

Annual Report: 2019-2020

Diamond State Generation Partners, LLC

Executive Summary

Diamond State Generation Partners, LLC (“DSGP”) owns and operates two facilities that generate energy from Bloom Energy Servers manufactured in Delaware. 30 megawatts of Energy Servers across two sites (27 megawatts at Red Lion site and 3 megawatts at Brookside site) achieved operations in 2012 and 2013 and provide alternative energy generation for Delaware customers of Delmarva Power Company. In 2019, the sites were upgraded to Bloom’s latest generation Energy Servers. The upgrade occurred in phases from June to December 2019. As of December 31, 2019, 27.5 megawatts of upgraded Energy Servers (24.9 megawatts at the Red Lion site and 2.6 megawatts at the Brookside site) were in operation.¹

After the upgrade, the project’s average Heat Rate (MMBtu/kWh energy output) improved during the reporting period, and the project’s MMBtu bank ended the year with a healthy positive balance. The project’s average output MW is at 24.75 MW compared to last year’s 25.47 MW.

DSGP continues to receive revenue from PJM through the sale of energy, capacity and reactive services. DSGP works to maximize PJM revenue through all of the sources for which it is currently eligible in the PJM market.

For the period of June 2019 to May 2020

- Monthly energy payments averaged \$419,689/month
- Capacity payments averaged \$85,463/month
- Reactive Services payments averaged \$9,741/month
- Miscellaneous payments averaged \$1,695/month

¹ For additional information on the upgrade, please see *Note 13, Power Purchase Agreement Programs – PPA // Upgrade of Energy Servers* in the Bloom Energy Corporation’s Annual Report on Form 10-K filed with the United States Securities and Exchange Commission (SEC) available at the company’s investor website <https://investor.bloomenergy.com/overview/default.aspx> .

June 2019 through May 2020 Operating Results

This annual report covers the 8th year of operations from June 2019 to May 2020. The Annual total QFCP-RC PJM Revenue was \$6,447,281. Table 1 below summarizes the PJM Revenue on a monthly basis.

Table 1

Total PJM Revenue	
Month	PJM Revenue
2019/06	\$ 532,823.52
2019/07	\$ 653,891.04
2019/08	\$ 580,608.57
2019/09	\$ 581,323.01
2019/10	\$ 589,838.40
2019/11	\$ 714,287.01
2019/12	\$ 486,367.61
2020/01	\$ 536,125.92
2020/02	\$ 458,513.77
2020/03	\$ 453,254.93
2020/04	\$ 424,239.89
2020/05	\$ 436,007.78
Total	\$ 6,447,281.45

Fuel cell operating data is presented in Table 2 below. The table includes information on the energy produced, natural gas consumed, average output, heat rate, and nameplate capacity installed. The average heat rate for the period was 6,873. The average output for the period was 24.8 MW. The QFCP MMBtu Bank position is positive 153,377. Table 2 provides the MMBtu banking activity for the year. The next section of the report provides detailed information on the factors that drove the QFCP heat rate and availability for the period.

Table 2

Fuel Cell Operating Results						
Month	MWH Generated	MMBtu Reformed	MMBtu Banked	Cumulative MMBtu Banked	Avg Output, MW	Approx. Name Plate MW @ Month End
2019/06	16,159	122,641	(643)	2,465	22.4	29.7
2019/07	17,466	127,702	4,169	6,634	23.5	25.7
2019/08	17,959	126,511	9,081	15,715	24.1	28.7
2019/09	18,148	126,381	10,633	26,348	25.2	28.7
2019/10	18,654	130,638	10,202	36,550	25.1	28.7
2019/11	17,766	125,512	8,621	45,171	24.6	28.7
2019/12	16,180	109,692	12,468	57,639	21.8	27.5
2020/01	19,460	127,063	19,860	77,499	26.2	27.5
2020/02	18,167	118,851	18,306	95,805	26.1	27.5
2020/03	19,476	126,868	20,175	115,980	26.2	27.5
2020/04	18,705	122,522	18,698	134,678	26.0	27.5
2020/05	19,255	126,677	18,699	153,377	25.9	27.5
Totals	217,395	1,491,058	150,269	153,377	24.8	27.9

Total QFCP Contract Payment for the period: \$36,276,589.51 37

Plus Total Gas Cost for the period: \$4,380,966.74

Minus Total PJM Revenue for the period: \$6,447,281.45

Equals Total Disbursement to QFCP for the period: \$34,210,274.80

June 2019 through May 2020 Operating Results

1. Maintenance

- a. DSGP completed the upgrade as detailed in the Executive Summary
- b. DSGP continued to execute its maintenance plans through various routine maintenance events. There were no significant changes during the period.
- c. Planned maintenance for 2020-2021: no major plans forecasted

Actions Taken during the Year to Maximize Revenue:

DSGP has the fiduciary duty to maximize its PJM revenues in order to minimize collections from ratepayers, per the Tariff. DSGP has three streams of revenue from PJM for the QFCP project: energy, capacity, and reactive services.

Energy: DSGP has sold 100% of its energy production to date into the PJM Day Ahead Energy Market. Table 2 summarizes the past year's energy output.

Capacity: DSGP has successfully bid in all available capacity auctions since March 2012. [The Commission is aware of the PJM region-wide controversy concerning changes to the PJM Capacity Market that have been ordered by the Federal Energy Regulatory Commission ("FERC"). On behalf of DSGP, Bloom has met with staff of PJM and other stakeholders to press for practical considerations to prevail to enable continuing capacity market revenues. The outcome of these broader regional matters will not be known for some time.]

DSGP PJM Auction Results:

2021/2022

DSGP successfully bid 25.9 MW at \$165.73/MWD for the Base Residual Auction, and The First Incremental Auction took place on September 9, 2019. The Second Incremental Auction is scheduled to take place on July 6, 2020. The Third Incremental Auction is scheduled for February 22, 2021. 25.9 MW correlates to the expected long-term output of the facility after accounting for degradation.

2022/2023

The Base Residual Auction for the 2022/2023 Delivery Year has been delayed pending the FERC's acceptance of PJM's compliance filing in FERC's proceeding to establish new requirements for the PJM capacity market that is pending.

Table 3
RPM Auction Schedule

Delivery Year	Base Residual Auction	Incremental Auctions		
		First	Second	Third
2013/14	2/3/2010	9/12/2011	7/16/2012	2/25/2013
2014/15	5/2/2011	9/10/2012	7/15/2013	2/24/2014
2015/16	5/7/2012	9/9/2013	7/14/2014	2/23/2015
2016/17	5/13/2013	9/8/2014	7/13/2015	2/29/2016
2017/18	5/12/2014	9/14/2015	7/16/2016	2/28/2017
2018/19	5/10/2015	9/12/2016	7/15/2017	2/28/2018
2019/20	5/11/2016	9/11/2017	7/19/2018	2/25/2019
2020/21	5/10/2017	9/10/2018	7/8/2019	2/24/2020
2021/22	5/10/2018	9/9/2019	7/6/2020	2/22/2021
2022/23	8/14/2019			

Table 4
Historical Base Residual Auction Results

Year	EMAAC
2015/16	\$ 167.46
2016/17	\$ 119.13
2017/2018 Base	\$ -
2017/18 CP Transition	\$ 151.50
2018/19	\$ 225.42
2019/20	\$ 119.77
2020/21	\$ 187.87
2021/22	\$ 165.73

Table 5
Historical Incremental Auction Results

Year	EMAAC
2013/14 - 1st	\$ 178.85
2013/14 - 2nd	\$ 40.00
2014/15 - 1st	\$ 16.56
2014/15 - 2nd	\$ 56.94
2014/15 - 3rd	\$ 132.20
2015/16 - 1st	\$ 111.00
2015/16 - 2nd	\$ 153.56
2015/16 - 3rd	\$ 184.77
2016/17 - 1st	\$ 119.13
2016/17 - 2nd	\$ 71.00
2016/17 - 3rd	\$ 10.02
2017/18 - 1st	\$ 84.00
2017/18 - 2nd	\$ 26.50
2017/18 - 3rd	\$ 36.49
2018/19 - 1st	\$ 84.68
2018/19 - 2nd	\$ 80.02
2018/19 - 3rd	\$ 40.00
2019/20 - 1st	\$ 58.55
2019/20 - 2nd	\$ 32.87
2019/20 - 3rd	\$ 28.35
2020/21 - 1st	\$ 42.90
2020/21 - 2nd	\$ 20.25
2020/21 - 3rd	\$ 15.25
2021/22 - 1st	\$ 25.00

Reactive Services: DSGP had been receiving a fixed monthly payment of \$10,939.62 (total of \$131,275.40 annually) from PJM for reactive power services since May 2014. As the Commission is aware, consistent with its review of other rates for reactive power service in the PJM region, FERC determined to review DSGP's rate on file for reactive service and established hearing and settlement procedures to resolve the issues. With various parties that actively engaged in arm's length settlement discussions, in December 2019, DSGP accepted a settlement offer presented by FERC Trial Staff that would resolve all of the issues and reduce DSGP's Reactive Service annual revenue to \$45,000 effective as of July 1, 2019. The settlement was approved by final FERC order on April 20, 2020.