Technical Consultant's Final Report

To the Delaware Public Service Commission

Delmarva Power & Light's 2017 Request for Proposals for

Full Requirements Wholesale Electric Supply for Standard Offer Service

February 23, 2017

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I. Executive Summary

A. Introduction

The Delaware Public Service Commission (DE PSC) retained Liberty Consulting to monitor Delmarva Power & Light's (Delmarva) 2017 Request for Proposals (RFP) for Full Requirements Supply for its Standard Offer Service. Liberty presents this report to the DE PSC with its findings on the process and the auction results of the RFP.

Liberty is based in Lebanon, PA and has been providing regulatory consulting services to the energy industry since 1987. Its consultants are experts in electric utility operations and regulatory issues. Liberty has provided energy procurement monitoring services in multiple state jurisdictions and in a broad range of procurement formats.

B. Results

Overall, Delmarva's RFP was satisfactory and resulted in favorable prices relative to previous procurements. Participation was higher than previous levels, too, and resulted in a competitive bidding process. The RFP process was run successfully from start to finish, and the ultimate winning bids were consistent with expectations given regional market conditions.

Average winning bid prices for this RFP are shown in Table 1, along with the percentage change in price compared to last year's prices. ***Year over year, the weighted average auction prices were lower for every customer type. In fact, prices for all customer types achieved record lows.***

Table 1: Weighted Average Winning Bid Price ($/MWh)

Customer Type	2016	2017	Change	% Change
RSCI	$63.60	$58.21	($5.38)	-8.5%
MGS	$57.35	$54.70	($2.65)	-4.6%
LGS	$55.14	$51.71	($3.43)	-6.2%
GS-P	$55.82	$50.20	($5.62)	-10.1%

The customer bill impacts of the winning wholesale energy prices are estimated by Delmarva to be as follows in Table 2. More detail on these estimated impacts is provided in Section III: Auction Results & Prices.

Table 2: Estimated Average Monthly Customer Bill Impact[1]

Class	12/17/16	06/01/17	Change	% Change
R@1000 kWh	$139.37	$133.90	($5.47)	(3.9%)
SGS-ND	$114 - $417	$110 - $401	($3.94) - ($15.75)	(3.5%) - (3.8%)
MGS	$338 - $6,270	$329 - $6,080	($8.55) - ($190.75)	(2.5%) - (3.0%)
LGS	$6,303 - $69,255	$6,049 - $66,341	($254) - ($2,914)	(4.0%) - (4.2%)
GS-P	$711 - $131,195	$704 - $122,128	($7) - ($9,067)	(1.0%) - (6.9%)

C. Findings & Conclusions

Liberty monitored the auction process in its entirety. Pre-bid monitoring included reviews of announcements, bidder communication, bidder certification, bid system training, energy markets, and bid system performance. Bid day monitoring included live monitoring of the auction on-site, verification of bids, notification of winners, and contract signing.

Liberty has concluded that each element of entire process, including both the Tranche 1 and Tranche 2 auctions, was run professionally and resulted in bids that were consistent with expectations based on market conditions. Concerning the process and results, Liberty finds no areas in need of attention at this time.

II. RFP Overview

Since 2006, Delmarva has performed an RFP to procure wholesale energy to serve its Standard Offer Service (SOS) customers. SOS customers receive comprehensive default energy service from Delmarva vs. a non-utility, third party supply for generation. Each year, blocks of power to meet the SOS load are purchased from the winning bidders of this multi-tranche auction. The process consists of two tranches, in November/December and February, and a third, if needed. In this year's process, a third tranche was not needed. The final bid plans defining blocks were provided by Delmarva and are shown in Appendix 1 (Tranche 1) and Appendix 2 (Tranche 2).

Blocks are bid for Residential, Small Commercial and Industrial (RSCI), Medium General Service (MGS), Large General Service (LGS) and General Service-Primary (GS-P). Auctions for each block are held electronically with a web-based system provided by EnerNOC. Bidders apply for approval, and approved bidders are granted access to and training on the EnerNOC platform. Tables 3 and 4 display the quantity and size of each block by customer class for Tranche 1 and 2, respectively.

[1] These comparisons are estimates and are subject to change as the adjustments to transmission, Procurement Cost Adjustment, Renewable Energy Portfolio Standards, Qualified Fuel Cell Provider Projects-Renewable Capable Power Production, and Reasonable Allowance for Retail Margin are not included for the supply year beginning 6/1/2017.

Table 3: Tranche 1 Bid Plan

Service Type	Blocks	Block Size (MW)
Residential and Small Commercial & Industrial (RSCI)	3	49.8
Medium General Service – Secondary (MGS)	2	42.2
Large General Service – Secondary (LGS)	1	14.6
General Service Primary (GSP)	1	17.2

Table 4: Tranche 2 Bid Plan

Service Type	Blocks	Block Size (MW)
Residential and Small Commercial & Industrial (RSCI)	2	49.8
Medium General Service – Secondary (MGS)	1	42.2

One of the keys to a competitive RFP for power is active participation from power suppliers. In order to ensure adequate participation, Delmarva announces its RFP by issuing a press release to over 90 companies directly, and to media channels. As a result, eleven companies submitted an expression of interest in this RFP, and eight ultimately became eligible. Table 5 displays historical participation since 2010-11, up to and including this most recent auction.

Table 5: Bidder Participation

Participants	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
EOIs	12	17	13	17	15	11	12
Eligible Bidders	8	8	8	11	6	8	8
Actual Bidders	8	8	8	9	5	8	6

Table 6 lists the organizations who successfully bid (won) any of the blocks in Tranche 1 or 2. Three companies won blocks in this year's tranches as compared to five last year.

Table 6: Tranche 1 & 2 Winning Bidders

Company
DTE
Exelon
TransCanada

Table 7 displays the percentage of MWs served for the 2017 delivery period, which includes RSCI blocks won in the prior two years to be delivered in 2017.

Table 7: Suppliers for 2017 Delivery Period by Percent Load Served

Supplier	RSCI	MGS	LGS	GS-P
BTG Pactual	6.6%			
DTE	13.0%			
Exelon	35.1%	100%	100%	100%
TransCanada	45.3%			
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

The results in Table 7 show reasonable diversity in the *number* of suppliers, with 4 different companies serving the RSCI load.

III. Auction Results & Prices

A. Bid Activity

In both Tranche 1 and Tranche 2, participation was adequate and resulted in competitive auctions. The auction process itself promotes competition due to EnerNOC's auction platform. It provides real-time bidder feedback to induce competitive bidding behavior. The bid activity for Tranche 1 and Tranche 2 is displayed in Tables 8 and 9, respectively.

Table 8: Tranche 1 Bid Activity

Class/Block	Bidders	Bids
RSCI - Block 1	5	11
RSCI - Block 2	5	10
RSCI - Block 3	6	10
MGS - Block 1	5	14
MGS - Block 2	5	12
LGS	3	6
GSP	2	5

Table 9: Tranche 2 Bid Activity

Class/Block	Bidders	Bids
RSCI - Block 1	5	15
RSCI - Block 2	5	16
MGS	5	18

B. Prices

Winning bid prices for the last four years for each block are provided in Table 10, as well as the change in 2017 vs. the year they replace. The RSCI class averaged $58.21 per MWh, which reflects a 21.8% decrease from the 2014 auction prices that they replace. MGS, LGS, and GS-P prices were lower than those of 2016 by 4.6%, 6.2%, and 10.1%, respectively.

Table 10: Weighted Average Winning Bid Prices ($/MWh)

Customer Class	2014	2015	2016	2017	Change	% Change[2]
RSCI	74.48	82.18	63.60	58.21	(16.27)	-21.8%
MGS	67.79	77.06	57.35	54.70	(2.65)	-4.6%
LGS	62.81	75.10	55.14	51.71	(3.43)	-6.2%
GSP	64.00	79.23	55.82	50.20	(5.62)	-10.1%

C. Rate Impacts

In an effort to gauge the impact of the most recent auction on its SOS customers, Delmarva has developed a model to calculate the estimated changes to average monthly customer bills by customer class. It is important to note that these are estimates and should not be construed as exact or guaranteed results based only on the wholesale prices of the winning bids as described previously, and are displayed in Table 11. These results are consistent with the bid price results displayed in Table 10.

[2] Change and % Change reflect the differences in the 2017 RFP prices as compared to the year they replace. For RSCI, the 2014 year values are replaced, since RSCI uses a 3-year contract term. This also means that the 2017 RFP numbers replace only approximately one-third of the power used by RSCI, depending on actual block size.

Table 11: Estimated Average Monthly Bill Comparison

Class	12/17/16	06/01/17	Change	% Change
R@1000 kWh	$139.37	$133.90	($5.47)	(3.9%)
SGS-ND	$114 - $417	$110 - $401	($3.94) - ($15.75)	(3.5%) - (3.8%)
MGS	$338 - $6,270	$329 - $6,080	($8.55) - ($190.75)	(2.5%) - (3.0%)
LGS	$6,303 - $69,255	$6,049 - $66,341	($254) - ($2,914)	(4.0%) - (4.2%)
GS-P	$711 - $131,195	$704 - $122,128	($7) - ($9,067)	(1.0%) - (6.9%)

IV. Market Analysis

A. Overview

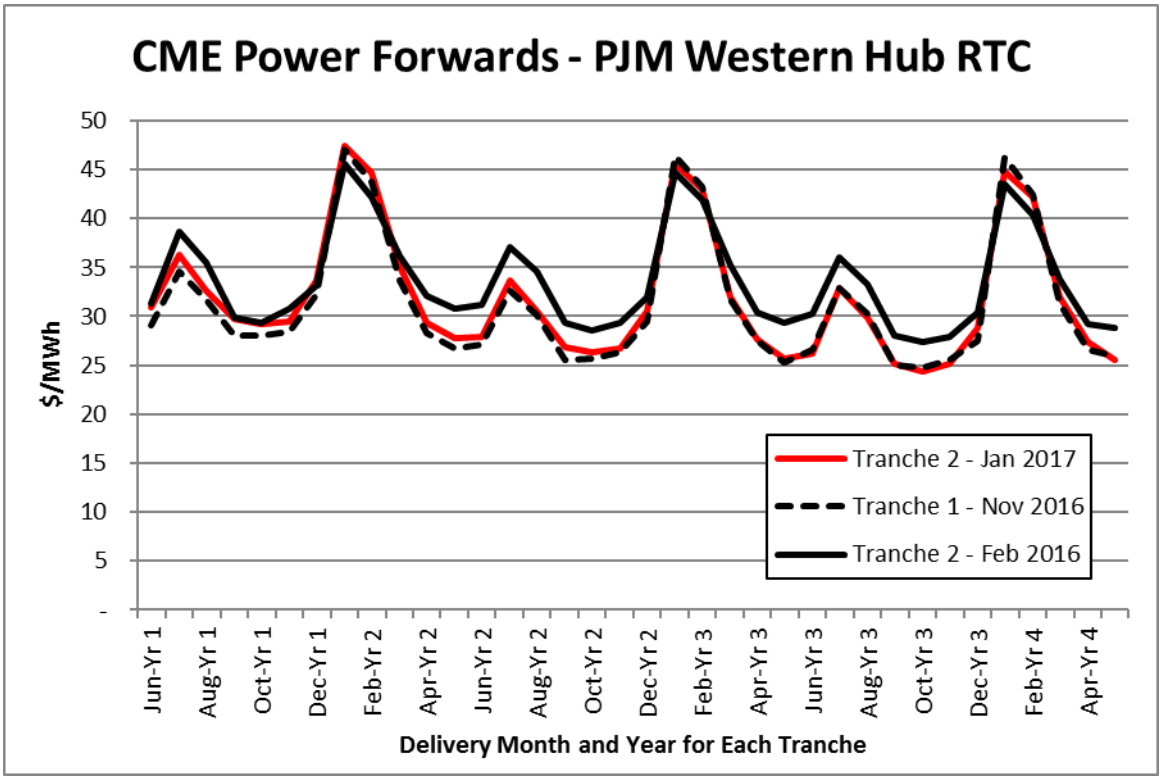
As stated earlier in this report, the winning bid prices reflected market conditions. Liberty has collected market information on energy, capacity, and fuel prices in order to assess the key drivers of bidder behavior.

B. Energy Market

The outlook for regional energy prices was only slightly higher in Tranche 2 as compared to Tranche 1. The market for energy in PJM is currently stable, and futures prices reflect seasonal patterns and growth rates that are to be expected.

Exhibit 1 displays round the clock (RTC) prices for the last three auction dates. It highlights the difference in energy price expectations between the tranches. **Clearly, forward prices for wholesale energy in PJM have decreased *year over year.*** This is consistent with the bid prices being lower than last year's prices. The source for all energy prices is CME Group NYMEX Futures.

Exhibit 1: Energy Forward Prices – PJM RTC Avg – Western Hub



C. Fuel Market Outlook

As an extension of Liberty's review of energy forwards, we also reviewed the underlying fuel markets that drive energy prices by assessing fuel forward markets. Liberty has reviewed forward prices for the primary fuel commodities in PJM—natural gas and coal. Exhibit 2 displays the outlook for gas prices at the Dominion Hub over the previous two tranches. Gas prices are consistent with PJM Western Hub energy prices, as shown when they are plotted together in Exhibit 3.

Exhibit 2: Dominion Hub Gas Forward Prices

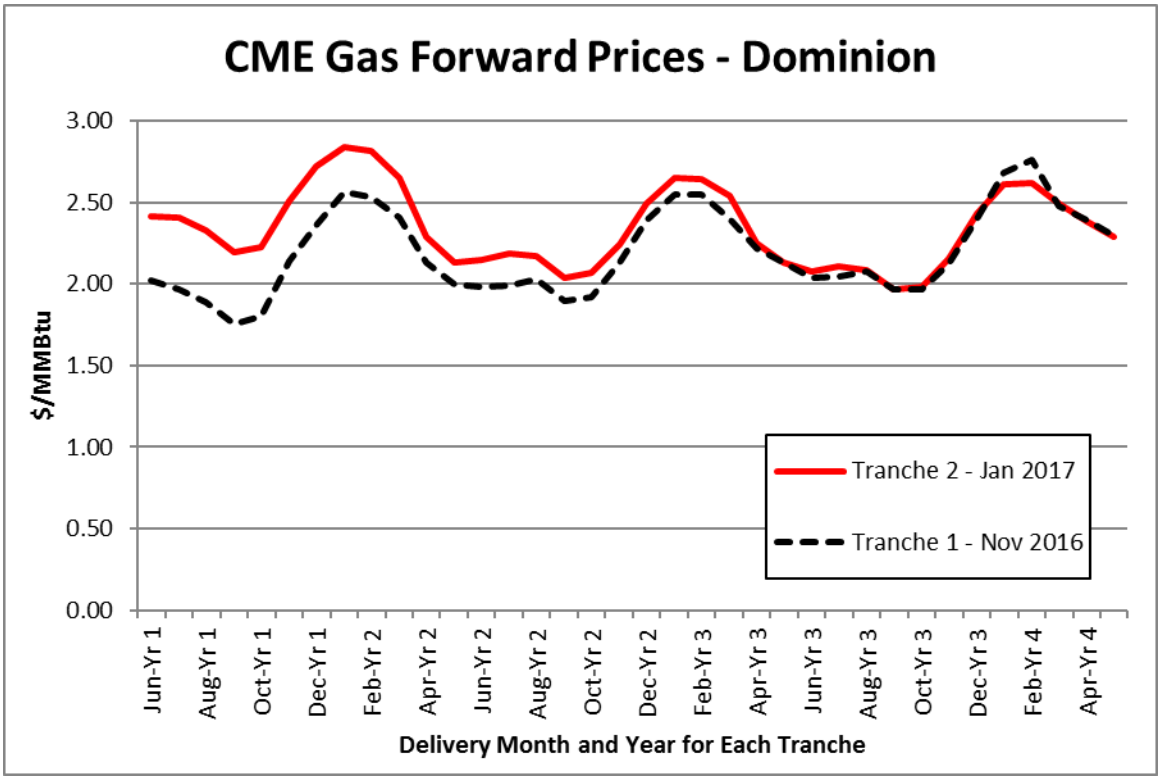


Exhibit 3: Gas Forward Prices vs. Power Forward Prices

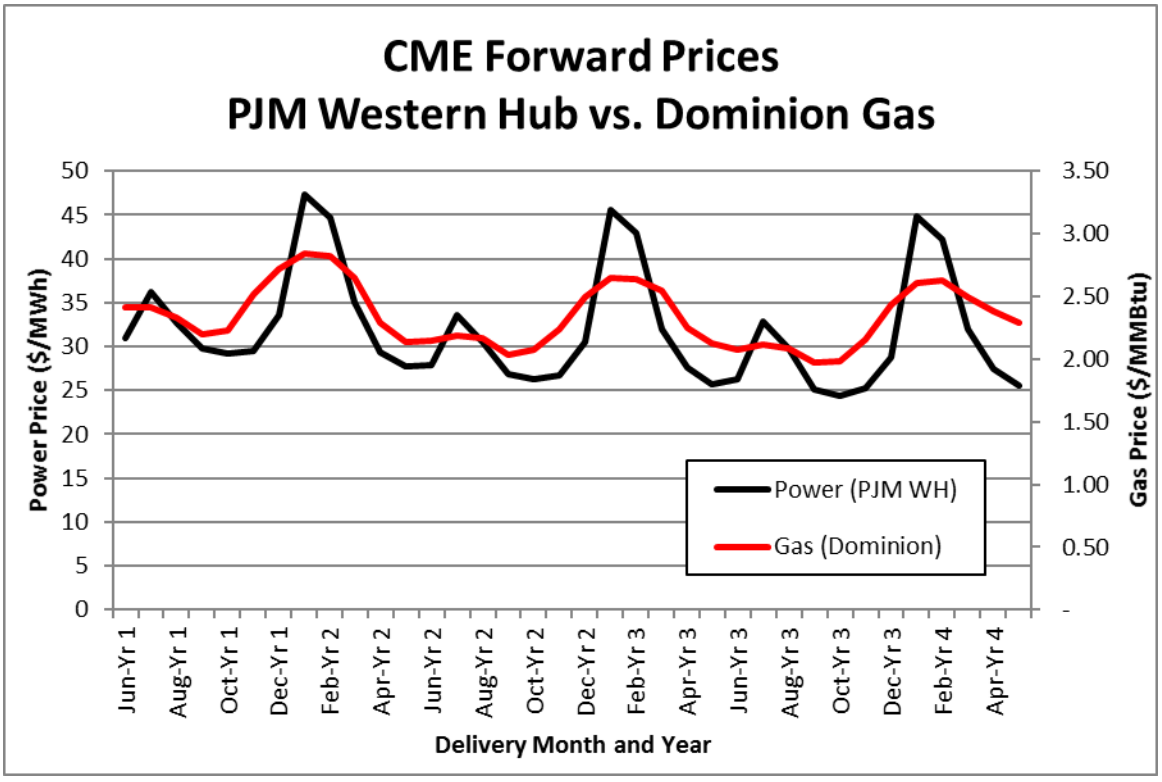
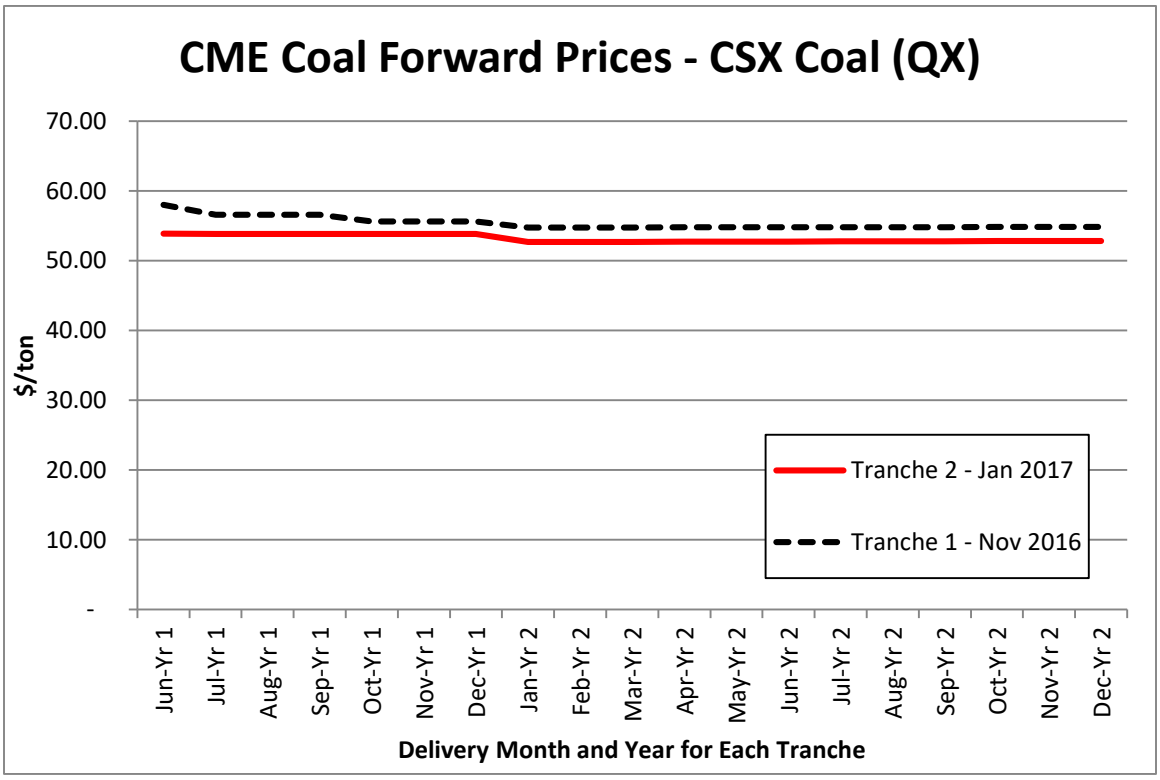


Exhibit 4 for displays coal prices from the last two tranches. The forward prices have declined slightly since Tranche 1, and are relatively flat. The source for all fuel prices is CME Group NYMEX Futures.

Exhibit 4: CSX Coal Forward Prices



D. Capacity Market

PJM is in the process of transitioning from its Reliability Pricing Model (RPM) capacity market to a Capacity Performance (CP) approach. Capacity auction prices ($/MW-day) have risen reflecting this shift towards stricter performances standards and higher penalties for not meeting these standards. Table 12 shows the capacity prices and how they affect each year and type of auction block. The prices for RSCI, based on three years, average $160.58 for this year's procurement, as compared to $176.97 last year, a decrease of 9.3%. The price applicable to MGS, LGS and GSP fell from $158.68 last year to $151.38, a decrease of 4.6%.

Table 12: Capacity Prices ($/MW-day)

Period	RSCI		MGS, LGS, GSP	
	2016	2017	2016	2017
2017	$158.68		$158.68	
2018	$149.13	$151.38		$151.38
2019	$223.09	$216.15		
2020		$114.21		
Average/applicable price	**$176.97**	**$160.58**	**$158.68**	**$151.38**

By raising the bar for the operational quality of capacity resources, capacity prices will face upward pressure in the future—the exact magnitude of which is still uncertain. Accordingly, suppliers account for the expected capacity prices by increasing their all-in bid prices.

It is worth noting how $/MW-day capacity auction prices translate to $/MWh SOS bid prices. The calculation is a function of the conversion factors between the two units and the load factor for each class (which change from year to year). For the DP&L classes this year, every $1 change in capacity auction prices translates to between $0.06-$0.09/MWh.

E. Ancillary Services Market

Ancillary service-related costs are reflected by the bidders, but do not make up a large portion of or impact on SOS prices. Ancillary services were essentially unchanged during this auction period, and are relatively insignificant when compared to Capacity and Energy prices. This parameter did not have a material impact on the auction results.

V. Process Analysis

Liberty was assigned the task of monitoring Delmarva's RFP process with respect to a number of specific administrative requirements. The following is an assessment of each area:

A. Notification of the RFP to the market place

In order to ensure adequate participation, Delmarva announces its RFP by issuing a press release to over 90 companies directly, and to media channels. This announcement is displayed in Appendix 3. It included basic information to prospective bidders and instructions for acquiring more information and registering on Delmarva's RFP website. As a result, 12 companies submitted an expression of interest in this RFP, 8 ultimately became eligible, and 6 bid on blocks. Liberty finds that this task was performed to expectations.

B. Information dispersal

Delmarva provided all materials for expressing interest and registering for the auction on its RFP website. Once approved, bidders were able to acquire all key administrative, technical, and schedule information. Liberty finds that information was disseminated appropriately and that the website, as a foundation for communication, worked according to plan.

Delmarva also held a webinar on the entire RFP process. The webinar included a review of changes since the previous RFP and instructions for all aspects of RFP participation. Liberty found that the webinar was run well and was informative.

C. Determination of applicant eligibility

Interested bidders were required to submit to Delmarva their Credit Application, Confidentiality Agreement, PJM certification, and FERC certification by the deadline. It was ultimately determined that 8 of the 12 interested parties became eligible to bid.

Liberty finds that this eligibility process was performed to standards.

D. Bid ranking

On the day of each auction tranche, each block is made available on consecutive 15-minute ending times, so as to allow bidders time to evaluate each offering. Each RSCI block was offered first, followed in order my MGS, LGS and finally the GS-P block (LGS and GS-P are only applicable to Tranche 1).

A Liberty consultant was present in Baltimore with Delmarva and EnerNOC representatives, and was joined by DE PSC staff by teleconference. After all of the blocks ended, Liberty reviewed each bid with Delmarva and confirmed the winning bid, the organization, and the price.

E. The awarding of transactions

After the completion of each tranche, and review between Delmarva and Liberty, Delmarva contacted each bidder. Winning bidders were notified and were provided with contracts reflecting their organization, bid size and winning bid price.

F. Full Requirements Service Agreement signing

Delmarva worked with each winning bidder to complete the Full Requirements Service Agreements, and provided copies of each executed agreement to Liberty for review. On the Thursday after each auction, Liberty presented the auction results to the DE PSC, and these were subsequently approved.

VI. Conclusions

Liberty has concluded that all processes, including both the Tranche 1 and Tranche 2 auctions, were run professionally and resulted in bids that were consistent with expectations based on market conditions.

Liberty finds no areas in need of attention at this time.

Appendix 1: Tranche 1 Final Bid Plan

Delmarva DE SOS RFP 2017
Final - Tranche 1

	as of:	11/21/2016
	SOS	Eligible
Service Type	**PLC (MW)**	**PLC (MW)**
Residential and Small Commercial & Industrial	249.1	281.4
Medium General Service -Secondary	125.9	260.2
Large General Service -Secondary	14.6	109.6
General Service - Primary	17.2	107.9
Total	**406.8**	**759.1**

	Contract Term		
Service Type	**12 Month**	**36 Month**	**Total**
	6/1/17-5/31/18	**6/1/17 - 5/31/20**	
Residential and Small Commercial & Industrial		100.0%	100.0%
Service Classifications: R, R-TOU, R-TOU-ND, R-TOU-SOP			
SGS-ND, SGS-SH, SGS-WH, OL, ORL, X.			
Approximate Total PLC		249.1	249.1
Block Size %		6.6667%	
Approximate Block Size (MW)		49.8	
Total Number of Blocks		5	
Tranche 1 blocks		3	
Tranche 2 blocks		2	
Medium General Service - Secondary	100.0%		100.0%
Service Classifications: MGS-S			
Approximate Total PLC	125.9		125.9
Block Size %	33.3333%		
Approximate Block Size (MW)	42.0		
Total Number of Blocks	3		
Tranche 1 blocks	2		
Tranche 2 blocks	1		
Large General Service - Secondary	100.0%		100.0%
Service Classifications: LGS-S			
Approximate Total PLC	14.6		14.6
Block Size %	100.0%		
Approximate Block Size (MW)	14.6		
Total Number of Blocks	1		
Tranche 1 blocks	1		
General Service - Primary	100.0%		100.0%
Service Classifications: GS-P			
Approximate Total PLC	17.2		17.2
Block Size %	100.0%		
Approximate Block Size (MW)	17.2		
Total Number of Blocks	1		
Tranche 1 blocks	1		

Appendix 2: Tranche 2 Final Bid Plan

Delmarva DE SOS RFP 2017
Final - Tranche 2

	as of:	1/23/2017
	SOS	**Eligible**
Service Type	**PLC (MW)**	**PLC (MW)**
Residential and Small Commercial & Industrial	249.2	281.8
Medium General Service -Secondary	126.6	260.4
Large General Service -Secondary	N/A	N/A
General Service - Primary	N/A	N/A
Total	**375.8**	**542.2**

	Contract Term		
Service Type	**12 Month**	**36 Month**	**Total**
	6/1/17-5/31/18	**6/1/17 - 5/31/20**	
Residential and Small Commercial & Industrial		100.0000%	100.0%
Service Classifications: R, R-TOU, R-TOU-ND, R-TOU-SOP			
SGS-ND, SGS-SH, SGS-WH, OL, ORL, X.			
Approximate Total PLC		249.2	249.2
Block Size %		6.6667%	
Approximate Block Size (MW)		49.8	
Total Number of Blocks		5	
Tranche 1 blocks		3	
Tranche 2 blocks		2	
Medium General Service - Secondary	100.0%		100.0%
Service Classifications: MGS-S			
Approximate Total PLC	126.6		126.6
Block Size %	33.3333%		
Approximate Block Size (MW)	42.2		
Total Number of Blocks	3		
Tranche 1 blocks	2		
Tranche 2 blocks	1		

Appendix 3: RFP Announcement

News Release

An Exelon Company

Contact: Nicholas Morici
Delmarva Power
302-333-7833

FOR IMMEDIATE RELEASE

Delmarva Power Issues RFP for Wholesale Electric Power for Delaware Customers

NEWARK, Del. (Oct. 7, 2016) – Delmarva Power today announced a Request for Proposals (RFP) to eligible vendors regarding the company's annual wholesale electric power supply procurement. The RFP will allow the company to meet its Standard Offer Service (SOS) obligation in the state of Delaware.

SOS is the market-based, fixed-price of electricity that Delmarva Power buys on behalf of its customers who do not purchase their electricity from competing retail suppliers and who do not choose the option of hourly-priced service.

Delmarva Power is requesting proposals to supply approximately 410 megawatts (MW) of electricity. Peak load contributions by customer class include approximately:

- 250 MW for the combined Residential, Small Commercial and Industrial (RSCI) customers
- 125 MW for the Medium General Service-Secondary (MGS-S) customers
- 15 MW for the Large General Service-Secondary (LGS-S) customers
- 20 MW for the General Service-Primary (GS-P) customers.

A pre-bid conference webinar for prospective bidders will be held on Oct. 12, 2016. The conference will review the bid schedule, the RFP process improvements, the Delmarva Power bid plan for its Delaware customers as well as answer questions about the power supply contract.

Additional details regarding the RFP or the pre-bid conference webinar can be found online at: www.delmarva.com/derfp.

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About Delmarva Power: Delmarva Power, a public utility owned by Exelon Corporation (NYSE: EXC), provides safe and reliable energy to more than 500,000 electric delivery customers in Delaware and Maryland and approximately 129,000 natural gas delivery customers in northern Delaware.