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March 29, 2023

VIA ELECTRONIC MAIL

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Sherri L. Golden
Secretary of the Board
Board of Public Utilities
44 South Clinton Avenue, 1st Floor
P.O. Box 350
Trenton, New Jersey 08625-0350

RE: In the Matter of the Implementation of the Light Emitting Diode (“LED”)
Streetlight Program
BPU Docket No. QO22110710

Comments of Atlantic City Electric Company – LED Streetlight Program

Dear Secretary Golden:

The undersigned serves as Assistant General Counsel on behalf of Atlantic City Electric Company (“ACE”). Attached for filing please find ACE’s Comments on the LED Streetlight Program.

Pursuant to the Order issued by the New Jersey Board of Public Utilities (“Board” or “BPU”) in connection with *In the Matter of the New Jersey Board of Public Utilities’ Response to the COVID-19 Pandemic for a Temporary Waiver of Requirements for Certain Non-Essential Obligations*, BPU Docket No. EO20030254, Order dated March 19, 2020, these documents are being electronically filed with the Acting Secretary of the Board. No paper copies will follow.

Thank you for your consideration. Feel free to contact me with any questions.

Respectfully submitted,



Solomon David

Enclosure

**IN THE MATTER OF THE IMPLEMENTATION
OF THE LIGHT EMITTING DIODE (“LED”)
STREETLIGHT PROGRAM
BPU Docket No. QO22110710
March 29, 2023**

Responses of Atlantic City Electric Company to Request for Comments

Introduction

In 2018, Governor Phil Murphy signed Executive Order No. 28, which directed the New Jersey Board of Public Utilities (the “Board” or “NJBPU”) to develop an Energy Master Plan (“EMP”) to serve as the State’s blueprint to achieve 100% clean energy by 2050. Released on January 27, 2020, the 2019 EMP generally tasks the Board with developing opportunities that help optimize energy usage, including by establishing energy efficiency opportunities for residents of all income levels.

To assist in achieving these and other goals, the 2019 EMP’s Goal 3.1.7 directs the Board to develop a method to encourage LED streetlight replacement programs in each EDC territory in the State. In particular, Goal 3.1.7 states that the energy savings from replacing outdated streetlight heads, including the lightbulbs, is significant.

Atlantic City Electric (“ACE” or the “Company”) provides the following comments in response to the Board’s questions about the details of its current tariff structure, energy use, technologies and their costs, and conversion costs associated with replacing all or part of current streetlights with LED lighting, as well as equipping these streetlights with other potential technologies, posed by NJBPU Staff in its Public Notice dated March 1, 2023 (as revised March 13, 2023). For reference, ACE also addressed proposed LED streetlight conversions in its base rate case Petition filed on February 15, 2023, BPU Docket No. ER23020091 (currently pending at the Office of Administrative Law (“OAL”) as OAL Docket No. PUC 02235-2023S). In that Petition ACE proposed to exclusively deploy LED streetlights in response to new customer streetlight requests, to convert all existing non-LED streetlights over time, and to close offerings for non-LED streetlights (like high pressure sodium and metal halide) in its tariffs for new customers.

Questions for EDCs and GDCs as applicable:

1. Do you have a complete inventory of streetlights in your service territory, including type (bulb,[] light fixture[] and pole), ownership, vintage, original cost, accumulated depreciation, and remaining service life? Please provide the most granularity possible in narrative form with a level of detail that would explain what information you have with respect to each of the listed items.

Response:

ACE maintains two systems containing streetlight inventory information. The first system, graphical work design (“GWD”), maintains location, fixture type and size, install dates, pole information, along with other identifying information. The second system, SAP, maintains

customer account and billing information; for streetlight customers this may include the quantity of lights, lamp size, usage, and charges billed. ACE owns about 125,000 streetlights in its South Jersey service territory. Of that amount, roughly 20,000 are LED streetlights. ACE does not know the number of municipally-owned streetlights in its service territory. Through its systems, ACE can track the quantity of streetlights and property units (light fixture, pole, etc.). ACE does not track original cost or remaining service life on its streetlights.

2. What is your process and schedule for validating the streetlights inventory mentioned in Question #1 above, and when was it most recently validated?

Response:

ACE last audited all Company streetlights in 2016. ACE currently conducts audits or informal checks of streetlights in certain locations where the municipalities request LED conversions. ACE would likely perform an audit of all streetlights if an accelerated LED conversion were to occur.

3. How many gas streetlights, if applicable, do you have in your service area? Please provide the breakdown according to the location in each applicable municipality.

Response:

Not applicable. ACE does not have gas streetlights.

4. Of the streetlights in your service area, how many are municipally-owned, and how many are utility owned?

Response:

ACE is unable to answer how many streetlights are municipally-owned in its South Jersey service area. ACE owns about 125,000 streetlights in its service area. Of that amount, roughly 20,000 are LED streetlights, and this number is increasing with ongoing LED streetlight conversions.

5. How regularly do you replace the bulbs in the current streetlight fixtures? Please describe your streetlight replacement program(s).

Response:

ACE replaces bulbs in streetlight fixtures every 10 years through a preventative maintenance program. ACE solicits competitive bids for this work when vendor contracts expire.

6. Physical Lights

A. LED Inventory

- i. What is your current LEDs inventory in terms of: (a) how many you have, (b) vintage year, (c) fixture types, (d) color temperature (Kelvin), (e) brightness levels (lumen output) and (f) costs for each bulb type?

Response:

ACE has approximately 20,000 LED streetlights installed. ACE has approximately 946 LED fixtures or bulbs in inventory. The vintage years, fixture types, wattages, color temperature, brightness levels (lumens), and costs all vary. The standard LED light color temperature is generally 3000K. LED fixture types, wattages, lumens, and applicable monthly charges are

listed in ACE's tariff, under the Street and Private Lighting ("SPL") and Contributed Street Lighting ("CSL") tariff classes. These tariff classes are located on ACE's website under the "Current Tariffs" section at "Rates & Tariffs" at New Jersey Section IV. The URL to the current version of Section IV is:

<https://www.atlanticcityelectric.com/SiteCollectionDocuments/MyAccount/MyBillUsage/NJ/TariffSectionIV.pdf>.

Some of the information requested by this Question can be found in the tariff, Section IV at Rate Schedule SPL and Rate Schedule CSL. Selected screenshots are reproduced below for convenience.

RATE SCHEDULE SPL (Continued) (Street and Private Lighting) Experimental LIGHT EMITTING DIODE (LED)				
	WATTS	LUMENS	MONTHLY DISTRIBUTION CHARGE	STATUS
<u>Overhead</u>				
Cobra Head	50	3,000	\$8.90	Open
Cobra Head	70	4,000	\$9.20	Open
Cobra Head	100	7,000	\$9.43	Open
Cobra Head	150	10,000	\$9.97	Open
Cobra Head	250	17,000	\$11.35	Open
Cobra Head	400	28,000	\$15.40	Open
Decorative	150	10,000	\$20.65	Open
Mongoose	250	15,000	\$18.97	Open
Mongoose	400	17,000	\$21.01	Open
Acom (Granville)	70	7,000	\$23.68	Open
Acom (Granville)	100	8,000	\$23.68	Open
Acom (Granville)	150	10,000	\$23.68	Open
Post Top	70	4,000	\$11.61	Open
Post Top	100	7,000	\$12.15	Open
Shoe Box	100	7,000	\$10.34	Open
Shoe Box	150	10,000	\$11.24	Open
Shoe Box	250	17,000	\$11.73	Open
Tear Drop	100	7,000	\$19.10	Open
Tear Drop	150	10,000	\$19.10	Open
Flood	150		\$17.03	Open
Flood	250		\$17.73	Open
Flood	400		\$20.38	Open
Flood	1000		\$21.21	Open
<u>Underground</u>				
Cobra Head	50	3,000	\$16.67	Open
Cobra Head	70	4,000	\$16.97	Open
Cobra Head	100	7,000	\$17.20	Open
Cobra Head	150	10,000	\$17.74	Open
Cobra Head	250	17,000	\$19.12	Open
Cobra Head	400	28,000	\$20.02	Open
Decorative	150	10,000	\$28.43	Open
Mongoose	250	15,000	\$23.61	Open
Mongoose	400	17,000	\$25.63	Open
Acom (Granville)	70	7,000	\$28.30	Open
Acom (Granville)	100	8,000	\$28.30	Open
Acom (Granville)	150	10,000	\$28.30	Open
Post Top	70	4,000	\$19.38	Open
Post Top	100	7,000	\$19.92	Open
Shoe Box	100	7,000	\$18.11	Open
Shoe Box	150	10,000	\$19.01	Open
Shoe Box	250	17,000	\$19.50	Open
Tear Drop	100	7,000	\$26.85	Open
Tear Drop	150	10,000	\$26.85	Open
Flood	150		\$24.79	Open
Flood	250		\$25.49	Open
Flood	400		\$28.16	Open
Flood	1000		\$28.98	Open

RATE SCHEDULE CSL (continued)
(Contributed Street Lighting)

	<u>WATTS</u>	<u>LUMENS</u>	<u>MONTHLY DISTRIBUTION CHARGE</u>	<u>STATUS</u>
<u>Experimental</u>				
<u>LIGHT EMITTING DIODE (LED)</u>				
Cobra Head	50	3,000	\$3.51	Open
Cobra Head	70	4,000	\$3.51	Open
Cobra Head	100	7,000	\$3.51	Open
Cobra Head	150	10,000	\$3.51	Open
Cobra Head	250	17,000	\$3.51	Open
Cobra Head	400	28,000	\$3.51	Open
Post Top	150	10,000	\$3.51	Open
Colonial Post Top	70	4,000	\$3.51	Open
Colonial Post Top	100	7,000	\$3.51	Open
Mongoose	250	15,000	\$3.51	Open
Mongoose	400	17,000	\$3.51	Open
Acorn (Granville)	70	7,000	\$3.51	Open
Acorn (Granville)	100	8,000	\$3.51	Open
Acorn (Granville)	150	10,000	\$3.51	Open
Shoe Box	100	7,000	\$3.51	Open
Shoe Box	150	10,000	\$3.51	Open
Shoe Box	250	17,000	\$3.51	Open
Tear Drop	100	7,000	\$3.51	Open
Tear Drop	150	10,000	\$3.51	Open
Flood	150		\$3.51	Open
Flood	250		\$3.51	Open
Flood	400		\$3.51	Open
Flood	1000		\$3.51	Open

- ii. What type of LED fixtures and bulb types (brightness level and color) could a municipality in your service territory order? Can municipalities order LED fixture and bulb types of their choice from you?

Response:

Municipalities can order the standard LED fixtures and bulb types identified in ACE's tariff, as reflected in the Response to Question 6(A)(i). If a municipality requests another special fixture or bulb type outside of the tariff, ACE will work with the municipality to determine whether the request is appropriate, and whether the requested fixture or bulb type should be made available to other customers too.

- iii. Do you provide bulk discounts on LED purchases and, if so, what are they?

Response:

No, ACE does not provide bulk discounts when fulfilling requests for LED streetlights.

- iv. Do you have a standard contract under which a municipality must procure its streetlights?

Response:

Yes, ACE has a standard contract for municipalities to procure streetlights in accordance with ACE's tariff.

B. Non-LED Inventory

- i. What is your current non-LED inventory? Please describe the models and numbers of each.

Response:

ACE has approximately 187 non-LED fixtures or bulbs in inventory. The great majority are high pressure sodium lights. ACE also has a small number of metal halide lights in inventory. ACE maintains a limited inventory of non-LED lights because manufacturers are phasing them out in favor of LED lights. Accordingly, ACE anticipates offering only LED lights in the future as reflected in its base rate case Petition filed on February 15, 2023. The specific types of non-LED lights offered to customers are listed in ACE's tariffs, and selected screenshots are reproduced below for convenience.

RATE SCHEDULE SPL (Continued)
(Street and Private Lighting)
RATE (Mounted on Existing Pole)

	<u>WATTS</u>	<u>LUMENS</u>	<u>MONTHLY DISTRIBUTION CHARGE</u>	<u>STATUS</u>
<u>HIGH PRESSURE SODIUM</u>				
Cobra Head	50	3,600	\$ 15.13	Open
Cobra Head	70	5,500	\$ 15.68	Open
Cobra Head	100	8,500	\$ 16.50	Open
Cobra Head	150	14,000	\$ 17.94	Open
Cobra Head	250	24,750	\$ 25.38	Open
Cobra Head	400	45,000	\$ 29.35	Open
Shoe Box	150	14,000	\$ 21.83	Open
Shoe Box	250	24,750	\$ 28.30	Open
Shoe Box	400	45,000	\$ 32.68	Open
Post Top	50	3,600	\$ 16.79	Open
Post Top	100	8,500	\$ 18.29	Open
Post Top	150	14,000	\$ 21.49	Open
Flood/Profile	150	14,000	\$ 17.58	Open
Flood/Profile	250	24,750	\$ 22.17	Open
Flood/Profile	400	45,000	\$ 28.31	Open
Decorative	50		\$ 20.57	Open
Decorative	70		\$ 20.57	Open
Decorative	100		\$ 23.16	Open
Decorative	150		\$ 25.52	Open
<u>METAL HALIDE</u>				
Flood/Profile	400	31,000	\$ 34.78	Open
Flood/Profile	1,000	96,000	\$ 59.22	Open

RATE SCHEDULE SPL (Continued)
(Street and Private Lighting)
Rate (Underground)

	<u>WATTS</u>	<u>LUMENS</u>	<u>MONTHLY DISTRIBUTION CHARGE</u>	<u>STATUS</u>
<u>HIGH PRESSURE SODIUM</u>				
Cobra Head	50	3,600	\$ 23.21	Open
Cobra Head	70	5,500	\$ 23.72	Open
Cobra Head	100	8,500	\$ 24.48	Open
Cobra Head	150	14,000	\$ 26.01	Open
Cobra Head	250	24,750	\$ 31.44	Open
Cobra Head	400	45,000	\$ 35.40	Open
Shoe Box	150	14,000	\$ 29.92	Open
Shoe Box	250	24,750	\$ 36.33	Open
Shoe Box	400	45,000	\$ 40.74	Open
Post Top	50	3,600	\$ 20.55	Open
Post Top	100	8,500	\$ 22.02	Open
Post Top	150	14,000	\$ 30.01	Open
Flood/Profile	150	14,000	\$ 27.41	Open
Flood/Profile	250	24,750	\$ 31.99	Open
Flood/Profile	400	45,000	\$ 36.40	Open
Flood/Profile	400	31,000	\$ 43.03	Open
Flood/Profile	1000	96,000	\$ 67.44	Open
Decorative	50		\$ 27.37	Open
Decorative	70		\$ 27.37	Open
Decorative	100		\$ 29.92	Open
Decorative	150		\$ 39.10	Open

RATE SCHEDULE CSL (continued)
(Contributed Street Lighting)

	<u>WATTS</u>	<u>LUMENS</u>	<u>MONTHLY DISTRIBUTION CHARGE</u>	<u>STATUS</u>
<u>HIGH PRESSURE SODIUM</u>				
All	50	3,600	\$6.67	Open
All	70	5,500	\$7.23	Open
All	100	8,500	\$8.09	Open
All	150	14,000	\$9.59	Open
All	250	24,750	\$13.02	Open
All	400	45,000	\$17.17	Open
<u>METAL HALIDE</u>				
Flood	1000		\$13.02	Open
Flood	175		\$12.30	Open
Decorative - Two Lights	175		\$41.25	Open
Decorative	175		\$29.17	Open

ii. What are the costs of bulbs for each streetlight fixture type?

Response:

The costs of high pressure sodium and metal halide lights/bulbs are outlined in ACE's tariffs, as reflected in the Response to Question 6(B)(i) above.

7. Poles

A. How does your ownership model for the poles work? Please explain.

Response:

ACE owns its streetlight poles, which include a variety of aluminum, fiberglass, and decorative poles. ACE does not share ownership of its streetlight poles with customers or municipalities. More broadly, ACE owns about 60% of the distribution poles and Verizon owns about 40% of the distribution poles in the South Jersey service territory.

B. Do you ever give municipalities an opportunity to purchase the poles from you?

Response:

Generally, no. Though, ACE has previously transferred poles to municipalities (mostly streetlight poles located on boardwalks).

C. If municipalities do own the poles, what maintenance, replacement, or other pole-related services do you as an EDC provide to those municipalities?

Response:

ACE does not provide substantive support services for poles. Though, ACE does provide general and high-level information and details about equipment specifications.

D. What challenges exist now to installing new technologies on poles such as motion activation, smart streetlight technologies, gunshot detection, traffic cameras, Wi-Fi hotspots, electric vehicle charging equipment, etc.? Please describe.

Response:

Like with any new technologies, implementation may present unique challenges as all persons and parties grow more familiar. When implementing new technologies, ACE utilizes its past experiences and strives to best meet the needs of both the customer and the Company. Another challenge with new technologies is that ACE must manage implementation and alignment effectively while also trying to recover appropriate costs for implementation and maintenance. See Response to Question 11 below.

8. Lighting Standards

A. What standards (list all, including Bright Sky standards) do you use to inform which types of lights can be installed along various roadways, as well as in parking areas and around parks, schools, hospitals, universities, other campuses?

Response:

ACE utilizes a Dark Sky standard to reduce up-lighting. Otherwise, ACE does not utilize standards to dictate where lights should be installed. ACE sometimes engages with outside lighting consultants who use the National Electric Safety Code ("NESC") and National

Electrical Code (“NEC”) standards to determine where to install lighting. ACE’s streetlight installation locations also comply with government roadway safety standards.

B. How does compliance with each of these standards influence the range of fixtures you can offer to municipalities for their usage?

Response:

Compliance with the standards mentioned in Response to Question 8(A) ensures each light installation is safe and appropriate for usage (outdoor, road illumination, etc.) and implementation. ACE encourages municipalities to work with a vendor or lighting expert to evaluate lighting options beyond ACE’s offerings. Vendors and lighting experts have specialized knowledge and expertise about lighting options that are acceptable for usage on distribution systems, along with an understanding of the required testing/validation for equipment.

9. Under an accelerated LED replacement program, please describe how the stranded cost issues with respect to the following could be resolved: (a) current inventory regarding spare streetlight bulbs and (b) currently operational bulbs that have been placed in light fixtures but have not yet reached the end of their useful life.

Response:

Under a potential accelerated LED replacement program, ACE would propose both items described in items (a) & (b) above be included in a regulatory asset for stranded cost-recovery. Any net salvage resulting from the potential sale of associated equipment would be included as an offset in the cost-recovery calculation.

Questions for EDCs, GDCs, and other stakeholders as applicable:

10. Tariffs

A. What is the current utility tariff and corresponding rate structure under such tariff for electric and gas streetlights, respectively?

Response:

As referenced above, ACE has two tariffs, Street and Private Lighting (SPL) and Contributed Street Lighting (CSL) that apply to electric streetlights. ACE does not utilize gas streetlights. For distribution service, both SPL and CSL tariffs require a fixed monthly payment; ACE maintains ownership of the feed, pole, and luminaire (non-LED) and is responsible for the associated operations and maintenance (“O&M”) expense. Under the SPL tariff, the customer pays a fixed monthly charge with no upfront payment. Under the CSL tariff the customer pays a contribution that equals the cost of the lighting fixture upfront, but then pays a lower monthly fixed charge. If the light fails (bulb or fixture for LED), the SPL customer is not charged for replacement whereas the CSL customer would be charged. These two street lighting tariff structures are typical in the industry.

B. What tariff and what rate structure are you using when municipalities seek to pursue an LED streetlight conversion?

Response:

ACE gives municipalities a choice of SPL or CSL rates based on the tariff.

C. What issues have you encountered with your current tariff structure with municipalities interested in conducting an LED streetlight conversion?

Response:

Upfront costs sometimes prevent municipalities from pursuing LED streetlight conversions.

The auditing and work order process associated with LED streetlight conversions is difficult and time consuming. Sometimes several iterations of work order processes are developed based on how much money the municipality wants to budget for the LED conversion.

Customers also have difficulties applying for State-run rebate programs. For example, the lamp specifications required for the rebate application can often only be provided by the manufacturer. ACE tries to assist customers by giving the best information it has available.

D. Some utilities have designed tariffs to allow municipalities that convert streetlights to LEDs to pay the associated purchase, conversion, and/or stranded costs over time at a rate no greater than the electric energy cost savings, thereby avoiding any cost increase for the municipalities or ratepayers in general.

i. Do you have such a tariff to prevent cost impacts for municipalities?

Response:

No. ACE maintains ownership of the lights under its current tariff structure with the SPL and CSL rate classes.

ii. If not, do you intend to develop one to support LED streetlight conversions?

Response:

ACE does not currently have any plans to develop this specific tariff offering.

iii. What would be the impact of such a tariff on ratepayers in general?

Response:

Such tariff would benefit municipalities by allowing them to pay costs over time based on their energy savings. The impact on the Company and other ratepayers generally is less clear as many variables can affect this response. For example, without an approved regulatory asset including a return, the Company would face a regulatory lag. Under this scenario, there could be intraclass subsidies (within the SPL/CSL classes) associated with the regulatory lag. The intraclass subsidies would be between lighting SPL/CPL customers who partake in the offering presented in Question 10(D) as compared to those who do not. This proposal may cause an issue concerning who pays for this type of offering, which may create intraclass subsidies if other customers ultimately pay for it without participating.

iv. What do you see as the overall benefits and drawbacks of such a proposal?

Response:

The previous Response to Question 10(D)(iii) addresses some of the benefits and drawbacks to ratepayers. An additional benefit of the contemplated tariff is that it would promote newer and

more efficient technologies with associated societal benefits to customers. A potential drawback is that this proposed tariff creates unnecessary regulatory lag and sets a bad precedent for cost-recovery insofar as cost increases are limited to potential savings.

E. Would there be a benefit for municipalities to own the streetlights that are converted? In other words, if renting now, they would have the option to purchase and own the streetlights and be responsible for the replacement.

Response:

ACE is unable to opine generally on whether there would be a benefit for municipalities to own streetlights. Under ACE's current tariff structure, the Company maintains ownership of the streetlights; municipalities do not rent streetlights from ACE.

ACE's SPL and CSL tariffs provide municipalities with the option to pay a higher upfront cost and lower monthly fixed charge (CSL) versus a higher fixed monthly charge with little or no upfront costs (SPL). Cost and risk of replacement are the obligation of the CSL customer, while cost and risk of replacement generally rest with the Company for SPL customers. Under the municipality ownership scenario posed by this question, each municipality would have to evaluate their individual situations to determine whether ownership could be beneficial. Special variables and operational considerations may exist, for example, that could require a municipality to purchase or install its own underground secondary network and maintain those facilities for certain configurations. Such municipality would then receive metered service under a commercial rate schedule. This situation could prove more costly and not operationally feasible to a municipality.

F. What are the benefits of the utilities retaining ownership and maintenance of the streetlights that are converted?

Response:

See Response to Question 10(E). ACE has direct and substantial experience installing, managing, and operating streetlights in New Jersey. Ownership and operation of streetlights pose significant financial and logistical challenges. Though electric utilities, like ACE, are specially equipped to manage these challenges and maintain system reliability in New Jersey. ACE believes it is imperative that utilities continue to own, support, and provide streetlight service. Unlike other market participants, the Company can realize the administrative and economic efficiencies associated with scaled utility service provision.

11. Please describe any additional services that utilities may provide that are integrated into the conversion of LED fixtures.

Response:

ACE does not have any current plans to provide additional services integrated into the conversion of LED fixtures. See Response to Question 7(D) above. ACE may provide such additional services in the future after utilizing Smart Lighting technology, like those resources that would enable sensors to track traffic and flood monitoring.