

121. PURPA states that back-up power rates "shall not be based on the assumption (unless supported by factual data) that forced outages or other reductions in electric output by all qualifying facilities on an electric utility's system will occur simultaneously, or during the system peak." DII Statement No. 1, p. 24; 47 CFR 292.305(C)(I).

122. PURPA states that maintenance power rates "shall take into account the extent to which scheduled outages of the qualifying facilities can be usefully coordinated with schedule outages of the utility's facilities." DII Statement No. 1, p. 24; 47 CFR 292.305(C)(R).

123. The PURPA goals of promoting Qualifying Facility (QF) projects is similar to the PUC's goals articulated in the CHP Policy Statement. DII Statement No. 1, p. 26 (Crist).

124. The PURPA structure for providing supplemental power, back-up power and maintenance power is a just and reasonable way for the PUC to establish rates for all distributed generation. DII Statement No.1, p. 26 (Crist).

125. The principles of PURPA apply to unbundled distribution rates. DII Statement No. 1-S, p. 15 & 23-24 (Crist).

126. The Commission's regulations contain provisions similar to PURPA regarding supplementary, back-up and maintenance power. DII Statement No. 1-S, p. 23 (Crist); 52 Pa. Code § 57.35.

Rate Design Issues

127. DLC's back-up service was unbundled into distribution, Competitive Transition Charge, Transmission Charge and Generation Charge components effective January 1, 1999. Peoples Cross-Examination Exhibit No. 1, Attachment No. 5, page 2 of 7.

128. DLC converted the billing structure for back-up service in the 2013 rate case from a structure based solely on Contract Demand to a structure that allows the billing determinant to adjust with actual monthly usage. DII Statement No. 1, p. 18 (Crist); Exhibit No. JC-6.

129. Applying a Rider 16 charge to a DG or CHP customer's back-up contract demand rather than actual monthly demand is improper. Peoples Statement No. 2, p. 8, lines 6-8 (Daniel).

130. A non-coincident peak (NCP) allocation is most reflective of factors such as load diversity and the system cost that a utility incurs to meet the distribution service needs of a customer class. Tr. at 333, lines 9-22 (Gorman).

131. Mr. Gorman described the benefits of load diversity as follows: "Within a class, not all customers will have the same peak. So, if we add up the peaks for all the customers in the class, then that would be X. But if we looked at the instant case where the class as a whole was drawing the greatest demand on the system, that would be less than X, because while some customers might be hitting their peak at the time and probably a good portion of them are, not all of them will be." (CITE and CONFIRM)

132. Rate design for back-up rates can reflect policy concerns. Tr. at 346, lines 2-14 (Gorman).

133. Rate design choices can have different impacts on different customers within a class. Tr. at 540, lines 23-24 (Fisher).

134. PURPA regulations state that rates for back-up and maintenance service must: (1) Not be based on an assumption that outages, or other reductions in generation by all QFs on a utility's system will occur at the same time, or at the time of the utility system's peak; and (2) Take into consideration the extent to which QFs scheduled outages can be beneficially coordinated with the utility's operations. 47 CFR 292.305.

135. The PURPA requirements at 18 CFR § 292.305 apply to unbundled rates. Peoples Statement No. 2, p. 6, lines 23-24 (Daniel).

136. Over the course of the last three years, the existing Rider 16 customer did not exceed the 15% limitation on back-up usage. Tr. at 442, lines 1-4 (Ogden).

137. Rates generally are developed based on class averages using billing determinants such as customer charges and volumetric charges. Tr. at 540 lines 20-22 (Fisher).

138. Mr. Crist has extensive experience addressing CHP issues in Pennsylvania. DII Statement No. 1, pp. 1-2 (Crist).

139. DII's proposed back-up rate for Rider 16 is an accurately cost-allocated rate. Tr. at 584, lines 14-15 (Crist).

140. Mr. Crist's back-up rate analysis is a reasonable substitution for a fully allocated cost of service study that treats Rider 16 customers as a distinct class. Tr. at 585, lines 13-15 (Crist).

141. Mr. Crist's back-up rate analysis resolves alleged "subsidization" concerns by providing a cost-based back-up rate based on the expected availability of the generation owned by Rider 16 customers. Tr. at 585, lines 15-24 (Crist).

142. In the context of calculating a rate for back-up service under Rider 16, load factor means the percentage of time that the customer relies on the DLC system for back-up service because the generator is not operating. Tr. at 598, lines 10-14 (Crist).

143. Class demand for multiple self-generation customers is not the sum of the individual customer peaks because back-up service is not required at the same time by every self generator. DII Statement No. 1-S, p. 11 (Crist).

144. Because the existing Rider 16 does not distinguish between back-up and maintenance service, DLC's analysis of the existing customer peaks in the table on page 29 of Mr. Gorman's rebuttal testimony is irrelevant to establishing the back-up rate in this proceeding. DII Statement No. 1-S, pp. 12-13 (Crist).

145. Mr. Gorman was not instructed by DLC to analyze Rider 16 as a separate class in the cost of service study. Tr. at 356 (Gorman).

146. Duquesne's cost of service study does not contain a separate class for Rider 16. Tr. at 342, lines 15-17 (Gorman).

147. Maintenance power should be a daily charge. DII Statement No. 1, p. 26 (Crist).

148. The daily rate for maintenance power should be established by dividing Mr. Gorman's calculation in Exhibit 6-4H by 30 (days of the month). DII Statement No. 1, p. 25 (Crist).

149. DLC's forecasting department does not forecast that any additional CHP units will come on line through December 31, 2019. Tr. at 416, lines 9-22 (Ogden).

150. DLC did not take into account general statistics regarding the utilization rate of CHP facilities when it developed its now-withdrawn Rider 16 proposal. Tr. at 417, lines 14-17 (Ogden).

151. DLC's Rider 16 contained Maintenance Power through 2006. Compare Peoples Cross-Examination Exhibit No. 1, Attachment No. 2, p. 14 to Attachment No. 1.

152. DG customers have some flexibility as to when maintenance can be performed. Peoples Statement No. 2, p. 22, lines 19-20 (Daniel).

153. If DG customers schedule maintenance during off-peak periods, then systemwide peaks can be reduced. Peoples Statement No. 2, p. 22, lines 20-22 (Daniel).

154. Maintenance Service and Standby Service are very different and should have separate rates. Peoples Statement No. 2, p. 25, lines 17-19 (Daniel).

155. DLC's current Rider 16 definition of back-up power does not distinguish between unplanned outages and maintenance power for planned and scheduled maintenance outages. DII Statement No. 1, p. 19 (Crist).

156. Maintenance power should be provided at a rate lower than the back-up power. DII Statement No. 1, p. 26 (Crist).

157. Setting the maintenance power rate lower than back up encourages customers to engage in necessary maintenance to avoid unplanned outages. DII Statement No. 1, p. 26 (Crist).

158. The impact of losing customer load due to distributed generation is a concern to Duquesne. Tr. at 231, line 20 – 232 line 17 (Davis).

159. Duquesne tracks potential CHP projects for load forecasting based only on submitted applications for interconnection. Tr. at 236, lines 11-15 (Davis).

160. Duquesne's employees responsible for rates do not regularly interface with DLC's sales or business development representatives discussing potential CHP projects with customers. Tr. at 236, lines 16-18 (Davis); Tr. at (Ogden).

161. Duquesne views back-up rates as one factor of many that impact the decision whether to build a CHP plant. Tr. at 238, lines 5-8 (Davis).

Calculating Back-Up Rate

162. None of the Duquesne witnesses in this proceeding testified as witnesses supporting the $2.50 per kW back-up rate in the 2013 proceeding. See Tr. at 230, lines 10-12 (Davis); Tr. at 323, line 25 (Gorman); Tr. at 405 line 21 to 406 line 1 (Ogden); Tr. at 521, lines 10-15 (Fisher).

163. The current Rider 16 customer was billed by Duquesne for back-up service based on actual usage rather than a contract demand. Tr. at 454 line 24 to 455 line 2 (Ogden).

164. Actual data demonstrates that Duquesne University only used the DLC system for back-up service 2.5% of the time. Tr. at 608, lines 3-5 (Crist).

165. The manufacturer of People's generator for the Etna Field Shop projects the generator will be available 95% of the time. Tr. at 634, lines 12-13 (Nehr).

166. Distributed Generation customers do not impose the same costs on the distribution system as full-requirements customers. Peoples Statement No. 4-SR, p. 3 (Kefer).

167. The conceptual methodology used by DLC to establish the current back-up rate of $2.50 per kW using a load factor reflecting the availability of the customer's generator is reasonable. DII Statement No. 1, p. 25 (Crist).

168. Duquesne did not perform an allocated cost of service for Rider 16 in this proceeding. Peoples Statement No. 2, p. 7, lines 8-9 (Daniel).

169. Developing a separate Rider 16 rate class for cost allocation is a preferred method for determining costs attributable to providing back-up service to customers. Peoples Statement No. 2, p. 19, lines 13-17 (Daniel).

170. Duquesne's Rider 16 rate calculation methodology in the 2013 rate case did not include allocating costs to the Rider 16 rate class. Peoples Statement No. 2, p. 20, lines 14-17 (Daniel).

171. Conducting a cost of service study separately for Rider 16 customers will ensure that the different load factor characteristics for back-up customers are reflected. Tr. at 585, lines 4-12 (Crist).

172. Rider 16 customers will have different load factors and usage characteristics compared to customers on Rates GL or L without on-site generation. Tr. at 585, lines 4-8 (Crist).

173. With more self-generators in DLC's territory, a separate cost-of-service study class can be created for Rider 16 that allocates costs based on the class demand. DII Statement No. 1-S, p. 11 (Crist).

174. DLC did not examine the historic usage patterns of the Rider 16 customer in developing its Rider 16 proposal originally submitted in this proceeding. Tr. at 413 line 24 to 414 line 7 (Ogden).

175. Duquesne's credit rating agencies have not viewed potential loss of load due to distributed generation as a major ratings risk. Tr. at 315, lines 2-8 (Milligan).

176. Duquesne's Treasurer reported that alternative ratemaking has been discussed with the credit ratings agencies as a way to mitigate any risks of distributed generation Tr. at 315, lines 9-15 (Milligan).

177. Duquesne's concerns regarding losing revenues from some customers due to CHP applies also to energy efficiency and demand response. Tr. at 534, lines 6-10 (Fisher).

178. Using an NCP method to allocate distribution costs reflects diversity within the class. Tr. at 333 line 25 to 334 line 1 (Gorman).

179. The 30% load factor used in 2013 is excessive based on the actual experience of outage hours of the Duquesne University CHP system. DII Statement No. 1, p.25 (Crist).

180. Mr. Gorman did not propose a load factor adjustment of 30% for Rider 16 in the 2013 rate case. Tr. at 323, lines 17-22 (Gorman) ("I certainly did not propose that." Line 19).

181. Mr. Ogden could not identify the reason that the 30% load factor was applied in 2013, suggesting it could have been a customer-specific proposal or "it could have just been a percentage to get to an end result…" Tr. at 411 line 25 to 412 line 2 (Ogden).

182. No party contested DLC's use of the 30% load factor in the 2013 rate case. Tr. at 607 line 24 (Crist).

183. The Commission has more evidence in this proceeding than presented in the last rate case regarding an appropriate load factor for calculating the back-up rate. Tr. at 607, lines 21-22 (Crist).

184. Mr. Gorman has designed back-up rates for Naragansett Electric in Rhode Island based on a client direction for the rate to reflect a 10% usage factor. Tr. at 346, lines 2-19 (Gorman); DII Cross Exhibit No. 1.

185. Mr. Gorman testified in Rhode Island that the Naragansett Electric back-up rate with the 10% usage factor promotes distributed generation. Tr. at 351, lines 4-7 (Gorman); DII Cross Exhibit No. 1, p. 42 of 46.

186. Other utilities and regulatory commissions that do recognize this demand diversity, discount the distribution charge for full requirements customers up to 95% when determining the distribution charge for DG back-up service. Peoples Statement No. 2, p. 7, lines 15-17 (Daniel)

187. The Duquesne University CHP system has been available 97.5% of the time. DII Statement No. 1, p. 25 (Crist); Exhibit JC-7, p. 15 of 21.

188. Using a load factor of 5% to develop the back-up rate is reasonable based on the historic availability of Duquesne University's CHP system. DII Statement No. 1, p. 25 (Crist).

APPENDIX C

CONCLUSIONS OF LAW

Burden of Proof

1. When proposing a rate increase, the utility bears the burden to show that its entire rate request is just and reasonable, and this burden remains with the utility throughout the proceeding. *Pa. PUC, et al*., v. *West Penn Power Co.*, Docket No. R-2014-2428742, 2015 Pa. PUC LEXIS 97, *159 (Order entered March 9, 2015).

2. DLC bears the burden of demonstrating that its proposed rates are just and reasonable. 66 Pa. C.S. §§ 315(a); 1301. *See also* Tentative Implementation Order, Implementation of Act 58 of 2018, Docket No. M-2018-3003269, 2018 Pa. PUC LEXIS 325, *13 (Order entered August 23, 2018).

3. The burden of proof may be described as the "risk of nonpersuasion." *Se-Ling Hosiery, Inc. v. Margulies*, 70 A.2d 854, 856 (Pa. 1950).

4. As the party seeking affirmative relief from the Commission, DLC bears the burden of proof. *Milkie v. Pa. PUC*, 768 A.2d 1217 (Pa. Cmwlth. 2001); 66 Pa.C.S. 315(a), 332(a).

5. A party proposing an adjustment to a utility's rate proposal does not assume the utility's burden of proof. *Pa. PUC, et al*., v. *West Penn Power Co.*, Docket No. R-2014-2428742, 2015 Pa. PUC LEXIS 97, *160 (Order entered March 9, 2015).

6. As the party proposing an adjustment to DLC's rate proposal, DII's burden is to (1) provide notice that the rate is being challenged, and (2) present some evidence or analysis demonstrating the reasonableness of the adjustment. *Pa. PUC, et al*., v. *West Penn Power Co.*, Docket No. R-2014-2428742, 2015 Pa. PUC LEXIS 97, *160 (Order entered March 9, 2015).

7. DII does not bear the burden to establish the justness and reasonableness of every component of its proposed adjustment to the DLC's filing. *Pa. PUC v. Borough of Quakertown*, Docket No. R-2011-2251181, 2012 Pa. PUC LEXIS 1102, *9 (Order entered July 11, 2012).

8. DLC must, to meet its burden of proof, present evidence more convincing, by even the smallest amount, than that presented by any opposing party. *Se-Ling Hosiery, Inc. v. Marguilies*, 70 A.2d 854, 856 (Pa. 1950); *Pa. PUC v. Wellsboro Electric Company*, Docket No. R-2014-2419774 (Order entered February 12, 2015).

9. It is well established that the Commission's decision must be supported by substantial evidence in the record. *Lower Frederick Twp. v. Pa. PUC*, 409 A.2d 505, 507 (Pa. Cmwlth. 1980); *Samuel J. Lansberry, Inc. v. Pa. PUC*, 578 A.2d 600 (Pa. Cmwlth. 1990), alloc. denied, 529 Pa. 654, 602 A.2d 863 (1992); *see also* 2 Pa.C.S. § 704.

Just and Reasonable Rates

10. Section 1301 of the Public Utility Code requires that every rate made, demanded, or received by a public utility must be just and reasonable, and in conformity with regulations and orders of the Commission. 66 Pa. C.S. § 1301(a).

11. DII's proposed rates for Back-up and Maintenance Service under Rider 16 are just, reasonable, and in conformity with regulations and orders of the Commission. *See* 66 Pa.C.S. § 1301(a).

12. DLC failed to meet its burden of proof that the Back-up Rate in Rider 16 is just, reasonable, and consistent with regulations and orders of the Commission. 66 Pa.C.S. § 1301(a); *Se-Ling Hosiery, Inc. v. Marguilies*, 70 A.2d 854, 856 (Pa. 1950); *Lower Frederick Twp. v. Pa. PUC*, 409 A.2d 505, 507 (Pa. Cmwlth. 1980).

Federal and State Regulations

13. Rider 16 must comply with State and Federal regulations implementing PURPA, which require rates for Back-up and Maintenance Service for Qualifying Facilities to: (1) not be based on an assumption that outages, or other reductions in generation by all Qualifying Facilities on a utility's system will occur at the same time, or at the time of the system's peak; and (2) consider the extent to which scheduled outages of Qualifying Facilities can be beneficially coordinated with the utility's operations. 18 CFR § 292.305(c)(1)-(2).

14. Rider 16 must comply with Pennsylvania regulations, requiring every electric utility must maintain rates, rules and regulations for (1) supplementary power, (2) back-up power, and (3) maintenance power for PURPA qualifying facilities. 52 Pa. Code § 57.35(a).

15. DII's revised Rider 16 terms and conditions and the proposed rates for Back-up and Maintenance Service comply with applicable State and Federal regulations implementing PURPA. 18 CFR § 292.305; 52 Pa. Code § 57.35.

16. DLC failed to meet its burden of proof that its Rider 16 rates, terms, and conditions comply with PURPA and Pennsylvania regulations. 18 CFR § 292.305; 52 Pa. Code § 57.35; *Se-Ling Hosiery, Inc. v. Marguilies*, 70 A.2d 854, 856 (Pa. 1950).

APPENDIX D

PROPOSED ORDERING PARAGRAPHS

IT IS ORDERED:

1. That Duquesne Light Company is required to establish a Rider No. 16 Back-Up Rate based on a 5% load factor, at $0.352 cents per kW.

2. That Duquesne Light Company is required to establish a distinct Rider No. 16 Maintenance Rate for planned outages at $0.235 cents per kW.

3. That Duquesne Light Company be required to file the tariff language found in Exhibit No. JC-8 to become effective on one day's notice after entry of the Commission's Order and Opinion in this proceeding.

4. That Duquesne Light Company is required to ensure that Rider No. 16 costs are determined based on an accurate analysis of distributed generation characteristics of non-coincidental outages in future rate proceedings.

5. That Duquesne Light Company shall comply with all directives, conclusions and recommendations contained in the Commission's Opinion and Order that are not the subject of individual ordering paragraphs as fully as if they were the subject of specific ordering paragraphs.

6. That after acceptance and approval by the Commission of the tariff revisions filed by Duquesne Light Company, the investigation at Docket No. R 2013-2372129 be terminated and the record be marked closed.