

**DELMARVA POWER & LIGHT COMPANY
QUALIFIED FUEL CELL PROVIDERS – RENEWABLE CAPABLE
DELAWARE PSC DOCKET NO. 11-362**

Response of Delmarva Power & Light Company and Bloom Energy
to the REPORT ON DELMARVA POWER’S APPLICATION
FOR APPROVAL OF A NEW ELECTRIC TARIFF
APPLICABLE TO PROPOSED BLOOM ENERGY FUEL CELL PROJECT
prepared for Delaware Public Service Commission Staff (the “NEO Report”)

On October 3, 2011, Staff’s consultant, New Energy Opportunities (“NEO”) issued its report in this docket (the “NEO Report”). In that report, NEO specifically asked Bloom Energy, Delmarva Power, and/or DNREC to respond to several questions. In addition, NEO discussed areas of potential concern regarding the Proposed Tariff. This submission constitutes the responses of Bloom Energy and Delmarva Power to certain questions and issues contained in the NEO Report. The remaining questions will be addressed in an additional filing by DNREC.

A. Response to NEO Report’s requests/questions

1. **Q.** With respect to relocation of Energy Servers, the NEO Report states: “we did not find any specific statutory language authorizing recovery of costs by Delmarva to relocate Energy Servers pertaining to the 30 MW Fuel Cell Project after its Initial Delivery Date... .” (NEO Report, pg. 52). The NEO Report later states “Section D should be modified such that any costs incurred above the Site Preparation Cost Cap after the Initial Delivery Date due to relocation of Energy Servers would require prior Commission approval.” (NEO Report, pg. 63).¹

A. While Delmarva understands and appreciates NEO’s concern that customer costs be controlled (a concern that Delmarva and Bloom agree with), the recommendation must not be adopted for several reasons.

First, Delmarva would relocate a server or servers in the event an opportunity to put them to a more cost-efficient use presents itself. The ability to move the servers is, in fact, one of the many benefits of the servers. In addition to being against the clear wording of the REPSA statutory language (as described below), forcing Delmarva to seek Commission pre approval prior to moving a server would be highly impractical for both Delmarva and the Commission. In order to realize an opportunity for putting a server to better, more cost-effective use at another location, Delmarva would need to (1) file an application with the Commission, (2) respond to data requests, (3) participate in a hearing or other proceeding, and (4) incur the cost of the proceeding. Such a time consuming and costly process would make relocating a server highly impractical. That situation would mean

¹ NEO suggests that the sentence in Section D of the Proposed Tariff pertaining to Site Preparation Costs be modified as follows: *Any amounts incurred for Site Preparation Cost by the Company above the Site Preparation Cost Cap, except for Costs that may be incurred to relocate Energy Servers after the Initial Delivery Date through the Services Term as mutually agreed upon by Company and the QFCP Generator, which shall be subject to prior Commission approval.* (NEO Report at pg. 52).

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that customers would be denied a cost saving opportunity due to an impractical and unnecessary regulatory pre-approval procedure. Moreover, the statute already specifically provides the Commission with authority to review all costs incurred by Delmarva and provides that cost recovery can be denied if found to have been inappropriately incurred. 26 *Del.C.* § 364 (c). As such, the Commission can and will review any relocation costs incurred by Delmarva and can and will deny recovery of any such costs if found to have been inappropriately incurred. The Commission should not be burdened with the need to pre-approve day-to-day operating decisions of Delmarva, especially where the statute clearly provides that costs incurred for relocating the servers can be denied if found to have been incurred inappropriately. 26 *Del.C.* § 364 (c).

Second, the REPSA statutory language provides that recoverable costs are not limited to what is listed in the statute. In fact, the opposite is true. The statute specifically provides for recovery by Delmarva of the following: “All miscellaneous costs arising out of Qualified Fuel Cell Provider Projects incurred by a Commission-regulated electric company, including, but not limited to, filing costs, administrative costs and incremental site preparation costs, ...” 26 *Del.C.* § 364 (c). The statutory phrase “[a]ll miscellaneous costs . . . including but not limited to...” reflects the specific intent of the General Assembly that the costs listed in the statute are not all of the costs to be recovered by Delmarva. Accordingly, NEO’s reasoning that because NEO “did not find any specific statutory language authorizing recovery of costs by Delmarva to relocate Energy Servers,” such costs should not be recoverable unless pre-approved by the Commission violates the specific language of the statute.

Third, NEO’s recommendation at page 63 of its Report - that Section D of the Proposed Tariff should be altered to require prior Commission approval of cost incurred due to relocation of Energy Servers after the Initial Delivery Date, is a recommendation that is specifically prohibited by the statute. The REPSA Amendments state that “[a]ll tariff filings must be approved or denied by the Commission in whole, as proposed, without alteration or the imposition of any condition or conditions with respect thereto by the Commission.” 26 *Del.C.* § 364(d)(2). Where the statute clearly prohibits adoption of this NEO recommendation and where the statute provides the Commission with the clear ability to review all costs and deny any costs determined to have been inappropriately incurred by Delmarva, NEO’s recommendation on this issue must not be adopted.

Respondent: Delmarva Power

B. Responses to NEO Report’s Analysis

1. The Fuel Cell Project in Context - Fuel Cells, Bloom Energy, and Fuel Cell Market Applications (NEO Report, pgs. 13-16): _____

I. The NEO Report raises concerns as to whether the market for Bloom Energy’s fuel cells will be sufficiently robust to sustain a Bloom Energy manufacturing facility operating at its peak capacity of 80 MW of fuel cells per year.

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Response: Bloom Energy is confident that it will build upon the commercial success it experienced in California as it expands to the East Coast, and that the market for its systems will be sufficiently robust to absorb the 80MW per year of fuel cells to be manufactured in Delaware. Based upon over two years of market research and with the benefit of full-time Bloom sales personnel now working in the Northeast, Bloom believes there is an accessible market opportunity of over 1,000 MWs of commercial customers whose electricity costs are such that using Bloom Energy Servers would save them money. This includes existing Bloom customers such as Walmart, The Coca-Cola Company, Federal Express and AT&T, who are familiar with the product and have been waiting for Bloom to expand to the East Coast. We are already engaged in discussions with these and other customers and have term sheets developed to give us the confidence of our forecasted demand.

Bloom needs, and has budgeted for, additional manufacturing capacity to meet this East Coast market demand. With approval from the PSC to move forward, these fuel cell systems will be manufactured in a Delaware factory.

******(The remainder of this answer has been submitted separately and filed under seal pursuant to PSC Rule 11 and the Non-Disclosure Agreement)******

Respondent: Josh Richman

2. Net Costs To Delmarva Ratepayers Under the Proposed Tariff (NEO Report, pgs. 17-23)

I. ICF calculates \$1 above market per month per average residential customer – NEO calculates \$1.34

Response: In general the adjustments made to the REC and capacity price forecasts by NEO are within a reasonable range of uncertainty reflected in any forecast result, although ICF is of the view that the REC and capacity price forecasts it used are more reasonable, and therefore the correct levelized cost impact to residential customers should be \$0.996 per month. NEO's adjustment to the capacity price in particular does not recognize the significant potential for capacity retirements to occur in the PJM market area in the 2015/2016 RPM delivery year.

NEO appears to have applied the 2014/2015 clearing price from the PJM Reliability Pricing Model Base Residual Auction to the 2015/2016 period. The 2014/2015 auction has already shown a reduction in available coal resources of approximately 7GW of coal from the prior auction period in all of PJM. This reduction was estimated by PJM to contribute up to \$80/MW-day to the prior year RTO clearing price. In addition to this, AEP and Duke have announced 7GW of expected retirements, indicative of a total of 14GW of retirements in PJM by 2015. PJM has recognized this as a serious threat to the resource adequacy. In its own independent analysis using an economic screen for coal fired capacity at-risk, PJM has estimated that 25GW of coal is economically at risk

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(excluding units in the ATSI and Duke areas). Of this 25GW, the average age of the units identified as at high risk (11GW) is greater than 50 years and the average size is less than 200MW. The remaining 14GW have an average age of 37 years and the average size is close to 400MW (see “Coal Capacity at Risk for Retirement in PJM: Potential Impacts of the Finalized EPA Cross State Air Pollution Rule and Proposed National Emissions Standards for Hazardous Air Pollutants”, 8.26.2011, PJM Interconnection).

The premiums in capacity price projections used by ICF for the 2015/2016 period are reflective of the potential risk of retirement and consistent with PJM’s findings. The price also reflects the limited time to develop projects to replace facilities, which is complicated by the uncertainty surrounding the final rule and enforcement standards which EPA will pursue. ICF believes it is appropriate to reflect this risk in the market forecast. The adjustment by NEO appears to have a \$0.07/month impact on the customer impact in the modifications, accounting for this, the NEO estimate would be \$1.27/month ($1.34 - 0.07 = 1.27$).

Respondent: Maria Scheller

3. Risks that the Manufacturing Plant is Not Built or Cannot Operate on a Sustainable Basis - Risk that the Manufacturing Plant is Not Built (NEO Report, pgs. 28-32)

I. The NEO Report raises concerns regarding Bloom installing 10 MWs and then deciding not to build the factory in DE

Response: As evidence of its commitment, Bloom Energy has already spent a portion of the tens of millions of dollars required for its factory of the future to be constructed in Delaware. The same is true with respect to the project sites; Bloom has already invested a portion of the multi-million dollar cost that will be required to complete the sites. Further expenditures are contingent on PSC approval. Assuming PSC approval of the proposed tariff is received soon, Bloom expects to receive Board approval to close the financing by the end of 2011, break ground on the manufacturing plant in early 2012 and begin production of Bloom’s Energy Servers when the plant is completed in 2013.

Respondent: Josh Richman

4. Other Factors for Consideration - Reasonableness of Pricing for a Fuel Cell Project Under the Proposed Tariff (NEO Report, pgs. 44-45)

I. The NEO Report raises concerns regarding other grid applications.

Response: Bloom’s installations have been primarily on the customer side of the meter (in part because the utility adoption cycle in California has been longer than that of the end-customers). The modular, scalable nature of Bloom’s technology allows customer-sited installations of hundreds of kilowatts to utility-scale hundreds of megawatts; MW size and meter location is not a gate to Bloom fuel cell installations.

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Bloom Energy has discussed various types of business models and applications with both gas and electric utilities in the United States, and is also in discussions about grid applications in other parts of the world. Whether the Bloom fuel cell systems are installed (a) to address targeted capacity-constrained hot-spots, (b) to off-set additional transmission and distribution requirements, (c) to provide clean, reliable baseload generation, (d) to participate in a feed in tariff, or (e) to provide power to remote areas without adequate access to a distribution network, a grid application business model is repeatable absent the economic development benefits Bloom plans to bring to Delaware.

Respondent: Josh Richman

5. Minimum Requirements - The Cost to Customers May Not Exceed the Cost of the Bluewater PPA (NEO Report, pgs. 47-49)

I. NEO indicates that Section 364(d)(1)c of REPSA could be interpreted to allow for a comparison of costs on a \$/MWh of production (a cost per Megawatt Hour produced). (NEO Report, pgs. 47-49).

Response: REPSA very clearly requires a comparison of the “cost to customers.” Performing a comparison on a per unit production basis (a cost per MWh basis) does not result in “cost to customers,” rather it reflects a per unit generation measurement which is not reflective of actual customer outlay, or of the full value to customers for any products additional to the energy component provided by the items being compared. As such, a comparison on a per unit production would not meet the requirements of Section 364(d)(1)c of REPSA.

Beyond the specific REPSA requirements, there are additional flaws in the per unit measurement comparison that would produce an unfair comparison of the items under evaluation. First, the product offerings of the Fuel Cell Project and the Bluewater Wind PPA are not comparable. The size, time of day production, capacity factors, reliability component, intermittency, and environmental attributes are not alike. Taking a measurement of costs on only the energy measurement would not be a fair comparison of the full products available under each and hence would result in a distortion of the true costs or value of each. For example, such a comparison would not be fair in recognizing differences in customer impact due to size and time of day the output is produced. If a facility produces a large amount of output at a time when consumer demand is low, there is a cost premium from excess purchases that would not be recognized in a per unit measure whereas they are captured in a cost to customer measurement. Similarly, the product value from capacity credits and REC credits would not be reflected in a per unit output measurement. Also, the Fuel Cell has an option value (i.e. renewable energy credits may optionally be used to satisfy REC or SREC obligations) that would not be recognized at all in a per unit measurement, hence it would be undervalued relative to the Bluewater Wind PPA which does not have this optionality.

Respondent: Mark Finrock

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6. The Proposed Tariffs and Risk Allocation (NEO Report, pgs. 60-64)
(3 Issues Addressed Below)

1. In Section V.A. of the NEO Report, NEO argues that if the Proposed Tariff had been structured as a power purchase agreement (“PPA”), rather than as a tariff, Delmarva’s debt rating would not be negatively affected. In support of that position, NEO relies upon the following statement from the testimony of Delmarva witness Mark Finfrock: “[w]here utilities have cost pass-through mechanisms for power purchased under PPAs, our assessment is that there is no significant incremental risk to the utility that should result in any debt being imputed, a position that Moody’s has taken.” (NEO Report, pg. 60).

Response: NEO’s conclusion that Delmarva’s debt rating would not be negatively impacted if the Fuel Cell Project had been structured as a PPA, rather than as a tariff, is incorrect. While NEO is correct that Moody’s does consider “cost pass-through mechanisms” as critical, that is only half of the story. There are two critical factors considered in determining how rating agencies treat long term obligations of utilities. Both (1) the accounting treatment and (2) the strength of the pass-through mechanisms are critical factors in the rating agencies’ treatment of PPAs or PPA-like long term structures. The accounting review conducted by Delmarva and its independent auditors concluded that if the Fuel Cell Project were constructed as a PPA or PPA-like, whereby Delmarva had obligations other than to be solely the collection and disbursement agent, such a structure would result in “capital lease” accounting treatment. The “capital lease” would appear on Delmarva’s balance sheet and rating agencies would include the capital lease as debt in their credit evaluation of Delmarva, irrespective of the strength of the pass-through mechanisms. For example, the offshore wind PPA between Delmarva and Bluewater Wind has almost identical statutory pass-through mechanism language as the fuel cell REPSA Amendments. Nevertheless, it has been determined that because of the terms and conditions contained in the Bluewater Wind PPA, it must be recorded as a capital lease. As stated, that Bluewater Wind capital lease will be treated as imputed debt.²

The Proposed Tariff was carefully crafted to make sure that Delmarva’s customers would not face future additional costs due to imputed debt. That goal was achieved through the structure of the Proposed Tariff. That goal would not have been achieved through a PPA.

Respondent: Mark Finfrock

² It should be noted that ICF’s projection that the Bluewater Wind PPA will result in an above-market cost to customers of \$1.70 does not include the additional cost of imputed debt. Accordingly, the actual cost customers will experience from the Bluewater PPA will be higher than \$1.70 provided by ICF in this docket.

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2. At page 61 of its report, NEO asserts that the Proposed Tariff structure would cause the Commission to serve as the *de facto* judge of future disputes between Delmarva and Bloom where under a PPA, the Commission would not be required to serve in such a role.³

Response: Although it should not be assumed that there will be disputes between Delmarva and the counterparty under a long term PPA or tariff that would not be resolved among the parties themselves, Delmarva and Bloom recognize the fact that under a tariff structure, the Commission would normally have jurisdiction to resolve disputes between Delmarva and the QFCP Operator. The drafters of the REPSA Amendments clearly recognized that issue as well. The REPSA Amendments specifically avoid that potential issue from surfacing by providing as follows: "*the courts of this State shall have exclusive original jurisdiction over any dispute between a Qualified Fuel Cell Provider Project and a Commission-regulated electric company involving the interpretation of the [tariff] obligations between them.....* " 26 Del. C. § 364 (i). Therefore, the Commission will not be "significantly involved in what are ordinarily contract administration issues." Any disputes under the Proposed Tariff that Delmarva and the Project Company cannot resolve on their own will be sorted out by the courts as if the Proposed Tariff were, in fact, a PPA.⁴

Respondent: Mark Finfrock

3. Page 61 of the NEO Report states that "The particular tariff at issue here allocates substantially more risk to ratepayers than is ordinarily the case with PPAs...."

Response: That assertion is incorrect. The Proposed Tariff for the Fuel Cell Project was designed to achieve a similar risk profile for customers as would result from a PPA. All risks of the Fuel Cell Project are a function of the particular terms negotiated for the Project rather than the fact that the terms are memorialized in a document structured as a "tariff" instead of a "PPA." In other words, the fact that the document containing the negotiated terms is a proposed "tariff," rather than a "PPA," does not increase risk upon customers. As a matter of fact, the exact opposite is true. As explained above and in the direct testimony of Mark Finfrock, had the proposed Fuel Cell Project been structured as a PPA, it would be treated as imputed debt that would result in actual additional costs to

³ The NEO Report states: "*Since the tariff is the equivalent of a contract for which the Commission is responsible for overseeing, it is likely that the Commission will have to directly address issues of tariff interpretation of the type that a utility usually addresses with a generator. In light of the complexity and potential ambiguity of some of the provisions in the tariff, the Commission could be significantly involved in what are ordinarily contract administration issues.*" (NEO Report, pg 61).

⁴ Delmarva can only assume that NEO overlooked § 364 (i) of the REPSA Amendments in reaching its contrary conclusion.

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Delmarva's customers.⁵ Thus, structuring the project as a tariff instead of a PPA actually reduces risk to customers.

Respondent: Mark Finfrock

⁵ The REPSA amendments provide that “*All miscellaneous costs arising out of Qualified Fuel Cell Provider Projects incurred by a Commission-regulated electric company . . . shall be distributed among the entire Delaware customer base of such company through adjustable nonbypassable charges which shall be established by the Commission.*” 26 Del. C. § 364 (c). Imputed debt would require the raising of equity to address the negative balance sheet effect on Delmarva's books. That cost would be borne by customers under § 364 (c). The same statutory customer cost responsibility language exists for all REPSA REC and SREC compliance. 25 Del.C. §§ 365 (a) and 358 (f)(1). As a result, Delmarva's PPAs for wind and solar do result in imputed debt, which is a cost to customers. The tariff structure of the proposed Fuel Cell Project avoids that cost/risk to customers.