

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

**Delmarva Power & Light's 2014-15 Request for Proposals for  
Full Requirements Wholesale Electric Supply for Standard Offer Service**

**March 3, 2015**



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## Table of Contents

- I. Executive Summary ..... 3
  - A. Introduction ..... 3
  - B. Results ..... 3
  - C. Findings & Conclusions..... 4
- II. RFP Overview..... 4
- III. Auction Results & Prices..... 6
  - A. Bid Activity..... 6
  - B. Prices ..... 7
  - C. Rate Impacts..... 7
- IV. Market Analysis ..... 8
  - A. Overview ..... 8
  - B. Energy Market..... 8
  - C. Fuel Market Outlook ..... 10
  - D. Capacity Market ..... 13
  - E. Ancillary Services Market ..... 13
- V. Process Analysis..... 14
  - A. Notification of the RFP to the market place ..... 14
  - B. Information dispersal ..... 14
  - C. Determination of applicant eligibility..... 14
  - D. Bid ranking ..... 14
  - E. The awarding of transactions ..... 14
  - F. Full Requirements Service Agreement signing ..... 15
- VI. Conclusions..... 15
- Appendix 1: Tranche 1 Final Bid Plan..... 16
- Appendix 2: Tranche 2 Final Bid Plan..... 18
- Appendix 3: RFP Announcement ..... 20

## I. Executive Summary

### A. Introduction

The Delaware Public Service Commission (DE PSC) retained Liberty Consulting to monitor Delmarva Power & Light's (Delmarva) 2014-15 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 reasonable prices. The only major concern was the level of participation in the RSCI blocks, particularly in Tranche 1. Even then, though, the results were acceptable. 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 higher for every customer type.***

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

<b>Customer Type</b>	<b>2013-14</b>	<b>2014-15</b>	<b>Change</b>	<b>% Change</b>
<b>RSCI</b>	\$74.48	\$82.18	\$7.70	10.3%
<b>MGS</b>	\$67.79	\$77.06	\$9.27	11.9%
<b>LGS</b>	\$62.81	\$75.10	\$12.29	16.6%
<b>GS-P</b>	\$64.00	\$79.23	\$15.23	21.7%

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 Impact<sup>1</sup>**

<b>Class</b>	<b>02/25/15</b>	<b>06/01/15</b>	<b>Change</b>	<b>% Change</b>
<b>RS</b>	\$135.67	\$134.42	\$(1.25)	-0.9%
<b>SGS-ND</b>	\$102.67	\$102.14	\$(0.54)	-0.5%
<b>MGS</b>	\$1,251.82	\$1,369.95	\$118.13	9.4%
<b>LGS</b>	\$55,476.91	\$63,672.97	\$8,196.06	14.8%
<b>GS-P</b>	\$140,081.12	\$170,134.96	\$30,053.85	21.5%

## C. Findings & Conclusions

Liberty monitored the auction process in its entirety. Pre-bid monitoring included monitoring of announcements, bidder communication, bidder certification, bid system training, and bid system performance and market assessment. 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 World Energy. Bidders apply for approval, and approved bidders are granted access to and training on the World Energy platform. Tables 3 and 4 display the quantity and size of each block by customer class for Tranche 1 and 2, respectively.

<sup>1</sup> 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 6/1/2015.

**Table 3: Tranche 1 Bid Plan**

Service Type	Blocks	Block Size (MW)
Residential and Small Commercial & Industrial (RSCI)	3	45.9
Medium General Service – Secondary (MGS)	2	48.6
Large General Service – Secondary (LGS)	1	24.7
General Service Primary (GSP)	1	27.2

**Table 4: Tranche 2 Bid Plan**

Service Type	Blocks	Block Size (MW)
Residential and Small Commercial & Industrial (RSCI)	3	46.0
Medium General Service – Secondary (MGS)	1	49.0

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, fifteen companies submitted an expression of interest in this RFP, and six ultimately became eligible. Table 5 displays historical participation since 2008, up to and including this most recent auction.

**Table 5: Bidder Participation**

Participants	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
EOIs	26	24	12	17	13	17	15
Eligible Bidders	12	11	8	8	8	11	6
Actual Bidders	9	9	8	8	8	9	5

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

**Table 6: Tranche 1 & 2 Winning Bidders**

Company
DTE Energy Trading, Inc.
Exelon Generation Company, LLC

Table 7 displays the percentage of MWs served for the 2015-16 delivery period, which includes RSCI blocks won in the prior two years to be delivered in 2015-16.

**Table 7: Suppliers for 2015-16 Delivery Period by Percent Load Served**

Supplier	RSCI	MGS	LGS	GS-P
DTE Energy Trading	11.3%	33.3%	100.0%	
Energy America	11.1%			
Exelon	43.6%	66.7%		100.0%
Macquarie	11.4%			
NextEra	5.7%			
NRG	5.5%			
Shell	11.4%			
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

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 nearly 44% of the RSCI load, 67% of the MGS load, and 100% of the GS-P load.

### III. Auction Results & Prices

#### A. Bid Activity

In Tranche 1, participation was lower than in previous years, and this was particularly true of the RSCI blocks. While the number of participants was very low (2), the ultimate winning bids resulted in prices that were reflective of competitive market conditions. The auction process itself promotes competition due to World Energy's system. 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	2	5
RSCI - Block 2	2	4
RSCI - Block 3	2	3
MGS - Block 1	4	9
MGS - Block 2	4	9
LGS	3	5
GSP	3	5

**Table 9: Tranche 2 Bid Activity**

Class/Block	Bidders	Bids
RSCI - Block 1	3	11
RSCI - Block 2	3	9
RSCI - Block 3	3	7
MGS	4	12

## B. Prices

Winning bid prices for the last four years for each block are provided in Table 10, as well as the change in 2014-15 vs. 2013-14. The RSCI class averaged \$82.18 per MWH, which reflects a 1.0% decrease from the 2011-12 auction prices that they replace. MGS, LGS, and GS-P prices were higher than those of 2013-14 by 11.8%, 16.6%, and 21.7%, respectively.

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

Customer Class	2011-12	2012-13	2013-14	2014-15	Change	% Change <sup>2</sup>
RSCI	83.02	76.77	74.48	82.18	(0.84)	-1.0%
MGS	72.94	78.15	67.79	77.06	9.27	11.9%
LGS	71.97	73.95	62.81	75.10	12.29	16.6%
GSP	70.62	70.14	64.00	79.23	15.23	21.7%

## 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.

<sup>2</sup> Change and % Change reflect the differences in the 2014-15 RFP prices as compared to the year they replace. For RSCI, the 2011-12 year values are replaced, since RSCI uses a 3-year contract term. This also means that the 2014-15 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**

<b>Class</b>	<b>02/25/15</b>	<b>06/01/15</b>	<b>Change</b>	<b>% Change</b>
<b>RS</b>	\$135.67	\$134.42	\$(1.25)	-0.9%
<b>SGS-ND</b>	\$102.67	\$102.14	\$(0.54)	-0.5%
<b>MGS</b>	\$1,251.82	\$1,369.95	\$118.13	9.4%
<b>LGS</b>	\$55,476.91	\$63,672.97	\$8,196.06	14.8%
<b>GS-P</b>	\$140,081.12	\$170,134.96	\$30,053.85	21.5%

## 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 has changed somewhat between Tranche 1 and 2, with the latter being lower on a per MWh basis. 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 peak, off-peak and approximate round the clock (RTC) prices as of the Tranche 1 auctions. Exhibit 2 displays these prices as of the Tranche 2 auctions. Exhibit 3 displays monthly average RTC prices at the PJM Western Hub for both the Tranche 1 and Tranche 2 of the last two years. It highlights the difference in energy price expectations between the tranches. **Overall, forward prices for wholesale energy in PJM have increased year over year.** This is consistent with the bid prices being higher than last year's prices. The source for all energy prices is CME Group NYMEX Futures.



Exhibit 1: Energy Forward Prices – PJM Western Hub Tranche 1

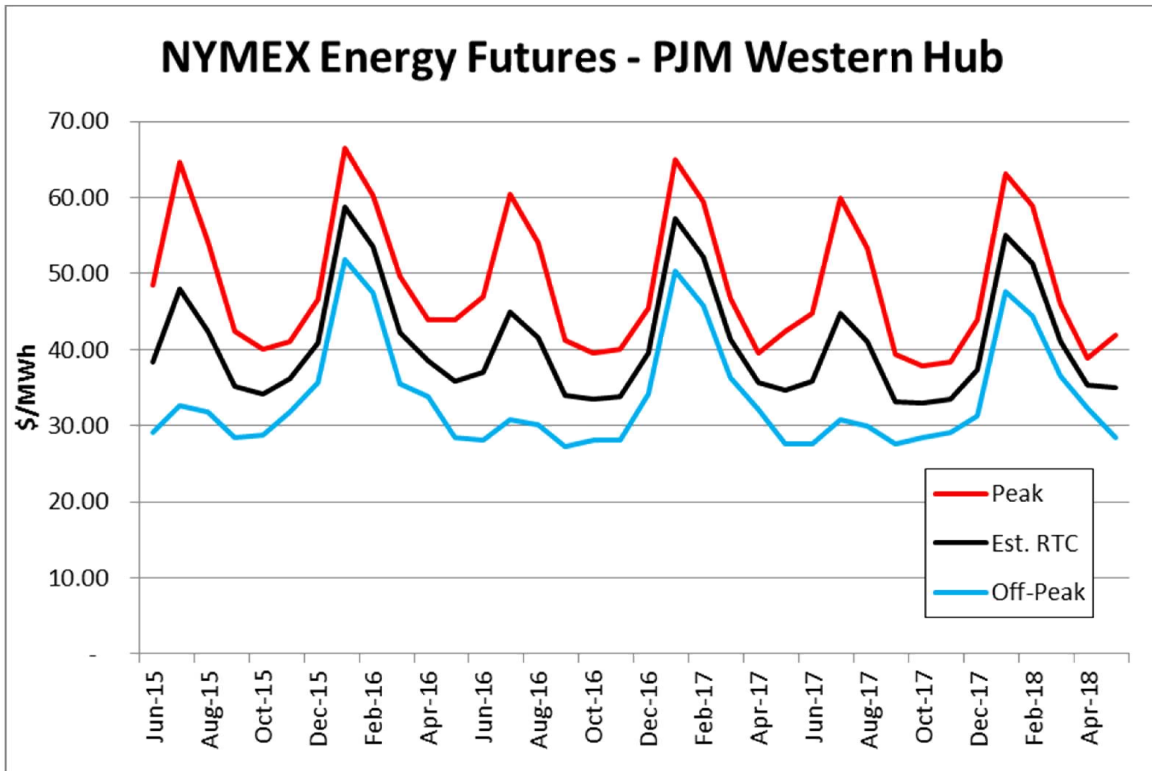


Exhibit 2: Energy Forward Prices – PJM Western Hub Tranche 2

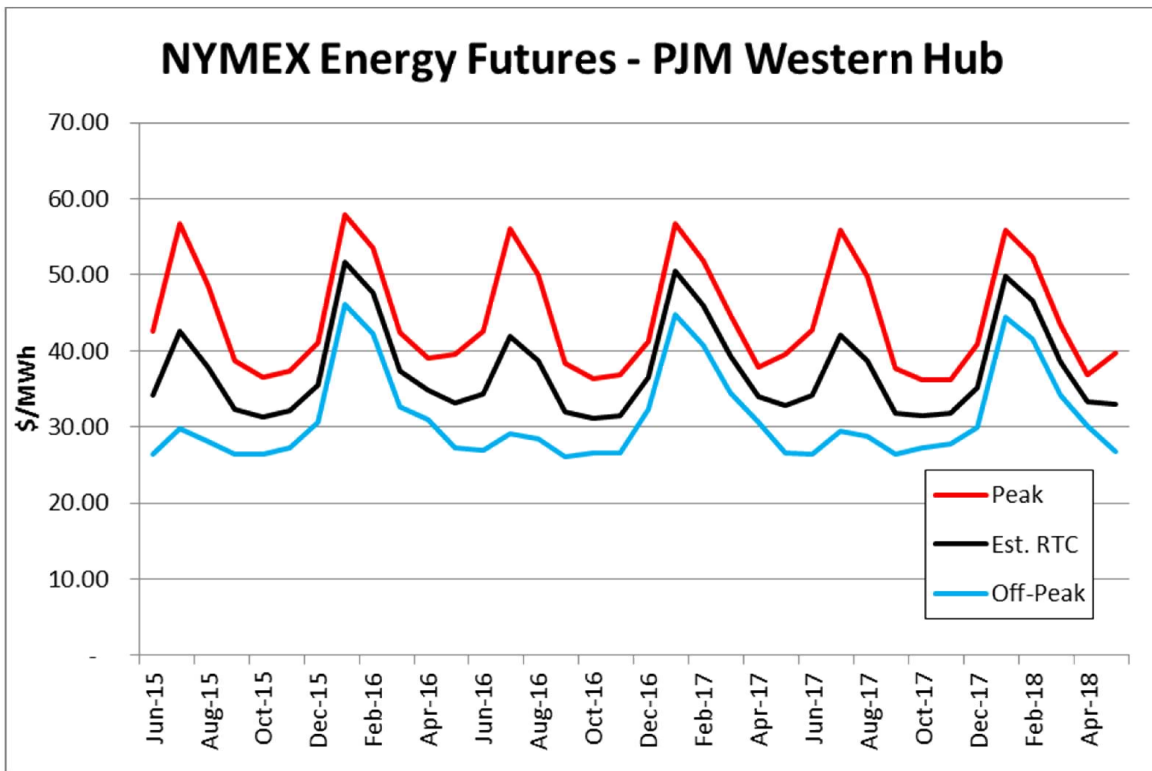
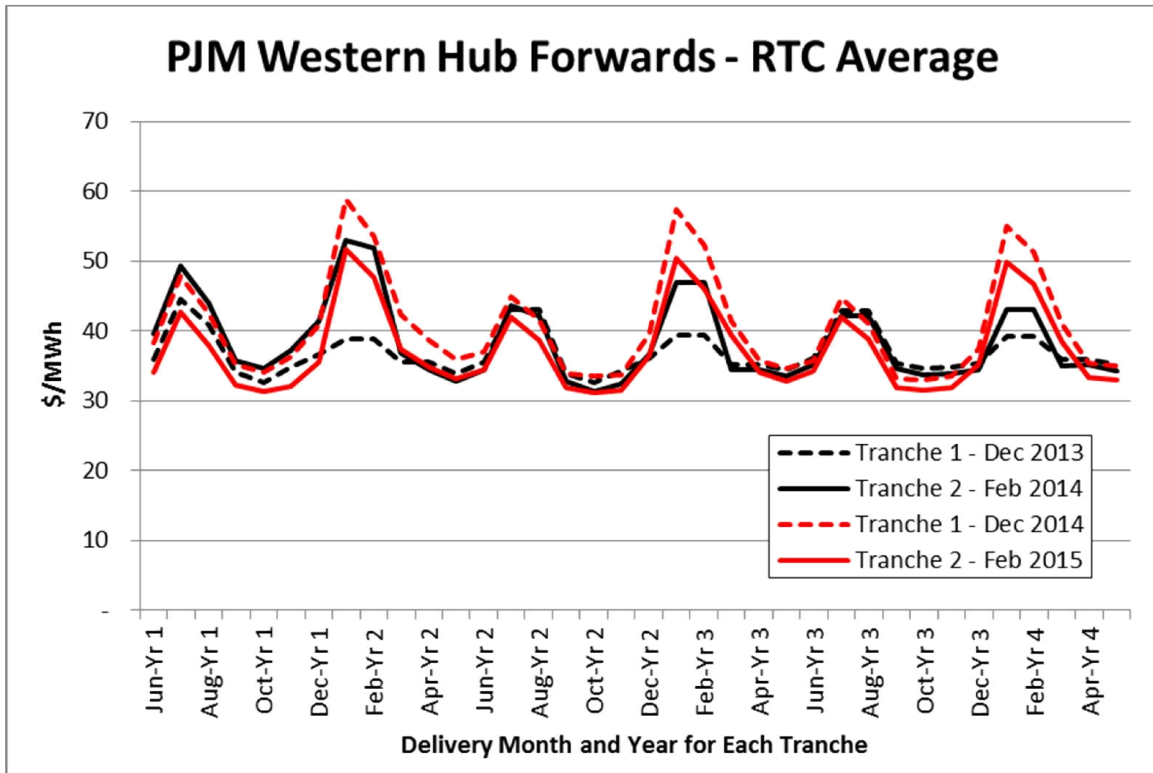


Exhibit 3: Energy Forward Prices – PJM Western Hub



**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 4 displays the outlook for gas prices at Henry Hub, which has fallen when comparing February 2015 to the previous two tranches. The decrease is substantial throughout the delivery periods. This fuel price decrease is not generally reflected in the PJM Western Hub energy prices, though, due to trader concerns over the ability of power generators to adequately respond to extremely cold weather. This is shown in the spiky winter month prices in Exhibit 3.

Exhibit 4: Henry Hub Gas Forward Prices

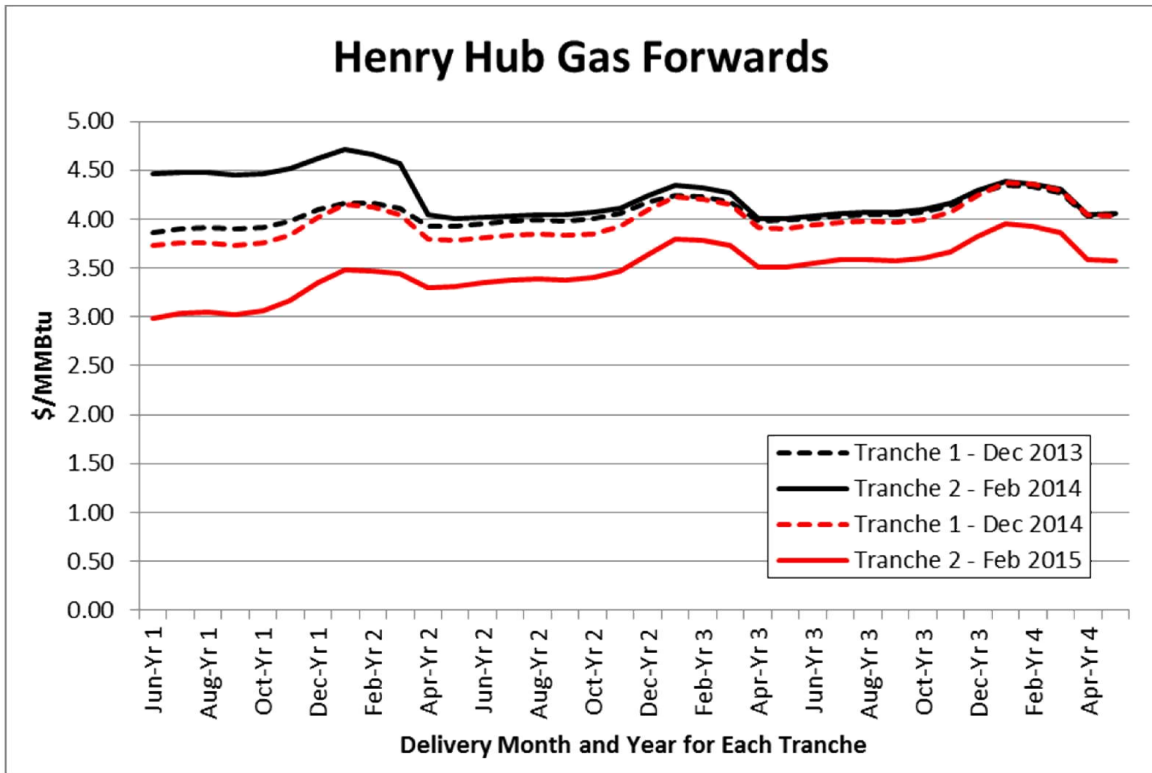


Exhibit 5 for coal displays that prices from February 2015 are substantially lower than the previous three tranches. Oil prices (Light Sweet Crude, Exhibit 6) have also declined substantially. Since oil-fired generation plays such a miniscule role in PJM, it does not have a major impact on wholesale energy prices. The source for all fuel prices is CME Group NYMEX Futures.

Exhibit 5: Central Appalachian Coal Forward Prices

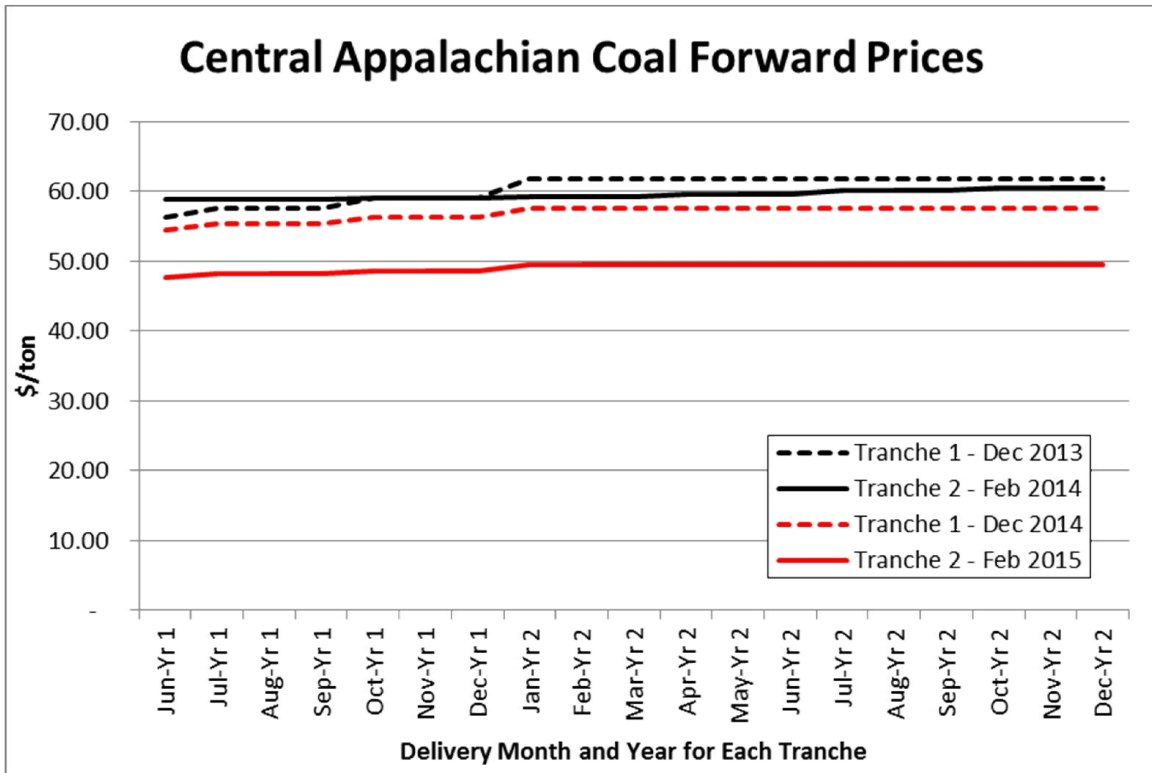
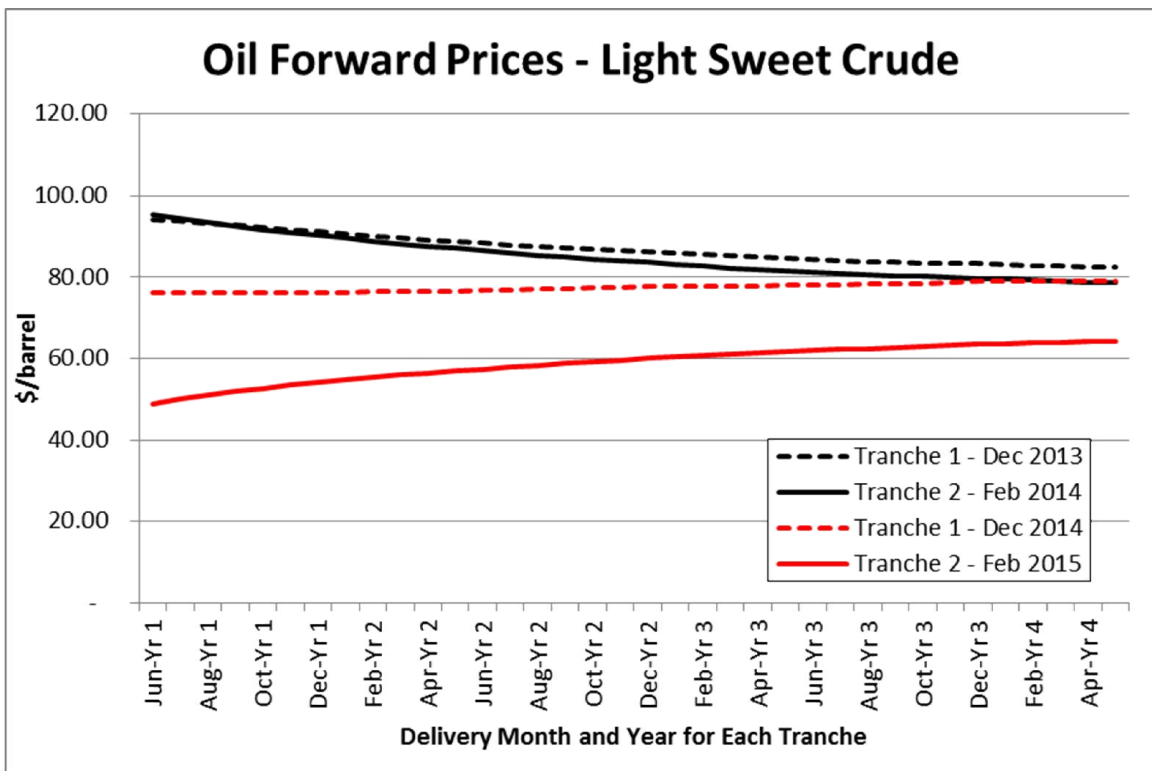


Exhibit 6: Crude Oil Forward Prices



## D. Capacity Market

PJM uses the Reliability Pricing Model (RPM) for its capacity market, and prices are set by auction each May. Each auction sets the price for a 1-year period three years out (i.e., the May 2014 auction produced prices for the 2017-18 delivery period). For this year's SOS procurement, all blocks will be affected by the 2015-16 RPM prices and the RSCI blocks will also be affected by both the 2016-17 and 2017-2018 RPM prices (RSCI spans a 3-year delivery horizon).

Capacity auction prices (all in \$/MW-day) have fallen over the course of the past four years. 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 \$134.89 for the current auction, as compared to \$142.55 in last year's auction, a reduction of 5.4%. However, the price applicable to MGS, LGS and GSP rose from \$142.99 last year to \$165.78, an increase 15.9%.

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

Class	Price	RSCI		MGS, LGS, GSP	
		2014	2015	2014	2015
2014-15	\$142.99	✓		✓	
2015-16	\$165.78	✓	✓		✓
2016-17	\$118.89	✓	✓		
2017-18	\$120.00		✓		
<b>Average/applicable price</b>		<b>\$142.55</b>	<b>\$134.89</b>	<b>\$142.99</b>	<b>\$165.78</b>

The key issue facing PJM participants at this year was uncertainty around changes in the PJM capacity market. According to PJM :

*“PJM is seeking to develop a more robust definition of Capacity Resources to incorporate stronger performance incentives and more operational availability and diversity during peak power system conditions. To do so, PJM is proposing to add an enhanced capacity product – Capacity Performance – to its capacity market structure and to reinforce the existing definition of the annual capacity product to ensure that the reliability of the grid will be maintained through the current industry fuel transition and beyond.”*

By raising the bar for the operational quality of capacity resources, capacity prices will face upward pressure—the exact magnitude of which is still uncertain. Accordingly, suppliers viewed this uncertainty as a potential risk, which was factored into their decisions to participate and how their bids would be structured. Ultimately it led to lower than expected participation, and higher prices that reflected increased risk.

## 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, 15 companies submitted an expression of interest in this RFP, and 6 ultimately became eligible. 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, which was attended by 14 individuals. 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 6 of the 15 interested parties became eligible to bid. One bidder was deemed ineligible for Tranche 2 due to missed deadlines for document submittal.

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 World Energy 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 customized for 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 notes that the lower than expected participation is a potential area of concern. Liberty expects that as PJM finalizes its new capacity market structure, the uncertainty will diminish and will lead to a rebound in participation.

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 2015  
Final - Tranche 1**

	as of:	<b>11/24/2014</b>	
		<b>SOS</b>	<b>Eligible</b>
<b><u>Service Type</u></b>		<b><u>PLC (MW)</u></b>	<b><u>PLC (MW)</u></b>
Residential and Small Commercial & Industrial		275.4	312.2
Medium General Service -Secondary		145.9	283.9
Large General Service -Secondary		24.7	115.6
General Service - Primary		27.2	402.0
Total		<b>473.2</b>	<b>1113.7</b>

<b>Service Type</b>	<b><u>Contract Term</u></b>		<b><u>Total</u></b>
	<b><u>12 Month</u></b>	<b><u>36 Month</u></b>	
	<b>6/1/15-5/31/16</b>	<b>6/1/15 - 5/31/18</b>	
<b>Residential and Small Commercial &amp; Industrial</b>		100.0%	100.0%
Service Classifications: R, R-TOU, R-TOU-ND, R-TOU-SOP SGS-ND, SGS-SH, SGS-WH, OL, ORL, X.			
<b>Approximate Total PLC</b>		275.4	275.4
Block Size %		5.5556%	
Approximate Block Size (MW)		45.9	
Total Number of Blocks		6	
Tranche 1 blocks		3	
Tranche 2 blocks		3	
<b>Medium General Service - Secondary</b>		100.0%	100.0%
Service Classifications: MGS-S			
<b>Approximate Total PLC</b>		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	
<b>Large General Service - Secondary</b>		100.0%	100.0%
Service Classifications: LGS-S			
<b>Approximate Total PLC</b>		24.7	24.7
Block Size %		100.0%	
Approximate Block Size (MW)		24.7	
Total Number of Blocks		1	
Tranche 1 blocks		1	
<b>General Service - Primary</b>		100.0%	100.0%
Service Classifications: GS-P			
<b>Approximate Total PLC</b>		27.2	27.2
Block Size %		100.0%	
Approximate Block Size (MW)		27.2	
Total Number of Blocks		1	
Tranche 1 blocks		1	

**Appendix 2: Tranche 2 Final Bid Plan**

**Delmarva DE SOS RFP 2015  
Final - Tranche 2**

as of: **1/26/2015**

<u>Service Type</u>	<u>SOS PLC (MW)</u>	<u>Eligible PLC (MW)</u>
Residential and Small Commercial & Industrial	275.9	313.0
Medium General Service -Secondary	147.0	283.9
Large General Service -Secondary	N/A	N/A
General Service - Primary	N/A	N/A
<b>Total</b>	<b>422.9</b>	<b>596.9</b>

<u>Service Type</u>	<u>Contract Term</u>		<u>Total</u>
	<u>12 Month</u>	<u>36 Month</u>	
	6/1/15-5/31/16	6/1/15 - 5/31/18	
<b>Residential and Small Commercial &amp; Industrial</b>		100.0000%	100.0%
Service Classifications: R, R-TOU, R-TOU-ND, R-TOU-SOP SGS-ND, SGS-SH, SGS-WH, OL, ORL, X.			
<b>Approximate Total PLC</b>		275.9	275.9
Block Size %		5.5556%	
Approximate Block Size (MW)		46.0	
Total Number of Blocks		6	
Tranche 1 blocks		3	
Tranche 2 blocks		3	
 <b>Medium General Service - Secondary</b>	 100.0%		 100.0%
Service Classifications: MGS-S			
<b>Approximate Total PLC</b>	147.0		147.0
Block Size %	33.3333%		
Approximate Block Size (MW)	49.0		
Total Number of Blocks	3		
Tranche 1 blocks	2		
Tranche 2 blocks	1		

## **Appendix 3: RFP Announcement**

NEWSROOM

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[<< Back](#)

## DELMARVA POWER ISSUES RFP FOR WHOLESALE ELECTRIC POWER

Oct 01, 2014

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 465 megawatts (MW) of electricity. Peak load contributions by customer class include approximately 275 MW for the combined Residential, Small Commercial and Industrial customers; 145 MW for the Medium General Service-Secondary (MGS-S) customers; 20 MW for the Large General Service-Secondary (LGS-S) customers; and 25 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.

The RFP is being issued in accordance with the Delaware Public Service Commission (DPSC) terms and conditions established in Docket 14-144 (formerly Docket No. 04-391) for the competitive provision of electric service beginning on and after June 1, 2015. It is structured as a multi-phase bidding process with pre-bid preparation activities which started on Oct. 1, 2014. The first round of bidding will begin on Dec. 1, 2014 and the final round will conclude in early February 2014. The winning bidders will be awarded service contracts to supply electricity for Delmarva Power customers beginning on June 1, 2015. Further details regarding the RFP or the pre-bid conference can be found by visiting the RFP website: [www.delmarva.com/derfp](http://www.delmarva.com/derfp). The website will provide interested parties with additional contact information.