2016 BGS Auction Review

An Analysis of Utility Differences

Prepared for the New Jersey Division of Rate Counsel

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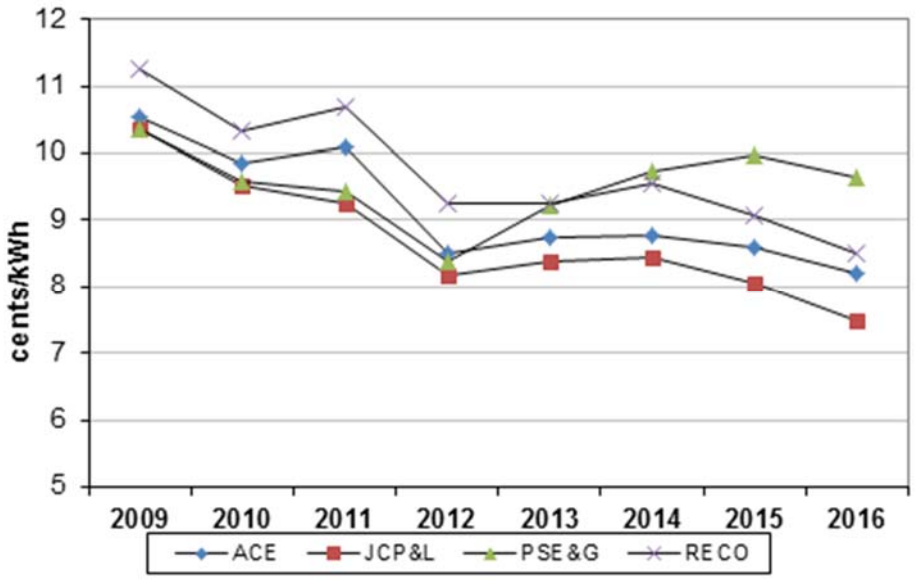
EXECUTIVE SUMMARY

At the request of Rate Counsel, Synapse conducted an analysis of the 2016 Basic Generation Service (BGS) Auction results to examine the price divergence observed between the PSE&G service territory and the other electric distribution companies. Our analysis finds that the 2016 BGS Auction results appear to be generally consistent with market conditions. However, the higher PSE&G prices appears to be because of greater transmission upgrade costs. Over the last three auctions, the results for the BGS Residential Small Commercial Product (RSCP) category have generally been declining slightly following the downward trend in wholesale natural gas prices, but the variation has increased.[1] Specifically, the results for one utility territory, PSE&G, have stayed high both absolutely and relative to the other three NJ electric distribution company (EDC) service territories.

The figure below shows a general decline from 2009, but the PSE&G prices have increased more rapidly and subsequently decreased more slowly relative to the other EDCs since 2012. Although disentangling the BGS prices are complicated, the primary reason for higher PSE&G prices appears to be greater transmission upgrade costs as stated above. These costs are discussed in more detail later in this report.

Figure 1. Historical NJ BGS RSCP auction results



The Commercial Industrial Energy Product (CIEP) auction results have been generally close together, although PSE&G prices were substantially above those of the other utilities in the 2016 auction (see Figure 4 later in this report).

In addition to our findings regarding the auction results, we offer a recommendation for improving the auction evaluation process. One of the problems with the BGS auction process is that many components

[1] The BGS-RSCP was formerly known as BGS-FP.

of electricity supply are combined into a single product so that it becomes hard to understand what factors are driving the auction results. Although the PJM energy and capacity markets are well studied and fairly transparent, other components of the BGS product—such as transmission and renewables—are more obscure. It would be helpful if the BGS post-auction report provided some summary estimate of the relative cost components for each utility. This information is probably already part of their evaluation process and the reporting could probably be done in a way that does not reveal confidential bidder information.

Much of the relevant information is available within the BGS bidder materials and data releases. However, it would be a separate analysis to collect and process the relevant information from these materials to quantify the cost components and produce estimates of the implied auction results by utilities, along with the specifics of the differences. By making using of the bidder materials, this could even be done on a pre-auction basis, although information is sometimes changed at the last minute.

1. REVIEW OF RECENT AUCTION RESULTS

1.1. BGS RSCP Auction

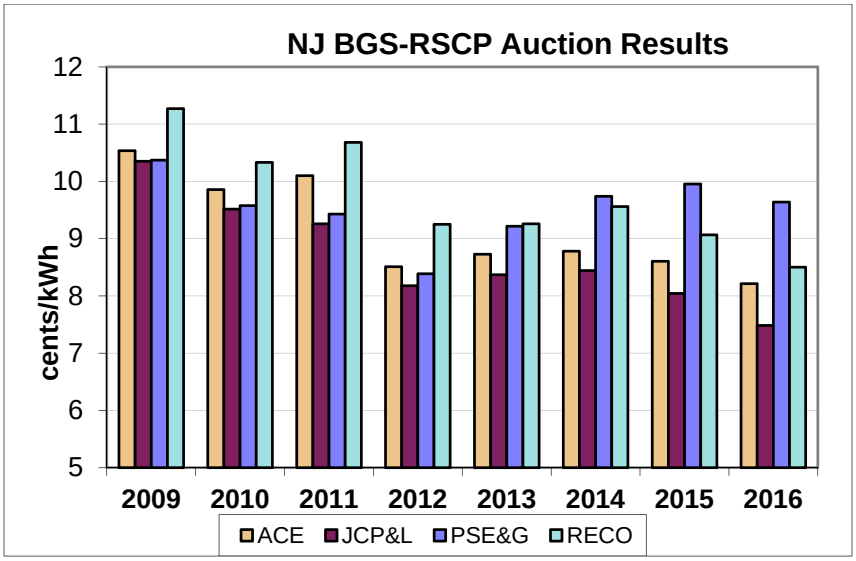
Overall the BGS RSCP (Residential Small Commercial) prices have been fairly stable over the last several auctions. Prices declined in most utility territories, but the variation between utility territories has increased. In the most recent three auctions, they have gone up in the PSE&G service territory in both relative and absolute terms. In contrast, prices have consistently declined for the other utilities. Prices declined in the 2016 auction compared to 2015 auction for all of the EDCs. However, there is a significant divergence in the prices between the utilities. PSE&G prices are 10.4 percent above the weighted average (which understates the deviance since that average is heavily weighted with PSE&G's significant loads). The upward divergence of PSE&G prices appeared to start in 2013 and has grown thereafter as shown in the table and figure below.

Table 1. Utility and load-weighted RSCP auction prices (cents/kWh)

BGS RSCP Auction Results	2012	2013	2014	2015	2016	Difference from 2016 Average
ACE	8.510	8.727	8.780	8.606	8.214	- 5.9%
JCP&L	8.176	8.370	8.444	8.042	7.485	-14.2%
PSE&G	8.388	9.218	9.739	9.954	9.638	+10.4%
RECO	9.251	9.258	9.561	9.066	8.502	- 2.6%
Load weighted Annual Average	**8.36**	**8.88**	**9.19**	**9.13**	**8.73**	

The following figure shows those results in a more visual manner. Here the divergence of the PSE&G prices is more apparent.

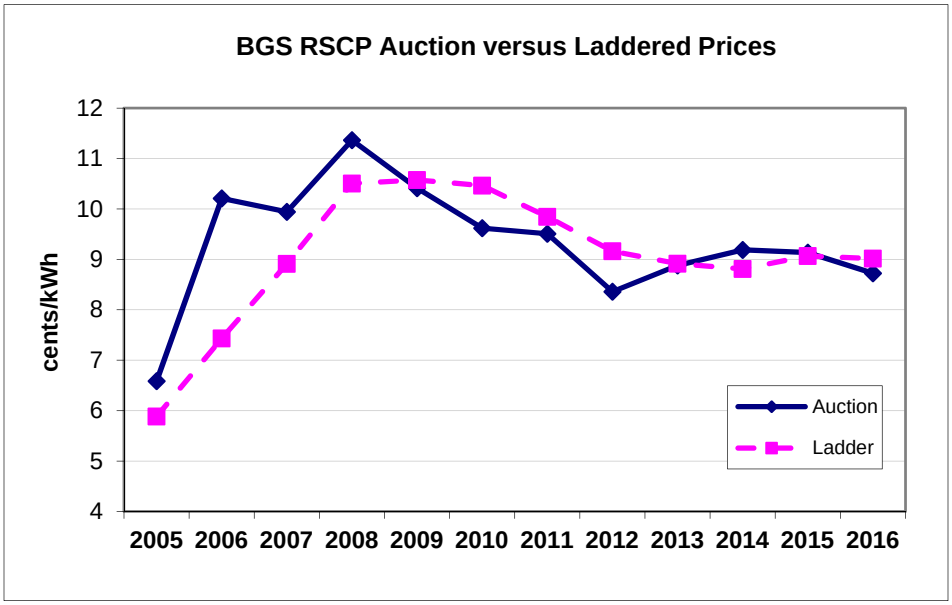
Figure 2. Historical utility RSCP auction results



Note that of the combined BGS RSCP load, PSE&G represents 51%, JCP&L 31%, ACE 15% and RECO just 3%. Thus PSE&G—representing just over half of the total load—has a substantial impact on the total costs paid by NJ customers.

Since auction prices have been fairly stable over the past five years or so, the laddered prices have been even more stable as shown in the figure below. [2]

Figure 3. Historical and laddered RSCP load-weighted auction results

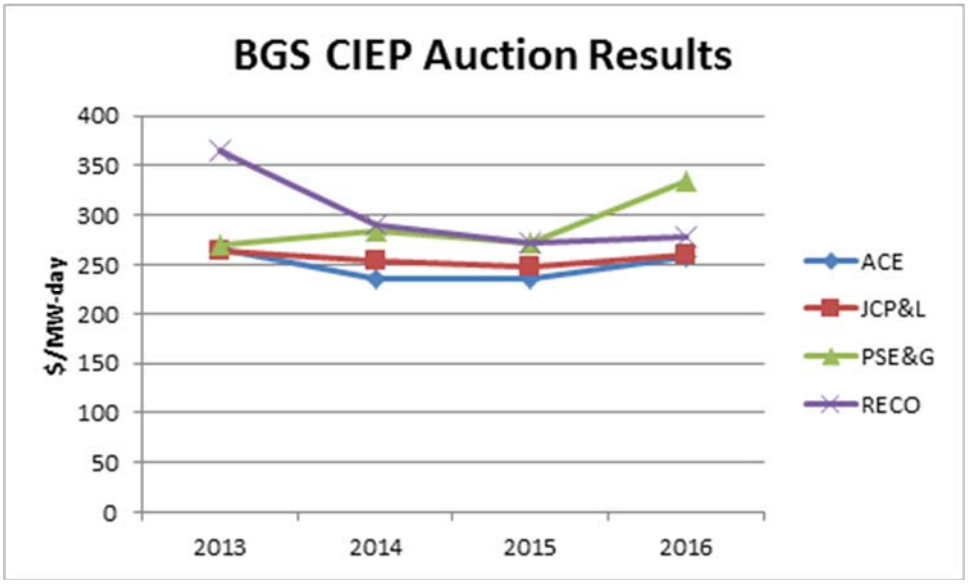


[2] The NJ BGS auctions are on a rolling three-year schedule with one-third of the obligation determined in annual auctions for a supply period of three years. This means that each year's supply cost is the average of three auction results and are referred to as laddered prices. This reduces the year to year volatility that might occur with shorter periods.

1.2. BGS CIEP Auction

The BGS CIEP auction results have been fairly stable both in aggregate and by utility over the last several years. PSE&G prices were in line with the other utilities in the previous auctions, but increased in 2016. They are now about 25 percent above the other utilities, similar to our observations for the BGS-RSCP results. The price trend is shown in the figure below.

Figure 4. Historical utility CIEP auction results



2. ANALYSIS OF UTILITY DIFFERENCES

2.1. BGS RSCP Auction

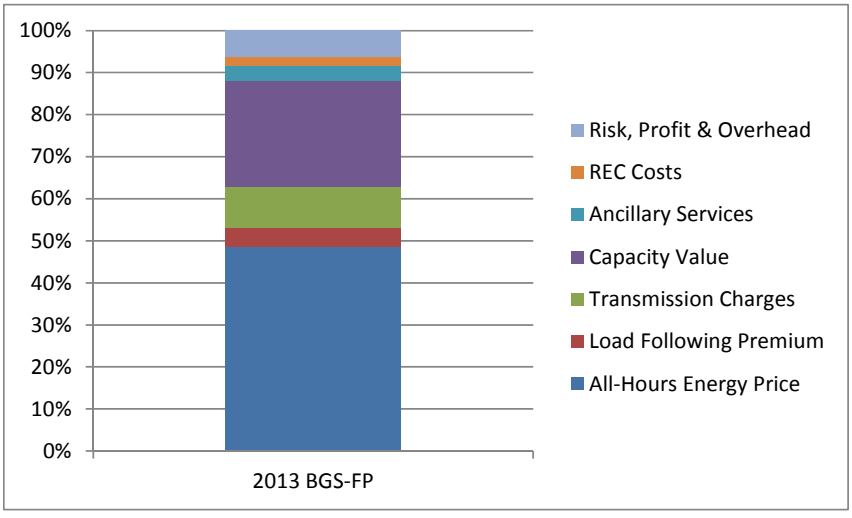
Since the BGS RSCP product includes multiple components, it is difficult to untangle the relative importance of the various components.

> *The winners of the BGS-RSCP Auction become BGS-RSCP suppliers and are responsible for fulfilling all the requirements of a PJM Load Serving Entity (LSE) including capacity, energy, ancillary services, transmission, and any other service as may be required by PJM. Suppliers assume any migration risk and must also satisfy the state's renewable portfolio standards.*[3]

The product components can be broken out into the following categories, which we will investigate as possible sources of the variances between the LDC utility price results. Some of these are more important than others: Figure 5, derived from our composite analysis of the 2013 BGS-FP auction, shows how these components compare.[4]

1. Wholesale energy prices
2. Load-following premium
3. Capacity prices corresponding to peak loads
4. Transmission service corresponding to peak loads
5. Ancillary services
6. Renewable requirements
7. Profit & overhead

Figure 5. Estimated breakout of composite 2013 BGS-FP auction results



[3] From http://bgs-auction.com/bgs.auction.overview.asp

[4] Developing a similar breakout for the 2016 auction is beyond the scope of the current study.

Energy Price Comparisons

Energy prices are the largest component of the RSCP product. Thus we looked for any divergence in those prices between the PJM utilities that would explain the differences in the auction results. To explore that issue we examined the 2015 PJM Locational Market Prices (LMP).

Our analysis of the 2015 PJM day-ahead prices indicates that the energy price differences between the NJ utilities are only a couple of percent relative to the NJ HUB. Both PSE&G and RECO are slightly above the NJ Hub average, while ACE and JCP&L are a little below.

Table 2. PJM day ahead wholesale prices in 2015

LMP Monthly Day-Ahead LMP Averages ($/MWh)							
Month	WESTERN HUB	EASTERN HUB	NJ HUB	ACE	JCP&L	PSE&G	RECO
Jan	38.62	47.22	44.83	41.50	44.60	45.71	44.60
Feb	75.79	103.22	100.51	98.33	97.28	104.16	104.82
Mar	39.88	40.43	39.79	38.74	37.97	41.66	44.04
Apr	32.99	27.22	27.56	26.62	27.23	28.08	27.77
May	34.74	42.22	31.86	32.48	31.67	31.84	31.52
Jun	31.57	27.63	25.44	25.87	25.26	25.50	25.56
Jul	34.07	29.73	27.86	29.04	27.46	27.89	28.03
Aug	30.45	27.95	27.09	27.33	26.88	27.23	27.39
Sep	30.25	31.99	27.69	27.10	26.75	28.60	28.75
Oct	31.46	27.26	25.23	24.86	25.14	25.41	25.58
Nov	27.73	30.02	21.81	21.84	21.58	21.99	22.13
Dec	25.42	25.90	19.10	19.17	18.79	19.44	19.78
Annual	**35.81**	**37.97**	**34.46**	**33.98**	**33.80**	**35.17**	**35.37**
		Annual Difference from NJ Hub		**-0.48**	**-0.66**	**0.71**	**0.91**
		% Difference		-1.4%	-1.9%	2.1%	2.6%

This data suggest that wholesale energy price differences are not a primary driver behind the higher auction prices for PSE&G.

Wholesale energy prices, in spite of some peak winter periods, have been relatively stable since 2012. For example, the all-hours day-ahead average for the NJ Hub was $48.97/MWh in 2011, went down by 30 percent to $34.47/MWh in 2012, and was nearly identical at $34.46/MWh in 2015.[5]

We need to note that the BGS auctions are forward-looking, and thus current year results are not fully appropriate for predicting the future. But since we are looking at the differences between utilities, future relative differences are likely to be reflected in the historical data.

[5] Looking forward, the PJM electricity futures are essentially flat for the next five years.

Load-Following Premium

All four NJ utilities have similar climatic and infrastructure situations. We ask the question: Are there significant differences in their residential and small commercial load patterns?

The following table, based on three years of load data available at the BGS auction site,[6] indicates that PSE&G has the best load factor[7] for the BGS load and thus should have the lowest load-following premium with all else being equal. Load factors for ACE & JCP&L are a little lower and the premium should be slightly higher for these two EDCs. RECO has the lowest load factor[8] and thus should pay the highest premium, which probably explains why RECO BGS prices are higher than for ACE and JCP&L (see Table 1).

Note also that the BGS loads have lower load factors than the (total) retail load, indicating the general shift of larger more base-loaded customers to third-party suppliers. The December 2015 BGS bidder presentation indicated that 29 percent of RSCP load had migrated to other suppliers.[9] This is significant but substantially less than the 86 percent of the CIEP load that has migrated.

Table 3. LDC Load Factors

RSCP Load Factors (2013-2015)

Utility	BGS Load	Full Retail Load
ACE	39%	
JCP&L	39%	45%
PSE&G	42%	51%
RECO	33%	

[6] http://bgs-auction.com/bgs.dataroom.asp

[7] Load factor is the ratio of the average to the peak load. Lower numbers indicate that the load is more variable and thus likely requires greater use of expensive peak resources. Higher load factors indicate lower costs.

[8] It also has the smallest load, representing just 3 percent of the RSCP load total.

[9] Slide 14 of BGS Bidder Information Material, December 4, 2015.

Capacity Prices

PJM capacity market prices are basically the same for all the NJ utilities, which fall into the EMAAC zone. Differences do play out however in terms of peak load requirements. The lower the load factor, the greater the capacity cost component of the RSCP prices. As shown in Figure 5 above, capacity costs are the second major component of the BGS prices. Based on the results of the PJM RPM auction for the 2018/2019 delivery year with a capacity price of $225.42 (per MW-day) for EMAAC, the capacity costs for the LDCs work out with PSE&G being the lowest by about 0.6 cents/kWh.

However, the three-year capacity cost estimates provided in the BGS bidder materials tell a slightly different story.[10] Here the capacity costs are greatest for PSE&G and lowest for JCP&L. [11]

Table 4. Pricing inputs from BGS bidder materials

		PSE&G	JCP&L	ACE	RECO[7]
Off-peak/peak price ratio	Summer	0.6295			
	Winter	0.7078			
Peak zone congestion factor	Summer	1.03	1.03	1.04	1.02
	Winter	1.16	1.09	1.06	1.16
Off-peak zone congestion factor	Summer	1.02	1.01	1.02	1.01
	Winter	1.14	1.08	1.07	1.13
Capacity cost[8] ($/MW-day)	Summer	189.41	118.73	151.54	151.54
	Winter	189.41	118.73	151.54	151.54
Ancillary services cost ($/MWh)		3.00	3.00	3.00	3.00
Network Transmission ($/MW-year)		69,566.84	**[9]	34,495	32,114

The calculations showing the estimated BGS RSCP effects using these two capacity cost values are shown below. In one case the PSE&G capacity costs are the lowest, in the other case the second highest. But in either case, the capacity costs do not appear to be the reason for the higher PSE&G auction results.

Table 5. BGS RSCP LDC capacity cost estimates

		Capacity Cost Effects (cents/kWh)	
Utility	BGS Load Factor	PJM RPM 2018/2019	BGS Bidder Information
ACE	39%	2.41	1.62
JCP&L	39%	2.41	*1.27*
PSE&G	42%	2.24	1.88
RECO	33%	2.85	1.92

[10] From http://bgs-auction.com/documents/2_RSCP_Auction_Information_04_DEC_2015.pdf

[11] JCP&L only represents 2016/2017 RPM costs.

Transmission Services

In general, one might expect transmission costs to be similar for the NJ EDCs. But that does not appear to be the case. As shown in Table 4 above from the BGS bidder materials, the Network Transmission costs ($/MW-year) are significantly greater for PSE&G at $69,567 compared to $34,495 for ACE and $32,114 for RECO.[12]

While it is not entirely clear how this gets reflected in the auction results, these higher costs could account for a **1 cent/KWh** difference in the RSCP auction results. This would be offset a little by the higher PSE&G load factor. This also appears to be a major factor in the CIEP results discussed below in section 3.2. The transmission costs appear to be the primary source of the higher PSE&G auction prices.

Ancillary Services

As shown in the Table 4, ancillary service costs are expected to be the same for all the LDCs.

Renewable Requirements

The renewable requirements are a NJ standard and the same for all the utilities. Three of the utilities (ACE, JCP&L and PSE&G) do provide some of those requirements from their committed resources. But, based on a review of the submitted material, that is not significant compared to the total requirements which are the responsibility of the BGS suppliers.

Profit and Overhead

All of the NJ LDCs are of similar financial standing and there are unlikely to be any significant differences in this component of the BGS auction prices.

[12] The Network Transmission costs are determined by PJM and available via the Open Access Transmission Tariff (OATT).

2.2. CIEP Auction

The CIEP auction is basically for capacity and related services. The following table from the BGS CEIP Bidder Information Report[13] presented in December 2015 shows that transmission service costs have been significantly higher for PSE&G compared to the other utilities. Although this report does not provide future prices, recent year prices have been much higher for PSE&G than for other utilities.

Table 6. Firm transmission service rates ($/MW-day), 2013-2015

	2015	2014	2013
PSE&G	199.15	152. 66	115.85
JCP&L	41.40	41.40	41.40
ACE	87.81	78.15	73.79
RECO	87.98	87.98	87.98

On January 8, 2016 the following transmission service rates were published on the BGS website:

The rates for Firm Transmission Service for each of the Electric Distribution Companies ("EDCs") for purposes of the 2016 Supplier Master Agreements will be the following:[14]

Table 7. Firm transmission service rates ($/MW-day), 2016

EDC	*Rate for Firm Transmission Service ($/MW-day)*
PSE&G[1]	*225.45*
JCP&L	*41.40*
ACE[2]	*111.29*
RECO	*87.98*

In the BGS-CIEP Supplier Master Agreement, these rates correspond to the Transmission Charge for each EDC. In the BGS-RSCP Supplier Master Agreement, these rates correspond to the baseline Firm Transmission Rate against which changes will be calculated.

This confirms higher prices for PSE&G going forward. Using a nominal 40 percent load factor, this translates into 2.35 cents/kWh for PSE&G, 0.43 cents/kWh for JCP&L and 1.16 cents/kWh for ACE. These

[13] http://bgs-auction.com/documents/3_CIEP_Auction_Information_04_DEC_2015.pdf

[14] Posted on January 8, 2016 at BGS website: http://bgs-auction.com/bgs.press.annc.item.asp?anncId=516.

differences confirm that the most likely reason for higher BGS RSCP and CIEP auction prices are because of transmission costs.

2.3. Transmission Investments

A look at the PJM State of the Market (SOM) report for 2015[15] reveals that baseline transmission upgrades in PSE&G have been much greater than for other NJ utilities. Approved transmission upgrades in 2015 were $320.2M for PSE&G, $28.0M for JCP&L, $0 for RECO, and not given for ACE. Previous SOM reports don't provide this utility-level detail, but it's reasonable to expect that the transmission upgrades have been continuing for a number of years. This provides confirmation of one of the reasons for higher transmission costs in PSE&G.

PSE&G has put into service, or is in the process of constructing, on the order of $5 billion in reliability improvements in transmission. These include improvements storm hardening following Hurricane Sandy, conversions of existing 138 kV circuits to 230 kV, and similar conversions from 138kV to 345kV. The new 500 kV line from Pennsylvania into the Roseland substation was placed in service in 2015. There are on the order of 8-10 relatively major projects either in service or under construction at this time. Accounting for the costs of transmission, the manner in which PSE&G is allowed to recover transmission costs pursuant to FERC-approved rates, and PSE&G's total load (to which transmission is charged), a roughly 1 cent per kWh "adder" to BGS costs is of the right order of magnitude.

The need for this transmission is at least in part because PJM's peak load forecasts for transmission planning during the period leading up to these projects' approvals excluded the peak-load-reducing effects of NJ CEP energy efficiency projects. This is due to the exclusion by NJ CEP in offering peak energy savings into earlier PJM RPM auctions, and thus it also did not get considered in transmission forecast planning. Recent changes to PJM's incorporation of energy efficiency into transmission planning forecasts will likely mitigate this concern going forward. The planning for these assets also pre-dates the ongoing impact of solar PV-based reductions to peak NJ load. Lastly, at least some portion of the completed or under-construction transmission upgrades is likely needed due to real requirements to replace aging transmission equipment in eastern New Jersey.

[15] From Table 12-23, http://monitoringanalytics.com/reports/PJM_State_of_the_Market/2015.shtml

2.4. Winning Bidders

It may or may not be relevant that the biggest winner in the 2015 BGS-FP auction in the PSE&G territory was an affiliate of PSE&G.[16]

The 2015 BGS Auctions

The BGS-FP[1] Auction began on February 9, 2015 and finished on February 10, 2015 after seventeen (17) rounds. The minimum starting price was 13.5¢/kWh and the maximum starting price was 18.0¢/kWh. The results of the 2015 BGS-FP Auction were as follows:

Table 1. 2015 BGS-FP Auction Results

Statewide Load Cap: 21 tranches

EDC	FP Peak Load Share (MW)	Tranches Available (Load Cap)	Final Price (¢/kWh)	Winning Bidders by EDC	Number of Tranches Won
PSE&G	2,760.71	29 (14)	9.954	BP Energy Company	2
				BTG Pactual Commodities (US) LLC	2
				DTE Energy Trading, Inc.	1
				Exelon Generation Company, LLC	3
				Macquarie Energy LLC	2
				PSEG Energy Resources & Trade LLC	12
				TransCanada Power Marketing Ltd.	7

[16] http://bgs-auction.com/documents/2015_BGS_Auction_Results.pdf

3. SUMMARY AND CONCLUSION

Based on the analysis of the information available for the recent BGS RSCP and CEIP auctions, it appears that the higher prices for the PSE&G territory are related to significantly higher transmission charges compared to the other NJ EDC utilities. These increased transmission charges likely account for at least a one cent/kWh difference.

Another finding of our analysis is that the auction process can be easily improved through more transparent reporting: One of the problems with the BGS auction process is that many components of electricity supply are combined into a single product so that it becomes hard to understand what factors are driving the auction results. Although the PJM energy and capacity markets are well studied and fairly transparent, other components of the BGS product such as transmission and renewables are more obscure.

APPENDIX A – PJM ELECTRICITY PRICE COMPONENTS

The 2015 PJM State of Market (SOM) report[17] breaks down overall electricity prices by component. As expected energy represents about 64 percent of the cost, with capacity second at 20 percent, but transmission is not far behind at close to 14 percent. These are, of course, PJM averages and do not include other costs that are included in the BGS-RSCP bundle such as renewable requirements. But it does indicate the importance of transmission costs.

Table 9 Total price per MWh by category: 2014 and 2015

Category	2014 $/MWh	2014 Percent of Total	2015 $/MWh	2015 Percent of Total	2014 to 2015 Percent Change Totals
Load Weighted Energy	$53.14	74.2%	$36.16	63.6%	(31.9%)
Capacity	$9.01	12.6%	$11.12	19.6%	23.5%
Transmission Service Charges	$5.95	8.3%	$7.08	12.5%	19.0%
Transmission Enhancement Cost Recovery	$0.42	0.6%	$0.51	0.9%	19.2%
PJM Administrative Fees	$0.44	0.6%	$0.44	0.8%	0.1%
Energy Uplift (Operating Reserves)	$1.18	1.6%	$0.38	0.7%	(67.7%)
Reactive	$0.40	0.6%	$0.37	0.7%	(6.0%)
Regulation	$0.33	0.5%	$0.23	0.4%	(28.8%)
Capacity (FRR)	$0.20	0.3%	$0.13	0.2%	(38.7%)
Synchronized Reserves	$0.21	0.3%	$0.12	0.2%	(41.4%)
Day Ahead Scheduling Reserve (DASR)	$0.05	0.1%	$0.10	0.2%	115.5%
Transmission Owner (Schedule 1A)	$0.09	0.1%	$0.09	0.2%	1.2%
Black Start	$0.08	0.1%	$0.06	0.1%	(15.5%)
NERC/RFC	$0.02	0.0%	$0.03	0.0%	19.5%
Non-Synchronized Reserves	$0.02	0.0%	$0.02	0.0%	2.1%
Load Response	$0.02	0.0%	$0.02	0.0%	(15.2%)
RTO Startup and Expansion	$0.01	0.0%	$0.01	0.0%	(49.0%)
Transmission Facility Charges	$0.00	0.0%	$0.00	0.0%	134.6%
Emergency Load Response	$0.06	0.1%	$0.00	0.0%	(98.9%)
Emergency Energy	$0.01	0.0%	$0.00	0.0%	(100.0%)
Total	$71.62	100.0%	$56.86	100.0%	(20.6%)

[17] http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2015.shtml

APPENDIX B – UTILITY RATE FILINGS

After the BGS Auction the utilities file rate schedules with the NJ DPU. Although each utility organizes and presents things differently that does give some further insight into the auction results.

The PSE&G compliance filing of March 18, 2016 has the following information for the GLP and LPL-Sec customers which fall into the RSCP category. Below are some excerpts from that filing.

The all-hours energy charges vary by season but range between 6.5 to 7.0 cents/kWh. The second excerpt gives capacity and transmission charges. Here the costs are per kW and the capacity and transmission charges are about equal ($7.20 vs. $7.68). This indicates that transmission costs are of equal magnitude to capacity costs and therefore quite significant overall.

The PSE&G CIEP tarrifs are similar with capacity costs of $10.92 and transmission charges of $7.68, again indicating significant transmission-related costs (pages 5 & 6).

We also looked at the JCP&L compliance filing which has different rate structures. However they have a capacity charge of $7.90 and zero transmission charges. While this is only a high-level comparison, it does indicate higher transmission costs for PSE&G.

PSE&G Compliance Filing – Page 3 of 6

BGS ENERGY CHARGES:

Applicable to Rate Schedules GLP and LPL-Sec.

Charges per kilowatthour:

Rate Schedule	For usage in each of the months of October through May: Charges	For usage in each of the months of October through May: Charges Including SUT	For usage in each of the months of June through September: Charges	For usage in each of the months of June through September: Charges Including SUT
GLP	$ 0.065635	$ 0.070229	$ 0.065388	$ 0.069965
GLP Night Use	0.047578	0.050908	0.044495	0.047610
LPL-Sec. under 500 kW				
On-Peak	0.078243	0.083720	0.079857	0.085447
Off-Peak	0.047578	0.050908	0.044495	0.047610

The above Basic Generation Service Energy Charges reflect costs for Energy and Ancillary Services (including PJM Administrative Charges).

PSE&G Compliance Filing – Page 4 of 6

BGS CAPACITY CHARGES:

Applicable to Rate Schedules GLP and LPL-Sec.

Charges per kilowatt of Generation Obligation:

Charge applicable in the months of June through September	$6.7319
Charge including New Jersey Sales and Use Tax (SUT)	$7.2031
Charge applicable in the months of October through May	$6.7319
Charge including New Jersey Sales and Use Tax (SUT)	$7.2031

The above charges shall recover each customer's share of the overall summer peak load assigned to the Public Service Transmission Zone by the PJM Interconnection, L.L.C. (PJM) as adjusted by PJM assigned capacity related factors and shall be in accordance with Section 9.1, Measurement of Electric Service, of the Standard Terms and Conditions.

BGS TRANSMISSION CHARGES

Applicable to Rate Schedules GLP and LPL-Sec.

Charges per kilowatt of Transmission Obligation:

Currently effective Annual Transmission Rate for Network Integration Transmission Service for the Public Service Transmission Zone as derived from the FERC Electric Tariff of the PJM Interconnection, LLC	$ 82,516.44 per MW per year
PJM Seams Elimination Cost Assignment Charges	$ 0.00 per MW per month
PJM Reliability Must Run Charge	$ 0.00 per MW per month
PJM Transmission Enhancements	
Trans-Allegheny Interstate Line Company	$ 107.25 per MW per month
Virginia Electric and Power Company	$ 84.86 per MW per month
Potomac-Appalachian Transmission Highline L.L.C.	$ 15.15 per MW per month
PPL Electric Utilities Corporation	$ 56.28 per MW per month
American Electric Power Service Corporation	$ 10.54 per MW per month
Atlantic City Electric Company.	$ 11.77 per MW per month
Delmarva Power and Light Company	$ 6.75 per MW per month
Potomac Electric Power Company.	$ 11.37 per MW per month
Above rates converted to a charge per kW of Transmission Obligation, applicable in all months	$ 7.1806
Charge including New Jersey Sales and Use Tax (SUT)	$ 7.6832

The above charges shall recover each customer's share of the overall summer peak transmission load assigned to the Public Service Transmission Zone by the PJM Interconnection, L.L.C. (PJM) as adjusted by PJM assigned transmission capacity related factors and shall be in accordance with Section 9.1, Measurement of Electric Service, of the Standard Terms and Conditions. These charges will be changed from time to time on the effective date of such change to the PJM rate for charges for Network Integration Transmission Service, including the PJM Seams Elimination Cost Assignment Charges, the PJM Reliability Must Run Charge and PJM Transmission Enhancement Charges as approved by Federal Energy Regulatory Commission (FERC).