

**Technical Consultant's Final Report
To the Delaware Public Service Commission**

**Delmarva Power & Light's 2015-16 Request for Proposals for
Full Requirements Wholesale Electric Supply for Standard Offer Service**

March 8, 2016



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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) 2015-16 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	2014-15	2015-16	Change	% Change
RSCI	\$82.18	\$63.60	(\$18.58)	-22.6%
MGS	\$77.06	\$57.35	(\$19.71)	-25.6%
LGS	\$75.10	\$55.14	(\$19.96)	-26.6%
GS-P	\$79.23	\$55.82	(\$23.41)	-29.5%

The customer bill impact 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 Impact¹

Class	02/04/16	06/01/16	Change	% Change
RS	\$133.29	\$129.80	(\$3.49)	-2.6%
SGS-ND	\$100.74	\$96.85	(\$3.89)	-3.9%
MGS	\$1,379.91	\$1,129.94	(\$249.97)	-18.1%
LGS	\$64,197.26	\$51,133.35	(\$13,063.91)	-20.3%
GS-P	\$165,011.44	\$118,871.25	(\$46,140.19)	-28.0%

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, 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 6/1/2016.

Table 3: Tranche 1 Bid Plan

Service Type	Blocks	Block Size (MW)
Residential and Small Commercial & Industrial (RSCI)	3	52.3
Medium General Service – Secondary (MGS)	2	48.4
Large General Service – Secondary (LGS)	1	19.7
General Service Primary (GSP)	1	29.9

Table 4: Tranche 2 Bid Plan

Service Type	Blocks	Block Size (MW)
Residential and Small Commercial & Industrial (RSCI)	2	52.3
Medium General Service – Secondary (MGS)	1	48.4

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 2009, up to and including this most recent auction.

Table 5: Bidder Participation

Participants	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
EOIs	24	12	17	13	17	15	11
Eligible Bidders	11	8	8	8	11	6	8
Actual Bidders	9	8	8	8	9	5	8

Table 6 lists the organizations who successfully bid (won) any of the blocks in Tranche 1 or 2. It is worth noting that five companies won blocks in this year’s tranches. Last year only two of the six eligible bidders won at least one block.

Table 6: Tranche 1 & 2 Winning Bidders

Company
BTG Pactual
DTE
Exelon
NextEra
TransCanada

Table 7 displays the percentage of MWs served for the 2016-17 delivery period, which includes RSCI blocks won in the prior two years to be delivered in 2016-17.

Table 7: Suppliers for 2016-17 Delivery Period by Percent Load Served

Supplier	RSCI	MGS	LGS	GS-P
BTG Pactual	6.4%			
DTE	12.1%		100.0%	100.0%
Energy America	11.4%			
Exelon	45.2%	33.3%		
NextEra	0.0%	66.7%		
NRG	5.7%			
TransCanada	19.2%			
Total	100.0%	100.0%	100.0%	100.0%

The results in Table 7 show a high level of diversity in the *number* of suppliers, with 7 different companies serving the RSCI load. However, it is worth noting the amount of load that is served by Exelon. As of the 2015-16 delivery period, Exelon will serve over 45% of the RSCI load and 33% of the MGS load.

III. Auction Results & Prices

A. Bid Activity

In both Tranche 1 and Tranche 2, participation bounced back from a low turnout in the 2015 RFP, which resulted in a competitive auction. The auction process itself promotes competition due to EnerNOC's auction platform. It provides real-time bidder feedback to induce competitive bidding behavior. Tranche 2 participation was somewhat higher than that of Tranche 1. The bid activity for Tranche 1 and Tranche 2 are displayed in Tables 8 and 9, respectively.

Table 8: Tranche 1 Bid Activity

Class/Block	Bidders	Bids
RSCI - Block 1	7	27
RSCI - Block 2	7	18
RSCI - Block 3	7	18
MGS - Block 1	6	9
MGS - Block 2	6	10
LGS	5	9
GSP	5	8

Table 9: Tranche 2 Bid Activity

Class/Block	Bidders	Bids
RSCI - Block 1	7	19
RSCI - Block 2	7	16
MGS	6	10

B. Prices

Winning bid prices for the last four years for each block are provided in Table 10, as well as the change in 2015-16 vs. the year they replace. The RSCI class averaged \$63.60 per MWh, which reflects a 17.2% decrease from the 2012-13 auction prices that they replace. MGS, LGS, and GS-P prices were lower than those of 2014-15 by 25.6%, 26.6%, and 29.5%, respectively.

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

Customer Class	2012-13	2013-14	2014-15	2015-16	Change	% Change ²
RSCI	76.77	74.48	82.18	63.60	(13.17)	-17.2%
MGS	78.15	67.79	77.06	57.35	(19.71)	-25.6%
LGS	73.95	62.81	75.10	55.14	(19.96)	-26.6%
GSP	70.14	64.00	79.23	55.82	(23.41)	-29.5%

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 2015-16 RFP prices as compared to the year they replace. For RSCI, the 2012-13 year values are replaced, since RSCI uses a 3-year contract term. This also means that the 2015-16 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	02/04/16	06/01/16	Change	% Change
RS	\$133.29	\$129.80	(\$3.49)	-2.6%
SGS-ND	\$100.74	\$96.85	(\$3.89)	-3.9%
MGS	\$1,379.91	\$1,129.94	(\$249.97)	-18.1%
LGS	\$64,197.26	\$51,133.35	(\$13,063.91)	-20.3%
GS-P	\$165,011.44	\$118,871.25	(\$46,140.19)	-28.0%

IV. Market Analysis

A. Overview

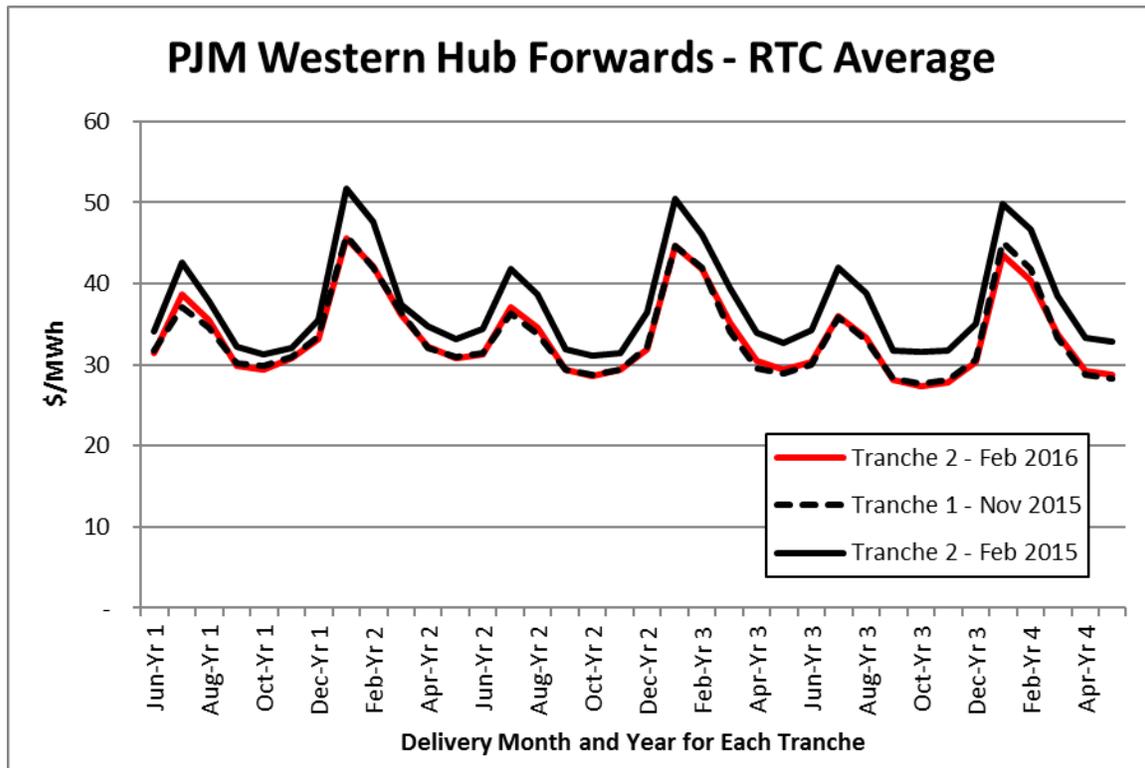
As stated earlier in this report, the winning bid prices reflected market conditions. Liberty has collected market information on energy, capacity, and fuel prices in order to assess the key drivers of bidder behavior.

B. Energy Market

The outlook for regional energy markets was virtually unchanged between Tranches 1 and 2. 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—and also for oil. Exhibit 2 displays the outlook for gas prices at Henry Hub, which has fallen when comparing prices as of February 2016 to the previous two tranches. The decrease is substantial throughout the delivery periods. This fuel price decrease is reflected in the PJM Western Hub energy prices, and is consistent with Exhibit 1.

Exhibit 2: Henry Hub Gas Forward Prices

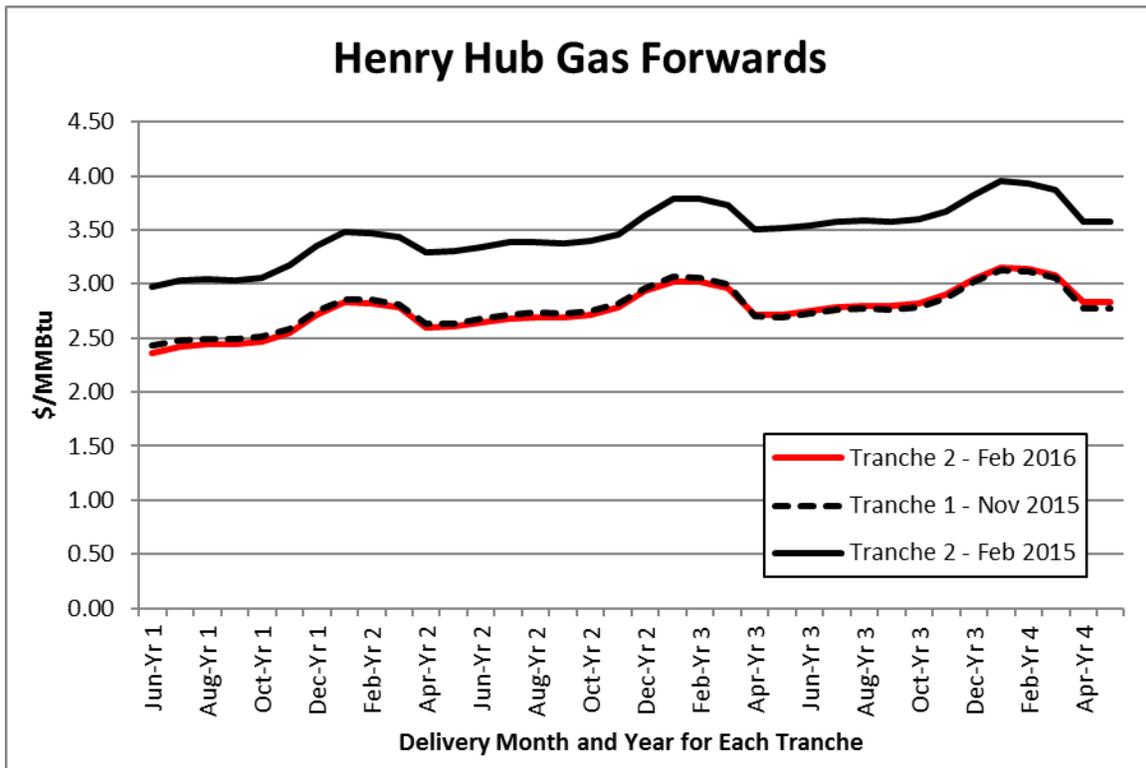


Exhibit 3 for coal displays that prices from February 2016 are slightly lower than in Tranche 1, and substantially lower than that of last year’s Tranche 2. Oil prices (Light Sweet Crude, Exhibit 4) have also declined substantially, since Tranche 1 and even more substantially from last year’s Tranche 2. Since oil-fired generation plays such a miniscule role in PJM, it does not have a major impact on wholesale energy prices. The source for all fuel prices is CME Group NYMEX Futures.

Exhibit 5: Central Appalachian Coal Forward Prices

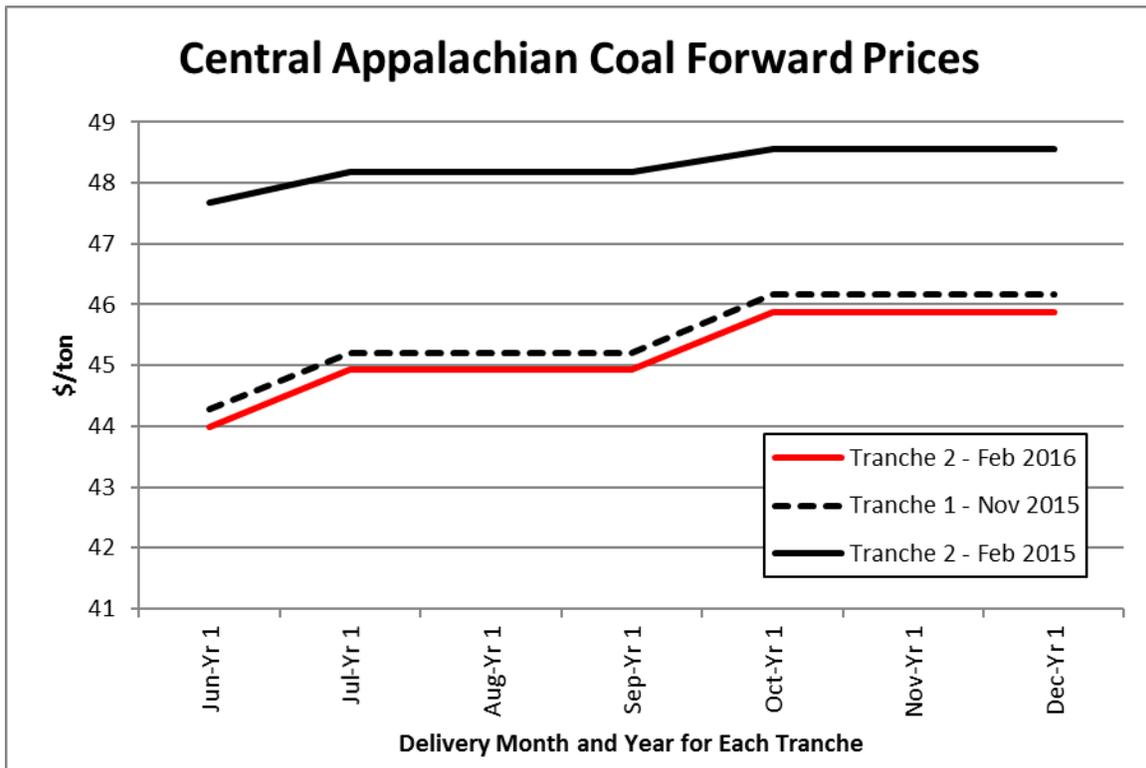
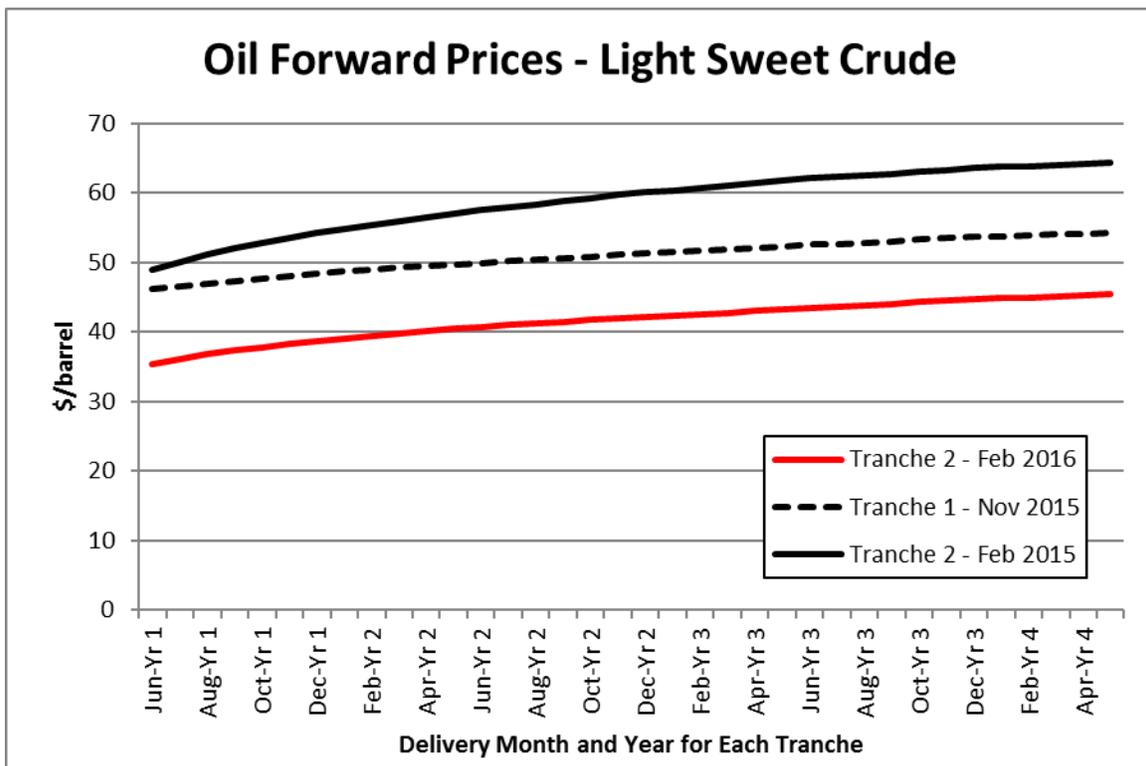


Exhibit 6: Crude Oil Forward Prices



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 \$176.97 for this year's procurement, as compared to \$134.89 last year, an increase of 31%. The price applicable to MGS, LGS and GSP fell from \$165.78 last year to \$158.68, a decrease of 4.3%.

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

Period	RSCI		MGS, LGS, GSP	
	2015	2016	2015	2016
2015-16	\$165.78		\$165.78	
2016-17	\$118.89	\$158.68		\$158.68
2017-18	\$120.00	\$149.13		
2018-19		\$223.09		
Average/applicable price	\$134.89	\$176.97	\$165.78	\$158.68

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, 11 companies submitted an expression of interest in this RFP, and 8 ultimately became eligible and 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 dispersed appropriately and that the website, as foundation for information dispersal, worked according to plan.

Delmarva also held a webinar with detailed information 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 11 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 a scattered 15-minute ending time, 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 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 other areas in need of attention at this time, and therefore makes no additional recommendations on areas in need of improvement.

Appendix 1: Tranche 1 Final Bid Plan

**Delmarva DE SOS RFP 2016
Final - Tranche 1**

as of: **11/23/2015**

<u>Service Type</u>	<u>SOS PLC (MW)</u>	<u>Eligible PLC (MW)</u>
Residential and Small Commercial & Industrial	260.9	295.7
Medium General Service -Secondary	145.9	281.1
Large General Service -Secondary	19.7	121.9
General Service - Primary	29.9	431.2
Total	456.4	1129.9

<u>Service Type</u>	<u>Contract Term</u>		<u>Total</u>
	<u>12 Month</u>	<u>36 Month</u>	
	6/1/16-5/31/17	6/1/16 - 5/31/19	
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		260.9	260.9
Block Size %		6.6667%	
Approximate Block Size (MW)		52.2	
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	145.9		145.9
Block Size %	33.3333%		
Approximate Block Size (MW)	48.6		
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	19.7		19.7
Block Size %	100.0%		
Approximate Block Size (MW)	19.7		
Total Number of Blocks	1		
Tranche 1 blocks	1		
General Service - Primary	100.0%		100.0%
Service Classifications: GS-P			
Approximate Total PLC	29.9		29.9
Block Size %	100.0%		
Approximate Block Size (MW)	29.9		
Total Number of Blocks	1		
Tranche 1 blocks	1		

Appendix 2: Tranche 2 Final Bid Plan

**Delmarva DE SOS RFP 2016
Final - Tranche 2**

as of: **1/25/2016**

<u>Service Type</u>	<u>SOS PLC (MW)</u>	<u>Eligible PLC (MW)</u>
Residential and Small Commercial & Industrial	261.7	295.8
Medium General Service -Secondary	145.2	281.3
Large General Service -Secondary	N/A	N/A
General Service - Primary	N/A	N/A
Total	406.9	577.1

<u>Service Type</u>	<u>Contract Term</u>		<u>Total</u>
	<u>12 Month</u> 6/1/16-5/31/17	<u>36 Month</u> 6/1/16 - 5/31/19	
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		261.7	261.7
Block Size %		6.6667%	
Approximate Block Size (MW)		52.3	
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	145.2		145.2
Block Size %	33.3333%		
Approximate Block Size (MW)	48.4		
Total Number of Blocks	3		
Tranche 1 blocks	2		
Tranche 2 blocks	1		

Appendix 3: RFP Announcement

FOR IMMEDIATE RELEASE | Sep. 30, 2015

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Delmarva Power Issues RFP for Wholesale Electric Power for Delaware Customers

NEWARK, Del. — Delmarva Power today announced a Request for Proposals (RFP) for wholesale electric power supplies to meet its Standard Offer Service (SOS) obligation in the state of Delaware. Standard Offer Service is the market-based, fixed-price electricity 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 445 megawatts (MW) of electricity. Peak load contributions by customer class include approximately 255 MW for the combined Residential, Small Commercial and Industrial customers; 140 MW for the Medium General Service-Secondary (MGS-S) customers; 20 MW for the Large General Service-Secondary (LGS-S) customers; and 30 MW for the General Service-Primary (GS-P) customers.

A pre-bid conference for prospective bidders will be held in late October. The conference will review the bid schedule, the RFP process improvements, the Delmarva Power bid plan for its Delaware customers and answer questions about the power supply contract.

MORE

The RFP is being issued in accordance with the Delaware Public Service Commission (DPSC) terms and conditions established in Docket 15-0889 (formerly Docket No. 04-391) for the competitive provision of electric service beginning on and after June 1, 2016. It is structured as a multi-phase bidding process with pre-bid preparation activities which started on Sep. 30, 2015. The first round of bidding will begin on Nov. 30, 2015 and the final round will conclude in early February 2016. The winning bidders will be awarded service contracts to supply electricity for Delmarva Power customers beginning on June 1, 2016. Further details regarding the RFP or the pre-bid conference can be found by visiting the RFP website: www.delmarva.com/derfp. The website will provide interested parties with additional contact information.

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