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BOARD OF PUBLIC UTILITIES  
TRENTON, NJ

February 22, 2018

**VIA FEDERAL EXPRESS and  
ELECTRONIC MAIL**

[board.secretary@bpu.nj.gov](mailto:board.secretary@bpu.nj.gov)

RECEIVED  
CASE MANAGEMENT

FEB 23 2018

BOARD OF PUBLIC UTILITIES  
TRENTON, NJ

Attention: Aida Camacho  
Office of the Secretary of the Board  
Board of Public Utilities  
44 South Clinton Avenue, 3<sup>rd</sup> Floor, Suite 314  
P.O. Box 350  
Trenton, New Jersey 08625-0350

**RE:** In the Matter of the Petition of Atlantic City Electric Company for Approval of a  
Voluntary Program for Plug-In Vehicle Charging  
BPU Docket No. E018020190

Dear Ms. Camacho:

Enclosed herewith for filing are three conformed copies of the Verified Petition of Atlantic City Electric Company ("ACE" or the "Company") for Approval of a Voluntary Program for Plug-In Vehicle Charging.<sup>1</sup>

In response to the significant increase in electric vehicle ownership in New Jersey and across the country over the last several years, ACE is proposing a comprehensive five-year, \$14.9 million program for plug-in vehicle ("PIV") charging initiatives in New Jersey.

ACE has designed this program to address customer needs and critical adoption barriers for PIV transportation by providing PIV infrastructure solutions to reduce range anxiety and to incentivize off-peak charging and energy use management. Through the proposed program, the Company will provide special rates for residential customers who charge their PIVs during off-peak hours; provide discounts off the equipment and/or installation costs for Smart Level 2 Charging Stations for residential and commercial customers; install and operate Direct Current Fast Chargers and Smart Level 2 Charging Stations throughout New Jersey; and provide grants totaling up to \$2 million to encourage innovative projects to further facilitate the electrification of the transportation sector in New Jersey.

<sup>1</sup> This filing has been made consistent with the Board's Order Waiving Provisions of N.J.A.C. 14:4-2, N.J.A.C. 14:17-4.2(a), N.J.A.C. 14:1-1.6(c), and N.J.A.C. 14:17-1.6(d), issued on July 29, 2016 in connection with *In the Matter of the Board's E-Filing Program*, BPU Docket No. AX16020100.

CMS  
LEGAL  
DAG  
RPA  
S. Peterson  
ENERGY  
T. WALKER  
J. O'Grady

FEB 23 2018

BOARD OF PUBLIC UTILITIES  
TRENTON, NJ

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FEB 23 2018

**IN THE MATTER OF THE PETITION OF  
ATLANTIC CITY ELECTRIC COMPANY  
FOR APPROVAL OF A VOLUNTARY  
PROGRAM FOR PLUG-IN VEHICLE  
CHARGING**

STATE OF NEW JERSEY  
BOARD OF PUBLIC UTILITIES  
TRENTON, NJ

BPU DOCKET NO. \_\_\_\_\_

**VERIFIED PETITION FOR APPROVAL  
OF A VOLUNTARY PROGRAM FOR  
PLUG-IN VEHICLE CHARGING**

ATLANTIC CITY ELECTRIC COMPANY (“ACE” or the “Company”), through its undersigned counsel, hereby submits this Verified Petition pursuant to N.J.S.A. 48:2-21 and N.J.A.C. 14:1-5.11 for approval by the New Jersey Board of Public Utilities (“BPU” or the “Board”) of the Company’s Voluntary Program for Plug-In Vehicle (“PIV”)<sup>1</sup> Charging (the “Petition”). In support of this Petition, ACE states as follows:

**I. Executive Summary**

1. ACE is proposing a comprehensive five-year, \$14.9 million program for PIV charging initiatives in New Jersey (the “PIV Program”) designed to be responsive to its customers’ needs and to address critical adoption barriers for PIV transportation by providing PIV infrastructure solutions to reduce range anxiety, as well as to incentivize at-home and off-peak charging and energy use management. In short, through the PIV Program, ACE proposes to offer customers new PIV-related incentive rates and to do the following:

- provide qualified residential customers with PIVs with opportunities to save on their energy costs by shifting usage, including plug-in vehicle charging, to off-peak times (Offerings 1 and 2);

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<sup>1</sup> For purposes of this Petition, a PIV is defined as a vehicle registered in the State of New Jersey (except where otherwise noted) that can be plugged into an electric source to charge the battery pack and, once fully charged, can travel at least 30 miles using electricity as its primary fuel source.

- subsidize the costs associated with the purchase and installation of Smart Level 2 Charging Stations for qualified residential customers (Offering 3), qualified customers who own or operate condominium or apartment complexes (Offering 4), and qualified customers who own or operate office buildings or parking garages (Offering 5);
- expand the availability of public PIV charging infrastructure through the Company's installation and operation of 30 Direct Current Fast Chargers ("DCFC") and up to 150 Smart Level 2 Charging Stations in New Jersey (Offerings 6 and 7); and
- provide grants of up to \$2 million to encourage innovative projects to further facilitate the electrification of the transportation sector in the State (Offering 8).

## **II. Introduction**

2. Over the last several years, electric vehicle ownership has significantly increased across the country, as well as in New Jersey.<sup>2</sup> Many factors have contributed to the growth in electric vehicle ownership, including the increased availability of competitively-priced PIVs; increased consumer interest in reducing emissions from mobile sources; and the introduction of extended range options for PIVs using all-electric power, allowing for longer trips in comparison to traditional gasoline-fueled vehicles. And, as the demand for PIVs continues to rise, the demand for charging infrastructure increases. Accordingly, ACE proposes to implement a voluntary PIV Program, consisting of eight separate offerings for PIV charging in New Jersey, with a focus on providing ACE's customers with new charging infrastructure and innovative electric rate options and incentives.

3. Utility companies such as ACE are uniquely positioned to impact positively the electric vehicle landscape. A recent report by the Edison Electric Institute ("EEI") states that more than seven million PIVs are anticipated to be on the road in the United States by 2025 and

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<sup>2</sup> See *Electric Vehicle Sales are up over 45% Over the Last Year*, July 21, 2017, available at: <https://futurism.com/electric-vehicle-sales-are-up-45-over-the-last-year/> (PIVs grew annually at a 32% rate from 2012 to 2016); see also *ChargEVC Roadmap*, at 7, *infra* n.21 (New Jersey PIV sales up 60% in the last year).

investments in the distribution system in the future that would otherwise be required to maintain distribution system reliability. The Company also needs to understand whether and to what extent customers will change behaviors associated with potential PIV charging management solutions, and to address the questions and challenges that come along with PIVs and PIV charging. By managing PIV charging, becoming familiar with customer preferences, collecting specific data pertaining to charging, designing and applying specific rates for PIV charging, and educating customers about PIV charging and methods for achieving cost savings, the Company can effectively implement demand management measures for PIV charging so as to reduce the impact of the electric load associated with such usage on the electric distribution system, which will have a positive impact on the reliability of the electric distribution system.

5. Utilities such as ACE also are well-suited to address making electric vehicles and related infrastructure accessible for hard-to-reach markets like multi-family dwelling units and the low-to-moderate income class. Because utilities have an obligation to serve all customers, they have the ability to fashion electric vehicle tariffs and programs under a portfolio approach that can allocate costs and benefits across various rate classes in a manner that serves the public interest.

6. Exelon and ACE believe that reliable, clean, and affordable energy is essential to a more sustainable future. The Company is committed to fostering innovation, exceptional performance, and thought leadership to help drive progress for its customers and communities. Developing the infrastructure necessary to make PIVs cost effective and convenient for ACE's customers directly supports this mission and advances the Company's commitment to environmental responsibility and technological innovation. The benefits to New Jersey that result from having in place the infrastructure necessary to accommodate and promote PIVs

include the reduction in greenhouse gases from gas-fueled automobiles, as well as achieving compliance with the State's clean energy goals, today and in the future. In addition, by working now to influence the charging behavior of PIV owners by offering incentives for off-peak charging, the Company is able to reduce the costs associated with the installation of additional electric distribution infrastructure to accommodate the new load created by PIV charging.

### **III. A Comprehensive Approach**

7. As discussed in detail in this Petition, ACE's five-year, \$14.9 million PIV Program is designed to be responsive to its customers' needs and to address critical adoption barriers for PIV transportation by providing PIV education and outreach, off-peak charging, and PIV infrastructure solutions to reduce range anxiety. In addition to providing charging infrastructure, the PIV Program will allow ACE to incentivize at-home and off-peak charging and energy use management, obtain information to understand the potential impacts that an increase in the use of PIVs may have on the electric distribution system in New Jersey, and test and validate various incentives and technologies such as discounted Time-of-Use rates to encourage customers to curtail or shift their usage, including PIV charging, to off-peak time periods.

8. As part of its comprehensive approach to PIVs, the Company is working with stakeholders to devise a program that is responsive to the needs of its customers. The Company met with the Board Staff and representatives of the Division of the Rate Counsel ("Rate Counsel"), the New Jersey Department of Community Affairs, and the New Jersey Department of Transportation to discuss the Company's proposed PIV Program. The Company is also an active participant in the Board's New Jersey Electric Vehicle Infrastructure Stakeholder Group

(“EV Stakeholder Group”), which was formed at the Board’s direction to solicit input from stakeholders in order to assist the Board in the development of its PIV infrastructure policies.<sup>7</sup>

These EV Stakeholder Group meetings, and comments submitted in connection therewith, informed ACE’s understanding of stakeholders’ interests and expectations, and contributed to ACE’s design of its PIV Program, particularly in the alignment of the PIV Program with the State’s policy goals regarding renewable energy, climate change, and the electrification of transportation modes.<sup>8</sup> The Company will continue to reach out to additional stakeholders throughout the State, as well as those in the PIV industry as the process for approval of this Petition moves forward.

9. ACE is uniquely positioned to facilitate and accelerate the electrification of the transportation sector in New Jersey. In doing so, ACE also supports the availability of regional electric vehicle infrastructure by joining efforts underway in the New Jersey Legislature to

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<sup>7</sup> The EV Stakeholder Group was established based in part on the recommendation by the Regulatory Assistance Project (“RAP”) in its May 2017 Report, *Getting From Here to There: Regulatory Considerations for Transportation Electrification*, prepared at the request of the Board. A copy of the RAP Report can be found at: <http://nj.gov/bpu/pdf/reports/RAP-NJ-BPU-electricvehicles-policymemo-may2017.pdf>. The Board’s regulation of those installing and operating charging facilities in the State is an issue which is currently being addressed in the EV Stakeholder Group. In particular, Board Staff solicited Task 1 Comments from the EV Infrastructure Stakeholder Group participants on specified questions, including: “Question 2: Should owners and operators of EVSE that provide electric vehicle charging service be regulated as electric utilities? Are operators of EVSE reselling electricity or providing a charging service?” See *New Jersey Electric Vehicle Infrastructure Stakeholder Group Kickoff Meeting*, dated Sept. 15, 2017, at 17. Based on stakeholder input, it is anticipated that the Board will clarify the definition of “public utility,” which will dictate whether the Board would have jurisdiction over owners and operators of EVSE in the State.

<sup>8</sup> See generally, 2011 New Jersey Energy Master Plan, December 6, 2011; available at: [http://www.nj.gov/emp/docs/pdf/2011\\_Final\\_Energy\\_Master\\_Plan.pdf](http://www.nj.gov/emp/docs/pdf/2011_Final_Energy_Master_Plan.pdf). The Energy Master Plan (“EMP”) has five overarching goals: (1) “Drive down the cost of energy for all consumers;” (2) “Promote a diverse portfolio of new, clean, in-State generation;” (3) “Reward energy efficiency and energy conservation and reduce peak demand;” (4) “Capitalize on emerging technologies for transportation and power production;” and (5) “Maintain support for the renewable energy portfolio standard of 22.5% of energy from renewable sources by 2021.” *Id.* at 1. See also *State Strategic Plan: New Jersey’s State Development & Redevelopment Plan*, Draft Final Plan Approved November 14, 2011, by Resolution No. 2011-08, available at: <http://www.nj.gov/state/planning/publications/192-draft-final-ssp.pdf>.

ensure the availability of PIV charging along New Jersey's major highways, such as the New Jersey Turnpike, which provides direct access to the northeast corridor.<sup>9</sup>

10. The availability of charging infrastructure is fundamental to the growth of PIVs. Unlike gas-powered vehicles which typically refuel only at gas stations, PIVs can charge while parked at home, at work, or in public locations. Charging equipment is necessary to connect a PIV to the energy grid. The smart Electric Vehicle Supply Equipment ("EVSE")<sup>10</sup> includes a charging station or a charge port and comes in several types and configurations but is generally categorized by power level, as follows:

- (i) **Level 1:** 120-volt, alternating current (AC) power.

Level 1 charging refers to charging stations, as well as typical electric outlets that a driver plugs into via a cord set included with the vehicle. A PIV connected to a Level 1 charger takes about 12 hours to charge a fully depleted 50-mile battery.

- (ii) **Level 2:** 240-volt, AC power.

Level 2 chargers typically are mounted on a wall or on a pedestal. A PIV connected to a Level 2 charger takes between 3 to 5 hours to charge a fully depleted 50-mile battery.

- (iii) **Direct Current Fast Charger ("DCFC"):**

Converts AC electricity to direct current ("DC") and delivers a charge to the vehicle at higher power, typically 50 kilowatts. A PIV connected to a DCFC takes about 30 minutes to charge a fully depleted battery to about 80%, depending on battery size. Not all PIVs are able to accept DC fast charging.

Typically, single family homes, multi-family dwelling units and workplace charging facilities use Level 1 and Level 2 chargers. Retail operations that provide charging infrastructure usually offer Level 2 chargers, and metro-based or long distance charging infrastructure use DCFC.

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<sup>9</sup> See *infra* Section V, at 16-18.

<sup>10</sup> EVSEs are the chargers and related equipment used by plug-in vehicles and connected to the distribution system.

#### IV. The Company's PIV Program Proposal

11. ACE is proposing to implement a voluntary PIV Program, consisting of eight (8) separate offerings including an Innovation Fund for PIV charging in New Jersey. These offerings focus on providing ACE's customers with new charging infrastructure and innovative electric rate options and incentives. They cover residential PIV charging (80% of owners tend to charge at home)<sup>11</sup> through discounted rates and/or discounted equipment, but also support multi-family dwelling and workplace units, as well as public-space installation of EVSEs. Having charging infrastructure in place throughout the State with proper siting of facilities focused upon safety, access, visibility, and proximity to power and/or retail locations will alleviate "range anxiety" and, therefore, facilitate increased PIV adoption in the State.

12. All offerings in the PIV Program will permit ACE the ability to analyze collected data and, based on the lessons learned, will allow the Company to better understand the impact of PIV charging on the electric distribution system and to make proper adjustments to maintain system reliability.

13. A summary of each of the PIV Program offerings is provided below. Attached to this filing, as *Appendix A*, are draft Rate Schedules that will be necessary to implement the PIV Program. The cost breakdown of each offering is attached hereto as *Appendix B*.

14. **Offering 1: Residential – Whole House Time-of-Use – Schedule "RS-PIV" Rate (single meter)**. Offering 1 permits an unlimited number of qualified Basic Generation Service ("BGS") residential customers with PIVs to choose a discounted "whole house" rate that offers the customer easy entry into a new rate and incentivizes customers to shift their load,

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<sup>11</sup> See <http://insideevs.com/most-electric-vehicle-owners-charge-at-home-in-other-news-the-sky-is-blue/>.



including the charging of electric vehicles, to off-peak hours.<sup>12</sup> The customer would choose service under Rate Schedule “RS-PIV” and would no longer be served under Service Classification “RS.” This rate would apply to both the ACE customer’s residence as well as their PIV charging usage and would allow customers the opportunity to save money on their electric consumption compared to current BGS rates by shifting usage to lower-priced off-peak hours. No second meter would be necessary for this option; the customer’s current meter would be re-programmed to serve in this capacity. All Rate Schedule “RS-PIV” participants would have the ability to opt out of this rate classification at any time without penalty.

This Offering benefits households that already own EVSEs by allowing them the opportunity to shift more of their load to off-peak hours and thereby potentially save money. The movement of load to off-peak times also benefits the grid. This Offering would be available to an unlimited number of customers at no cost to the customer and could potentially facilitate off-peak savings of \$0.04 per kWh as compared to existing BGS rates per participant per month. The Company is not seeking recovery of any costs associated with this Offering.

15. **Offering 2: Incentive Rates for Residential Customers with Existing, Installed Level 2 Chargers – Schedule “IR-PIV” Rate.** With Offering 2, up to 100 residential customers with existing installed Level 2 chargers would have the option to have that charger rewired to a second meter, which would allow the customer to take advantage of off-peak rates for charging, thus encouraging charging during off-peak hours.

The second meter would be installed at no charge to the participant. The collected participant data would be used to assist the Company to better understand infrastructure needs based on usage patterns as well as customer response to incentives. ACE will survey customers

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<sup>12</sup> Off-peak hours are those times outside of the hours of 12:00 p.m. to 8:00 p.m. Monday through Friday.

on choice and satisfaction, which will determine whether this Offering should be expanded, with appropriate approvals from the Board, if necessary.

Offering 2 benefits households that already own EVSE by allowing them the opportunity to shift more of their charging load to off-peak hours and thereby potentially save money. The movement of load to off-peak times also benefits the grid. This Offering would be available to 100 customers at an estimated cost to the Company of \$415,000 and would potentially facilitate savings of \$0.04 per kWh per participant per month as compared to existing BGS rates.

16. **Offering 3: Discounted Level 2 Charging Stations for Residential Customers – Schedule “IR-PIV” Rate.** Offering 3, also through Schedule “IR-PIV,” provides for the Company to partially subsidize installation of up to 300 Smart Level 2 charging stations for qualified residential customers on a first-come, first-served basis. For this option, the PIV Program will provide and ACE will install a Smart Level 2 in-home charger for the first 300 eligible customers at 50% off the cost of the EVSE along with 50% off associated installation costs, at an estimated cost to the Company of \$1.55 million.<sup>13</sup> For qualified customers, 12-month interest-free financing is available for installation costs. Participants in this Offering will also have the opportunity to take advantage of off-peak rates for charging. This Offering is available only for those customers whose PIV(s) have a range of thirty (30) miles or greater.

Customers electing this PIV rate will require a second meter. The second meter allows ACE to provide a time-of-use rate. By enrolling in this Offering and receiving a subsidized Smart EVSE, the customer agrees to participate for a period of at least one year. The collected participant data would be used to assist the Company to better understand infrastructure needs

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<sup>13</sup> The cost-sharing by the customer and the Company is a way to incentivize participation while also ensuring a level of commitment by the customer. The customer would own the EVSE after one year of participation and, as such, would be able to take advantage of any current or future tax credits applicable to this technology.

based on usage patterns as well as customer response to incentives. Once the target participation cap of 300 customers is reached, ACE will survey customers on choice and satisfaction, which will determine whether this Offering should be expanded, and seek appropriate approvals from the Board, as necessary.

17. **Offering 4: Multi-family dwelling units (condominium/apartment buildings) with dedicated on-site parking, currently without an existing EVSE – Schedule “MFDU-PIV” rate and installation of up to 50 Level 2 EVSEs.** This Offering consists of providing 50% of the cost of the EVSE and 100% of the installation cost (less any applicable rebates) for up to 50 Smart Level 2 EVSEs for qualified customers who own or operate condominium/apartment complexes where dedicated parking can be made available for PIV charging infrastructure, and where at least three New Jersey registered PIV owners reside.<sup>14</sup> The customer in this case would be the account holder of the premise with whom ACE has the account contract. This Offering would also require a second meter. As part of this Offering, the customer can apply for a Smart Level 2 EVSE at 50% of the cost for the charger, and the PIV Program would pay 100% of the cost to install the charger, at an estimated cost to the Company of \$607,500. This Offering brings charging capability to apartment and condominium customers who might otherwise have no such option. By enrolling in this Offering and receiving a subsidized Smart EVSE, the customer agrees to participate for a period of at least one year.

**Offering 5: Level 2 Charging Stations for Workplace Charging – Schedule “WP-PIV” rate and installation of up to 100 Level 2 EVSEs.** This Offering consists of providing 50% of the cost of the EVSE for up to 100 Smart Level 2 EVSEs for qualified customers who

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<sup>14</sup> Based upon stakeholder input, and depending on the Board’s preference, the total number of installations under this Offering can be expanded.

own or operate office buildings and garages where dedicated parking can be made available for PIV charging infrastructure.<sup>15</sup> The customer in this case would be the account holder of the premise with whom ACE has the account contract. This Offering would also require a second meter. As part of this Offering, the customer can apply for a Smart Level 2 EVSE at 50% of the cost for the charger, at an estimated cost to the Company of \$465,000, and the customer will be responsible for its associated installation costs.<sup>16</sup> This Offering brings charging capability to customers who might otherwise have no such option. By enrolling in this Offering and receiving a subsidized Smart EVSE, the customer agrees to participate for a period of at least one year.

18. Customers selecting a PIV-specific rate under Offerings 1 through 5 will also have the option of receiving electricity consisting of 100% renewable energy (PIV-Green) in the form of an “Adder” to the PIV-specific rate. Based on current procurement costs, the Adder would increase the rate by \$0.04650 per kWh. The Adder will allow customers to have their energy supplied from 100% green energy and to claim zero tailpipe emissions when charging an all-electric vehicle. Not only would this support New Jersey’s Renewable Portfolio Standard goal (one of the most aggressive in the United States),<sup>17</sup> but it would also yield valuable insight into whether customers would be willing to apply some of their annual savings towards the ability to claim zero tailpipe emissions.

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<sup>15</sup> Based upon stakeholder input, and depending on the Board’s preference, the total number of installations under this Offering can be expanded.

<sup>16</sup> Installations in office buildings and garages can carry more significant costs than residential installations. In an effort to control costs and promote efficiency, ACE proposes that the owner of the building or garage be responsible for installation costs.

<sup>17</sup> The New Jersey RPS requires each electricity supplier serving retail electricity customers in the State to procure 22.5% of the electricity it sells in New Jersey from qualified renewable energy resources by 2021. *See* <http://www.nj.gov/dep/aqes/opea-renewable-portfolio.html>.

19. **Offering 6: Public Charging Corridor Installation in New Jersey – 30 Direct Current Fast Chargers – Schedule “PC-PIV.”**<sup>18</sup> Offering 6 consists of the installation of up to 30 DCFC along main transportation corridors or in a community depot configuration within ACE’s service territory, at an estimated cost to the Company of \$3.6 million.<sup>19</sup> The Company will examine the density of PIV ownership, the locations of the various major roadways, and other pertinent characteristics that will provide the maximum opportunity for use and convenience of PIV users in determining where to place these chargers. The EVSE will be owned and maintained by ACE and will provide electricity through 100% renewable energy resources. The Company will also evaluate opportunities to couple multiple DCFC with energy storage. This Offering will provide PIV owners with additional charging options away from home, thereby helping to reduce “range anxiety.” It will also give ACE insight into the impact of DCFCs on the grid as well as usage pattern data, while also enabling ACE to evaluate the benefits of Distribution Storage while reducing the impact of demand charges. While the Company intends to primarily site these chargers with the State, municipalities, and townships in underserved areas, if sufficient suitable locations cannot be found the Company would consider working with commercial sites for installations in which a rebate would be provided for the cost of the charger.

20. **Offering 7: Public Charging Neighborhood Installation in New Jersey – 150 Level 2 EVSE stations – Schedule “PC-PIV.”**<sup>20</sup> Similar to Offering 6, and also through Schedule “PC-PIV,” this Offering will consist of the installation of up to 150 Level 2 chargers

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<sup>18</sup> This service would be available to all PIV owners, whether or not they reside in New Jersey.

<sup>19</sup> If stakeholders express interest in expanding the installation of additional DCFC, ACE can accommodate this expansion, which would carry a proportionate increase in PIV Program costs.

<sup>20</sup> This service would be available to all PIV owners, whether or not they reside in New Jersey.

installed in appropriate neighborhood locations within ACE's New Jersey service territory at an estimated cost to the Company of \$2.25 million. The Company will examine the density of PIV ownership, the locations of the various major roadways, and other pertinent characteristics in order to determine the locations that will provide the maximum opportunity for use and convenience of PIV users. In particular, the siting methodology would factor in convenience, retail proximity, safety, and other elements to ensure that the investment is complementary to community needs. The EVSE will be owned and maintained by ACE and will provide electricity through 100% renewable energy sources. This Offering will also provide PIV owners with additional charging options away from home, thereby helping to reduce "range anxiety." It will also provide ACE with insight into the impact on the grid of Level 2 chargers, as well as additional usage pattern data. While the Company intends to primarily site these chargers with the State, municipalities, and townships in underserved areas, if sufficient suitable locations cannot be found the Company would consider working with commercial sites for installations in which a rebate would be provided for the cost of the charger.

21. **Offering 8: \$2 Million Innovation Fund.** With Offering 8, ACE proposes to establish a program by which interested persons or groups could seek funding from the Company for innovative projects designed to further PIV charging in the State and support electrification of the transportation sector. The grants provided through an innovation fund of \$2 million to be established under this Offering are intended to encourage innovative ideas that are designed to serve multiple users and/or multiple tenant applications, such as electric car share hubs, urban residential charging hubs, DCFC applications for multi-family and multi-tenant applications, and electric public transit or mobility fleet applications, such as public buses and school buses.

Projects designed to serve underserved and/or low-income areas for such applications are desired and encouraged.

By way of example, a potential project that could seek funding under this Offering would be the deployment of electric school buses with vehicle-to-grid (“V2G”) functionality. Such a project would benefit the school district(s) involved through the ability to save money by replacing the higher costs of diesel fuel with the lower cost of electricity, as well as lowering maintenance costs and eliminating the health and environmental externalities attendant to the usage of diesel fuels. Meanwhile, the Company would be able to learn what is entailed in installing charging infrastructure in the transportation fleet context, implementing V2G communication and control systems, and delivering ancillary services to the grid.

Under this Offering, funding would be awarded based on an application and review process conducted by the Company, with assistance and input from key internal and external stakeholders. The proposed incentives would be a monetary rebate issued by ACE in an amount up to 50% of the cost of the project. The project cost amounts to which the rebate would apply would be the net project cost after applying all other applicable incentives, grants, awards, or discounts.

22. The Company proposes to file a report with the Board as to the results of the PIV Program within two (2) years after it has been implemented. In addition, ACE will provide periodic updates to the Board on the Company’s enrollment and education efforts.

V. **The PIV Market in New Jersey and the Region**

23. As noted above, the PIV market in New Jersey and the region is growing. There were approximately 10,000 registered PIVs on the road in New Jersey as of the end of 2016,

with 60% of those having been sold in the last two years.<sup>21</sup> In addition, there are 227 public electric charging stations and 533 charging outlets throughout the State.<sup>22</sup> The large majority of publicly available charging stations are located north of ACE's service territory, with fewer than 20 of the 131 Level 2 charging stations located in ACE's service territory.<sup>23</sup> Between 2015 and 2016, New Jersey experienced 79% growth in PIVs, one of the highest growth rates in the country.<sup>24</sup> Based on the increased availability of new PIVs with greater range and at a decreased cost, the market for PIVs in New Jersey is likely to continue to grow. In general, however, the installation of PIV infrastructure is lagging behind the rate of PIV growth, and without programs like the one proposed by the Company, the projected introduction of multiple types of PIVs in the marketplace will outpace the necessary infrastructure. With these facts in mind, the time is now to enhance PIV infrastructure to accelerate PIV adoption in the State.<sup>25</sup>

24. To encourage consumers to purchase PIVs and other zero emission vehicles ("ZEVs"), New Jersey passed legislation in January 2004 which provides a sales tax exemption

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<sup>21</sup> See ChargeEVC, *A Roadmap for Vehicle Electrification in New Jersey: Market Development Strategy and High Impact Initiatives*, at 7 (Sept. 13, 2017), available at [http://www.chargevc.org/wp-content/uploads/2017/09/ChargeEVC\\_Roadmap.pdf](http://www.chargevc.org/wp-content/uploads/2017/09/ChargeEVC_Roadmap.pdf) (hereinafter "ChargeEVC Roadmap"). ChargeEVC is a non-profit coalition supporting the adoption of electric vehicles in New Jersey, of which ACE and other utilities in the State are members. See also ChargeEVC, *New Jersey Sees Record Increase in Plug-In Electric Vehicle Registration*, September 8, 2017.

<sup>22</sup> Data provided by the U.S. Department of Energy, Alternative Fuels Data Center.

<sup>23</sup> See <http://www.nj.gov/dep/cleanvehicles/Alt%20Fuel%20Electric%20Charging.pdf>.

<sup>24</sup> ChargeEVC, *New Jersey Sees Record Increase in Plug-In Electric Vehicle Registration*, September 8, 2017.

<sup>25</sup> See ChargeEVC Roadmap, at 5. Indeed, the ChargeEVC Roadmap lays out its top three policy action priorities as follows: (1) setting goals for PIV adoption and infrastructure; (2) building charging infrastructure – at least 100 DCFC at corridor locations by 2020 and at least 500 public Level 2 chargers by 2025; and (3) providing rebates to make PIVs more accessible to consumers in the State (the goal being at least 330,000 PIVs registered in New Jersey by the end of 2025). See *id.* at 10-14.



for ZEVs.<sup>26</sup> In addition, there are a number of New Jersey programs aimed at increasing the PIV charging infrastructure in the State, including:

- It Pay\$ to Plug-In: A joint program between the Board and the New Jersey Department of Environmental Protection to provide grants to employers to offset the cost of EVSE installation at the workplace, which is funded through the SEP;<sup>27</sup>
- 2017 NJ Charging Challenge: Electrify Your Workplace: Provides recognition to employers who provide workplace chargers, with the potential to be honored at the Governor’s Environmental Excellence Awards;<sup>28</sup> and
- Electrification of Camden City Buses: Through a \$500,000 Federal Transit Administration Low or No Emission Vehicle Deployment Grant.<sup>29</sup>

25. In addition to these programs, the State legislature recently enacted changes to the Municipal Land Use Law on January 8, 2018 that require that the land use element of a municipal master plan include a statement of strategy concerning “smart growth which, in part, shall consider potential locations for the installation of electric vehicle charging stations.”<sup>30</sup> There are also a number of legislative bills currently pending approval that acknowledge the

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<sup>26</sup> See <http://www.nj.gov/dep/cleanvehicles/>.

<sup>27</sup> See <http://www.drivegreen.nj.gov/programs.html>.

<sup>28</sup> See <http://www.drivegreen.nj.gov/programs.html#nj1>.

<sup>29</sup> ChargeVC, *Electric Buses Coming to Camden*, October 2, 2017, available at: <http://www.chargevc.org/electric-buses-coming-to-camden/>.

<sup>30</sup> See N.J.S.A. 40:55D-28(b)(2)(f)(i), effective Jan. 1, 2018.

importance of encouraging PIV usage<sup>31</sup> and contemplate a role for public utilities in the State, such as ACE, with respect to the provision of PIV charging services. For example, there are two Senate bills pending approval that would establish public/private pilot programs for alternative fueling stations, such as PIV charging stations, whereby State agencies such as the Department of Transportation (“DOT”) would work with public utilities and/or private vendors to offer alternative fuels at public, private, or government-owned fueling stations.<sup>32</sup>

26. PIVs are an emerging matter in many states. As a result of increased demand for PIVs, a number of jurisdictions have either approved applications by utility companies to implement programs to accommodate PIV charging or are currently considering such applications. Specifically, California, Maryland, the District of Columbia, Georgia, Kansas, Missouri, Florida, Utah, and Washington either have PIV programs in place or underway. *Appendix D* contains a brief summary of the PIV initiatives in several neighboring states.

27. Additionally, special provisions in the Clean Air Act allow states to either follow the federal requirements for zero emission vehicles or adopt California’s vehicle emission regulations. For ZEV states, like New Jersey, which have implemented California’s regulations, by 2025, sales of zero emission vehicles are required to be 15.4% of total car sales in each state. Equally significant, ACE’s service territory borders Pennsylvania and Delaware, which have

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<sup>31</sup> See, e.g., S.B. 3183, 217th Legis. (as referred to the Senate Environ. and Energy Comm. on May 15, 2017) (encouraging municipalities involved in redevelopment efforts to include the development of PIV charging station infrastructure in those plans to increase awareness of PIV use and reduce user range anxiety concerns); S.B. 2873, 217th Legis. (as reported from Senate Comm. on Jan. 30, 2017) (requiring that the land use element of a municipal master plan include a statement of strategy, which includes potential locations for installation of PIV charging stations).

<sup>32</sup> See S.B. 2641, 217th Legis. (as referred to the Senate Environ. and Energy Comm. on Oct. 7, 2016); see also S.B. 2640, 217th Legis. (as passed by the Senate and referred to the Senate Appropriations Comm. on Jan. 23, 2017) (providing that the DOT may contract with utilities to offer level 3 PIV charging stations in three regions of the State along the New Jersey Turnpike within 18 months of bill passage).

determined to follow California's Low Emission Vehicle program.<sup>33</sup> As a central artery for access to New York, one of the largest metropolitan areas in the United States, New Jersey is ideally situated to become a critical component in the expansion of PIV ownership and offerings in the Mid-Atlantic region.

28. From an environmental standpoint, PIVs play a significant role in reducing greenhouse gases, an important goal of the State of New Jersey.<sup>34</sup> Approximately 46.4% of energy-related GHG emissions in New Jersey are from the transportation segment, with three-quarters of that coming from the on-road use of gasoline, predominantly in cars.<sup>35</sup> As such, these goals cannot be met without a significant effort to reduce emissions from mobile sources. One of the best ways to reduce emissions from the transportation sector is by reducing the number of petroleum fuel powered vehicles and replacing them with alternative fuel vehicles such as PIVs.

29. In addition to contributing to New Jersey's healthy air quality goals, PIVs offer a variety of other benefits. Among other benefits, the State of New Jersey will receive tax benefits associated with additional franchise tax revenues on the incremental PIV usage, as well as additional property tax revenues on utility-owned PIV charging network assets. Moreover, all ratepayers can benefit from implementation of the PIV Program. New load on the system, during hours of low utilization, will result in the collection of incremental revenue that can be spread across the fixed costs of operating the distribution system, which puts downward pressure on rates and can be allocated to all customer classes based on a full revenue requirements

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<sup>33</sup> See <https://www.c2es.org/document/zev-program/>.

<sup>34</sup> ChargeVC opines that widespread PIV use will be necessary to meet the goals of New Jersey's Global Warming Response Act of 2007, N.J.S.A. 26:2C-37, which requires an 80% reduction in Greenhouse Gas emissions by 2050. See ChargeVC Roadmap, at 6.

<sup>35</sup> *Id.* at 5.