



A PHI Company

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September 29, 2015

**Via DelaFile Submission**

Ms. Donna Nickerson, Secretary  
Delaware Public Service Commission  
861 Silver Lake Boulevard  
Cannon Building, Suite 100  
Dover, DE 19904

**RE: MONTHLY FILING - IN THE MATTER OF THE APPLICATION OF DELMARVA  
POWER AND LIGHT COMPANY FOR APPROVAL OF QUALIFIED FUEL  
CELL PROVIDER PROJECT TARIFFS**

Dear Ms. Nickerson:

Included with this filing, submitted via DelaFile, is Delmarva Power's monthly computation of the Service Classification QFCP-RC charges, including current factors and reconciliation factors as required in Order No. 8136, dated April 17, 2012 in Docket 11-362 and outlined in Tariff Leaf No. 74d. This filing computes rates based on the forecasted QFCP December operations which will be utilized in the November customer billing.

**Summary:**

The average monthly net impact over the life of the fuel cell project is \$1.75, which remains consistent with what was projected by the PSC staff at the outset (\$1.26) of the project. Included below is a comparison of the projected net monthly impact of the Qualified Fuel Cell Provider project (the "QFCP Project") to the typical residential customer<sup>1</sup> with the actual net monthly impact through December 2015. The analysis compares the projections from the original ICF report and the original PSC Staff report with the actual monthly QFCP filings through this forecast period, respectively. The Net Impact of the QFCP Project to the average residential customer is determined by subtracting the costs ratepayers were able to avoid because of the project (the "Avoided Cost Benefit"), from the monthly charges ratepayers paid to support the project (the "QFCP Project Charge"), and dividing the result by Delmarva's monthly kilowatt-hour sales.<sup>2</sup>

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<sup>1</sup> Typical residential customer is defined as having average monthly usage of 975 kwh.

<sup>2</sup> All numbers are cumulative from the beginning to respective forecasted month.

### **QFCP Project Charge:**

The monthly QFCP Project Charge is set forth in the monthly QFCP filings with the Delaware Public Service Commission. There are three major factors in computing the monthly charge to ratepayers. The fixed disbursement rate to the QFCP provider represents the largest component of the monthly charge. Because the disbursement rate was set as a fixed and known rate in the original QFCP legislation (*\$166.87 per megawatt-hour for the first 15 years; \$102.00 for years 16-20; \$30 for year 21*), it has the effect of keeping the actual costs relatively close to the estimated costs contained in both the ICF report and the Staff report.

The other two main variables in the monthly charge calculation are 1) the fuel cost of the natural gas and 2) the revenues derived from PJM energy and capacity sales. Fluctuations in PJM energy pricing and natural gas costs will fundamentally offset each other and create a natural hedge. For example, if natural gas prices increase, the revenue resulting from the QFCP Provider selling energy to PJM should also increase and offset the higher gas commodity cost. As long as the gas and the energy markets are correlated, customers should be largely insulated from commodity volatility. This effect should serve to keep the actual costs closely aligned with the model estimated costs throughout the life of the project.

The QFCP Project Charge is shown on Line 1 of the table on page 3. The original ICF estimated QFCP Project Charge, averaged monthly from inception through the December 2015 forecast for the typical residential customer, was expected to be \$3.13. The original PSC staff estimated QFCP Project Charge for the same period was expected to be \$3.39. The actual monthly QFCP Project Charge was \$3.08.

Therefore, for the period through December 2015, customers have been paying, on average, \$0.05 less per month than projected by ICF and \$0.31 less than projected by PSC staff.

### **Avoided Cost Benefit:**

An Avoided Cost Benefit was estimated in both the original ICF report and the original Staff report. In order to estimate the Avoided Cost Benefit, it was necessary to estimate what Delmarva's procurement costs for the Renewable Energy Credits (RECs/SRECs) necessary to comply with the RPS law would have been without the QFCP Project. To develop the estimate, it was assumed that Delmarva would have purchased 50% of its REC/SREC portfolio ahead of need and 50% on the spot market as required to meet RPS requirements.

The Avoided Cost Benefit is shown on Line 2 of the table on page 3. The original ICF estimated avoided cost benefit through the December 2015 forecast period was \$2.67 for the average residential customer. The original PSC Staff estimated avoided cost benefit over the same period was \$2.12. The actual monthly Avoided Cost Benefit through this filing is \$1.33.<sup>3</sup>

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<sup>3</sup> While the actual avoided cost benefit is less than the original estimates, it is a conservative estimate of benefits to ratepayers as it does not take into account any benefit related to the reduction in regional capacity pricing as a result of the 30 MW of additional in-state generation and the reduction in the need to import power from elsewhere in the PJM region. It also does not reflect the avoided cost benefits from reduced line losses and any reduced need for future transmission upgrades resulting from the Project's close proximity to population centers, which ultimately translates into lower overall electricity prices.

Therefore, for the period through December 2015, the costs the average residential customer was able to avoid paying were \$1.34 less than projected by ICF and \$0.79 less than projected by the PSC Staff. The difference is driven primarily by actual REC and SREC prices being lower than originally anticipated.

**Net Impact:**

To determine the average monthly Net Impact to the residential customer, and provide a comparison between the original ICF and PSC Staff projections and the actual QFCP Project results, it is necessary to subtract the Avoided Cost Benefit (Line 2) from the QFCP Project Charge (Line 1).

The Net Impact is shown on Line 3 of the table below. The original ICF projected monthly Net Impact through the December 2015 forecast period was \$0.46 for the average residential customer.<sup>4</sup> The original PSC Staff projected monthly Net Impact over the same period was \$1.27 for the average residential customer. The actual average monthly Net Impact to date was \$1.75.

Therefore, for the period from the first QFCP filing in 2012 through the attached December 2015 QFCP rate forecast, the actual monthly Net Impact on the average ratepayer has been \$1.29 higher than the 2011 ICF Model's projected monthly Net Impact, and \$0.48 more than the PSC Staff's projected monthly Net Impact of \$1.27.

<b>Average Cost &amp; Benefits Through December 2015</b>	<b>QFCP Filings</b>	<b>2011 ICF Model Projections</b>	<b>ICF Model Variance Actual to Model</b>	<b>2011 PSC Staff Projections</b>	<b>PSC Staff Variance Actual to Model</b>
QFCP Project Charge (per month)	\$3.08	\$3.13	\$0.05 under	\$3.39	\$0.31 under
Avoided Cost Benefit (per month)	\$1.33	\$2.67	\$1.34 under	\$2.12	\$0.79 under
Net Impact for Typical Delmarva Residential Customer (per month) Line 1 minus line 2	\$1.75	\$0.46	\$1.29 over	\$1.27	\$0.48 over

<sup>4</sup> It is important to note that the forecast by ICF was provided as an estimate over the 21-year life of the QFCP project. The results described in this letter and as shown in the chart reflect only the results from the project inception to date, which is only a small segment of the 21 year term of the QFCP project.

As required in the Order, this filing is made at least 30 days prior to applying the QFCP-RC charges to customer bills effective billing month November, which is scheduled to begin with customer meter read and billing cycle #1 on November 2nd and finish with cycle #21 on November 30th. The approved monthly rates can be found on the Delmarva Power Website at "<http://www.delmarva.com/my-home/choices-and-rates/delaware/tariffs>" in the RPCR Table. Once this filing is approved by the Commission, the estimated Net cost for the November bill of a 975 KWH residential customer will be \$3.00 per month; comprised of the QFCP cost at \$5.39 and the avoided cost of (\$2.39).

Please contact me or Robert Coan at (302) 283-5724 with any questions related to this matter.

Sincerely,



Todd L. Goodman

STATE OF DELAWARE )  
 ) SS.  
COUNTY OF NEW CASTLE )

On this 29<sup>th</sup> Day of SEPTEMBER, 2015, personally came before me, the subscriber, a Notary Public in and for the State and County aforesaid Michael W. Maxwell, Vice President, Delmarva Power & Light Company, a corporation existing under the laws of the State of Delaware, party to this Application, known to me personally to be such, and acknowledged this Application to be his act and deed and the act and deed of such Corporation, that the signature of such Sr. Vice President is in his own proper handwriting, and that the facts set forth in this Application are true and correct to the best of his knowledge and belief.



Michael W. Maxwell  
Vice President - Delmarva Power

SWORN TO AND SUBSCRIBED before me this 29 day of September 2015,



Tom Goodman Not. PA No. 3896

Notary ~~Public~~

My Commission expires: NA

**RJC-1**  
**Delmarva Power & Light Company**  
**Fuel Cell – Renewable Capable Power Production - Monthly Rate Calculation**  
**December 2015 Projection (To be billed in November 2015)**

Line	Forecasted QFCP Revenues and Costs		
1	<b>Table 1</b>		
2			
3	<u>December 2015</u>		
4			
5	Contract Cost	\$ 3,936,412	
6	less Market -Based Revenue	\$ 910,872	
7	Above Market QFCP Costs (Margin)	\$ 3,025,540	
8			
9	Administrative and Other O&M charges	\$ 9,000	
10			
11	(Less) Plus Carrying Charge	\$ (10)	
12			
13	Net QFCP Project Charge	\$ 3,034,530	
14	(Less) plus prior month(s) true-up	\$ 68,888	
15	Monthly QFCP Project Charge	\$ 3,103,418	
			Checksum vs Forecast Tab should be 0 ==> \$ -

Line	Voltage Level Loss (Energy & Capacity) - Adjustment Factor	
16	RESIDENTIAL	1.07438
17	RES SPACE HEAT	1.07438
18	Res TOU ND	1.07438
19	SGS	1.07438
20	MGS	1.07438
21	LGS	1.07438
22	GSP	1.04532
23	GST	1.02861

Line	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	
25									
26	<b>Table 3 Rate Calculation</b>		November 2015	= Col. 1 x Col. 2	= Col. 3 Lines 28-41 / Col. 3	= Col. 4 x Line 15	= Col. 5 / Col. 2	RCF/(1- RCF*UNC Factor) = Col. 6 x Col. 7	
27	Rate Class	Loss Factor	Sales @ Customer (kWh) (BD)	Sales @ Bulk System - Including Losses	Allocation Factor	Allocated Revenue Requirements	QFCP Rate (\$/kWh)	Revenue Conversion Factor Inc Uncollectable	Final QFCP Rate (\$/kWh)
28	Residential	1.07438	126,043,989	135,419,141	0.2220	\$ 688,949	\$ 0.005466	1.011562	\$ 0.005529
29	Residential- Space Heating	1.07438	68,924,088	74,050,662	0.1214	\$ 376,735	\$ 0.005466	1.011562	\$ 0.005529
30	Residential Time-of-Use "R-TOU" (Deleted 5/1/2014)								
31	Residential Time-of-Use NON-Demand "R-TOU-ND"	1.07438	101,142	108,665	0.0002	\$ 553	\$ 0.005466	1.011562	\$ 0.005529
32	Small General Service - Sec Non-Demand "SGS-ND"	1.07438	9,763,298	10,489,493	0.0172	\$ 53,366	\$ 0.005466	1.011562	\$ 0.005529
33	Space Heating Sec Serv "SGS-ND" and "MGS-S"	1.07438	1,264,378	1,358,423	0.0022	\$ 6,911	\$ 0.005466	1.011562	\$ 0.005529
34	Water Heating Sec Serv "SGS-ND" and "MGS-S"	1.07438	70,356	75,589	0.0001	\$ 385	\$ 0.005466	1.011562	\$ 0.005529
35	Outdoor Recreational Lighting Svc - Sec "ORL"	1.07438	44,361	47,661	0.0001	\$ 242	\$ 0.005466	1.011562	\$ 0.005529
36	Medium General Service - Secondary "MGS-S"	1.07438	80,393,174	86,372,819	0.1416	\$ 439,424	\$ 0.005466	1.011562	\$ 0.005529
37	Large General Service - Secondary "LGS-S"	1.07438	48,457,517	52,061,787	0.0853	\$ 264,866	\$ 0.005466	1.011562	\$ 0.005529
38	General Service - Primary "GS-P"	1.04532	172,933,905	180,771,269	0.2963	\$ 919,680	\$ 0.005318	1.011562	\$ 0.005380
39	General Service - Transmission "GS-T"	1.02861	62,876,837	64,675,743	0.1060	\$ 329,040	\$ 0.005233	1.011562	\$ 0.005294
40	PL	1.07438	1,102,303	1,184,292	0.0019	\$ 6,025	\$ 0.005466	1.011562	\$ 0.005529
41	SL	1.07438	3,154,537	3,389,172	0.0056	\$ 17,243	\$ 0.005466	1.011562	\$ 0.005529
42	<b>Total kWh</b>		<b>575,129,886</b>	<b>610,004,715</b>	<b>1.0000</b>	<b>\$ 3,103,418</b>			

**RJC-2**  
**Delmarva Power & Light Company**  
**Fuel Cell – Renewable Capable Power Production**

**November 2015 Projection (To be billed in October 2015)**

	Projected Jul-15	Projected Aug-15	Projected Sep-15	Projected Oct-15	Projected Nov-15	Projected Dec-15
<b>1 Costs</b>						
<b>2 QFCP – Renewable Capable Power Production</b>						
3 Contract Price	\$ 166.87	\$ 166.87	\$ 166.87	\$ 166.87	\$ 166.87	\$ 166.87
4 Projected Output Rate (MW)	26.3	26.3	26.3	26.3	26.7	26.4
5 Maximum Monthly Hours of Production	744	744	720	744	720	744
6 Total Contract Costs	\$ 3,265,179	\$ 3,265,179	\$ 3,159,850	\$ 3,265,179	\$ 3,207,909	\$ 3,277,594
<b>7</b>						
<b>8 Gas Supply Costs</b>						
9 Gas Monthly Fixed Costs	\$ 44,855	\$ 44,855	\$ 44,855	\$ 44,855	\$ 44,855	\$ 44,855
10 Gas Cost per Dt	\$ 1.88	\$ 2.61	\$ 2.03	\$ 1.92	\$ 2.72	\$ 3.89
11 Heat rate	7.69	7.69	7.61	7.61	7.69	7.69
12 Monthly Gas Requirements (Dt) (=Line 4 x Line 5 x Line 11)	150,413	150,413	144,103	148,906	147,775	150,985
13 Monthly Cost of Gas= (Line 10 x Line 12)+Line 9+Tax	\$ 340,928	\$ 456,337	\$ 351,422	\$ 344,424	\$ 465,329	\$ 658,818
<b>14</b>						
15 Gas Tracking - Banking Penalty	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>16</b>						
17 Administrative and Other O&M charges	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000
18 Other Indirect Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19 Total Administrative and Other O&M costs	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000	\$ 9,000
<b>20</b>						
<b>21 Revenues</b>						
<b>22 PJM Energy Revenue</b>						
23 Estimated Max Monthly Output (MWh)	22,235	22,235	21,518	22,235	21,600	22,320
24 Estimated Unit Capacity Factor	0.880	0.880	0.880	0.880	0.890	0.880
25 Forecasted Monthly Output (=Line 23 x Line 24)	19,567	19,567	18,936	19,567	19,224	19,642
26 LMP @ DPL N Zone (assumed)	\$ 46.88	\$ 40.97	\$ 29.04	\$ 30.61	\$ 37.58	\$ 39.29
27 Total PJM Energy Revenue per month (Line 25 x Line 26)	\$ 917,390	\$ 801,659	\$ 549,966	\$ 599,050	\$ 722,445	\$ 771,685
<b>28</b>						
<b>29 PJM Capacity Revenue</b>						
30 Contract Capacity from PJM	\$ 128,247	\$ 128,247	\$ 124,110	\$ 128,247	\$ 124,110	\$ 128,247
31 Other PJM Revenue and Expenses	\$ 10,940	\$ 10,940	\$ 10,940	\$ 10,940	\$ 10,940	\$ 10,940
32 Total Capacity Revenue per Month	\$ 139,187	\$ 139,187	\$ 135,050	\$ 139,187	\$ 135,050	\$ 139,187
<b>33</b>						
<b>34 (Less) plus prior month(s) true-up</b>						
35 Retail Revenue Deferral+Actual vs Forecast	\$ (11,814)	\$ (9,698)	\$ 436,770	\$ 57,114	\$ 84,423	\$ 68,888
<b>36</b>						
<b>37 (Less) Plus Carrying Charge</b>	\$ (51)	\$ (22)	\$ 129	\$ (54)	\$ (28)	\$ (10)
<b>38</b>						
<b>39 Monthly QFCP Project Charge</b>	\$ 2,546,665	\$ 2,779,949	\$ 3,272,156	\$ 2,937,427	\$ 2,909,139	\$ 3,103,418
40 Contract+Gas Cost-Banking+Admin-Revenue+/-True Up+/- Interest						
<b>41</b>						
<b>42 QFCP-RC Rates</b>						
43 Residential	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
44 Residential- Space Heating	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
45 Residential Time-of-Use "R-TOU" (Deleted 5/1/2014)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
46 Residential Time-of-Use NON-Demand "R-TOU-ND"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
47 Small General Service - Sec Non-Demand "SGS-ND"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
48 Space Heating Sec Service "SGS-ND" and "MGS-S"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
49 Water Heating Sec Service "SGS-ND" and "MGS-S"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
50 Outdoor Recreational Lighting Svc - Secondary "ORL"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
51 Medium General Service - Secondary "MGS-S"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
52 Large General Service - Secondary "LGS-S"	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
53 General Service - Primary "GS-P"	\$ 0.003936	\$ 0.003682	\$ 0.004279	\$ 0.003937	\$ 0.004755	\$ 0.005380
54 General Service - Transmission "GS-T"	\$ 0.003873	\$ 0.003623	\$ 0.004210	\$ 0.003874	\$ 0.004679	\$ 0.005294
55 Outdoor Lighting PL	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529
56 Outdoor Lighting SL	\$ 0.004045	\$ 0.003784	\$ 0.004398	\$ 0.004046	\$ 0.004887	\$ 0.005529