Executive Summary

Throughout the period of June 2015 to May 2016, Diamond State Generation Partners' (DSGP's) fuel cell projects remained in operation at its 30 MW nameplate capacity. The sites continued to generate steady revenue streams. The project experienced an expected decrease in efficiency, as measured by the Heat Rate (MMBTU gas used/KWH produced), throughout the period due to aging fuel cells. The MMBTU bank remains at a healthy volume, and efficiency is forecasted to improve as the fleet is upgraded. The project's capacity factor for the period decreased slightly to 85.9% compared to last year's 86.2%.

Diamond State Generation Partners continues to maximize its revenue from PJM through multiple sources of revenue. The project continues to sell its energy output into the PJM Day Ahead Market, and receives payments for capacity and reactive services. DSGP believes that the project is maximizing PJM revenue through all of the sources for which it is currently eligible in the PJM market.

For the June 2015 – May 2016 Period:

Monthly energy payments averaged $518,372/month

Capacity payments averaged $145,903/month

Reactive Services payments totaled $10,940/month

Miscellaneous payments averaged $495/month

June 2015 through May 2016 Operating Results:

This annual report covers the fourth year of operations from June 2015 through May 2016. The annual total QFCP-RC PJM revenue was **$8,108,520.63.** Table 1 below summarizes the PJM revenue on a monthly basis. The table shows steady revenue generation throughout the period.

Table 1

Total PJM Revenue	
Month	PJM Revenue
June	$ 718,552.20
July	$ 744,552.15
August	$ 716,347.92
September	$ 705,417.51
October	$ 714,822.10
November	$ 647,544.29
December	$ 617,485.05
January 2016	$ 720,801.34
February	$ 626,070.50
March	$ 617,686.90
April	$ 675,803.42
May	$ 603,437.25
Total	**$ 8,108,520.63**

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 **7643**. The average output for the period was **25.78 MW**. The QFCP mmBTU Bank position is positive 77,808. 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

Month	MWH Generated	mmBTU Reformed	mmBTU Banked	Cumulative mmBTU Banked	Heat Rate	Avg Output, MW	Approx. Name Plate MW @ Month End
June	18,830	144,732	(2,568)	96,274	7,686	26	30
July	18,604	142,207	(1,747)	94,527	7,644	25	30
August	19,098	145,236	(1,048)	93,479	7,605	26	30
September	18,686	143,399	(2,316)	91,163	7,674	26	30
October	19,287	147,262	(1,647)	89,516	7,635	26	30
November	18,723	142,474	(116)	88,400	7,610	26	30
December	19,075	146,105	(2,090)	86,310	7,660	26	30
January 2016	19,045	147,414	(3,628)	82,682	7,741	26	30
February	17,900	137,417	(2,273)	80,409	7,677	26	30
March	19,298	146,459	(756)	79,653	7,589	26	30
April	18,778	141,905	(132)	79,521	7,557	26	30
May	19,079	145,757	(1,713)	77,808	7,640	26	30
Totals	**226,403**	**1,730,367**	**(20,034)**				

Total QFCP Contract Payments for the period: **$37,771,679.30**

Plus Total Gas Cost for the period: **$4,331,540.16**

Minus Total PJM Revenues for the period: **$8,108,520.63**

Equals Total Disbursements to QFCP for the period: **$33,994,698.83**

Fuel Cell Availability: **85.92%**

Primary Heat Rate and Availability Variance Drivers:

1. Routine maintenance.
    a. DSGP continues to execute its maintenance plans. There were no significant changes during the period.
2. Grid Voltage Quality
    a. Our systems are sensitive to grid voltage fluctuations and will enter an auto-restart mode if the voltage dips or spikes (even momentarily) beyond predetermined thresholds.
3. Gas Composition
    a. When there is a substantial amount of ethane in the gas supply, our systems do not get the benefit of a full heating value of the gas. The units run more process air which typically lowers efficiency by 5%.
    b. NE US shale gas supplies have significantly higher ethane content. This content is not expected to improve in the next few years.

Actions Taken during the Year to Maximize Revenue:

DSGP has the duty to maximize 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. Note that a higher capacity factor would lead to higher PJM revenues, but also higher collections from ratepayers; therefore, maximizing capacity factor is not seen as a method for meeting the Tariff's goal of minimizing collections from ratepayers.

Capacity: DSGP has successfully bid in all available capacity auctions since March 2012. DSGP is exempt from the MOPR for all Incremental Auctions

DSGP PJM Auction Results:

2018/2019
DSGP successfully bid 25.9 MW at $225.42/MWD for the Base Residual Auction, and the first Incremental Auction takes place September 12, 2016.

2019/2020
DSGP successfully bid 25.3 MW at $119.17/MWD for the Base Residual Auction. The First Incremental Auction is September 12, 2017.

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	7/11/2016	2/28/2017
2018/19	5/10/2015	9/12/2016	7/15/2016	2/28/2018
2019/20	5/11/2016			

Table 4

Historical Base Residual Auction Results

Year	EMAAC	
2015/16	$	167.46
2016/17	$	119.13
2017/18	$	120.00
2018/19	$	225.42
2019/20	$	119.17

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

Reactive Services: As mentioned in previous reports, DSGP investigated the economics of providing reactive power, weighing the revenue stream against the drop in efficiency that the fuel cells experience when operating at less than unity power factor. Consistent with DSGP's analysis from the 2013-2014 period, the fixed monthly payments for reactive power has provided benefits to the ratepayers well in excess of incremental gas cost from lower efficiency. The project earns $10,939 per month from PJM for reactive services.