

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

*IN THE MATTER OF THE APPLICATION OF
DELMARVA POWER & LIGHT COMPANY
FOR APPROVAL OF SOLAR
RENEWABLE ENERGY CREDIT
CONTRACTS AS SREC SUPPLY
SOURCES FOR STANDARD OFFER
SERVICE CUSTOMERS*

PSC DOCKET NO. 10-198

**REPORT ON
DELMARVA POWER'S
REQUEST FOR APPROVAL
OF SOLAR RENEWABLE
ENERGY CREDIT
CONTRACTS**

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I. INTRODUCTION

A. Background

On June 1, 2010, Delmarva Power & Light Company (“Delmarva,” “Company” or “DP&L”) filed an application with the Delaware Public Service Commission (“Commission”), pursuant to 26 *Del. C.* §1007(b), for approval of (a) a contract to purchase solar renewable energy credits (“SRECs”) over a 20-year term from White Oak Solar Energy, LLC, an indirect subsidiary of LS Power (“White Oak”) from a proposed 10 MW solar photovoltaic plant to be built by White Oak (the Environmental Attribute Purchase Agreement or “Delmarva/White Oak Contract”) and (b) an Environmental Attribute Purchase Agreement between Delmarva and the Delaware Sustainable Energy Utility (“SEU”) whereby Delmarva would repurchase SRECs from the SEU (the “Delmarva/SEU Contract”) which the SEU would purchase from White Oak under a separate agreement (the “SEU/White Oak Contract”). Together, the Delmarva/White Oak Contract, the Delmarva/SEU Contract and the SEU/White Oak Contract will be referred to as the “Agreements.”

The purpose of the Agreements is for Delmarva to procure SRECs in order to meet the applicable requirements of Delaware’s Renewable Energy Portfolio Standards Act (hereinafter, “RPS”), 26 *Del. C.* §351, *et seq.*, which has recently been amended. The purpose of the Delmarva/SEU Contract and the related SEU/White Oak Contract was to take advantage of the SEU’s unlimited ability to bank SRECs under the RPS, while Delmarva’s ability to bank SRECs is limited to three years.¹ Delmarva would use the SRECs purchased to meet applicable RPS requirements for the supply of standard offer service (“SOS”).

In its application, Delmarva states that it was planning a request for proposals (“RFP”) to solicit proposals for the development of a utility-scale solar project in Delaware when it was approached by representatives of the City of Dover seeking the Company’s participation in a proposed 10 MW solar photovoltaic project in Dover, now known as the “Dover Sun Park” (also referred to as the “White Oak Project”). Instead of conducting its own RFP process, Delmarva decided to participate in the Dover Sun Park project, which was the result of a RFP process previously initiated by the City of Dover, and DP&L proceeded to negotiate a long-term contract for SRECs with the developer of the project, White Oak.

The White Oak Project involves a series of long-term contracts. Dover, the project initiator, has entered into a 20-year contract for the purchase of all of the energy produced by the project (as well as its capacity value) and 15% of the SRECs. The Delaware Municipal Electric Corporation (“DEMEC”) has contracted to purchase 15% of the SRECs. Delmarva’s contract with White Oak is for 70% of the SRECs generated by the project, with certain limitations, except for the first four years of the 20-year contract term when Delmarva’s obligation is to purchase 70% of the SREC’s minus the amount of SRECs purchased by SEU from White Oak, not to exceed, 5,500 SRECs per year. The

¹ 26 *Del.C.* §§ 360(b)-(c).

contract price under the Delmarva/White Oak Contract is \$216.70 per SREC (\$/MWh), with no escalation during the 20-year term.

The 22,000 SRECs not purchased by Delmarva in the first four contract years (5,500 SRECs per year) will be purchased instead by the SEU. After the first four contract years, the SEU will transfer 11,000 of the SRECs it purchased back to Delmarva in each of the next two years at \$249/SREC, which is higher than the rate Delmarva is paying for the SRECs it purchases directly from White Oak due to the SEU's need to finance the SRECs it purchases from White Oak. The weighted average cost of the SRECs, purchased by Delmarva directly from White Oak and through the SEU transaction, is \$222/SREC.²

On June 15, 2010, the Commission issued Order No. 7788 initiating this docket. The Commission noted:

By way of background, 26 Del. C. § 1007(b), gives SOS providers the ability, among other things, to enter into contracts for the procurement of power necessary to serve their SOS customers. In order to take such action the SOS provider must either file an application or (if, as here, DP&L is the SOS provider) have such action approved as part of its § 1007(c) integrated resource plan. If the SOS provider chooses to apply for approval under § 1007(b), as DP&L has done here, then the Commission must hold an evidentiary hearing on the request and approve the request if it finds that "such action is in the public interest." Section 1007(b).³

In response to DP&L's request for an expedited schedule, the Commission approved a procedural schedule recommended by the Commission Staff, which included the filing of a Staff report on the two SREC contracts on or by August 3, 2010. The deadline for Staff's report was extended to August 6, 2010 based on an informal agreement among the parties.⁴ New Energy Opportunities, Inc. ("NEO"), and its subcontractor, La Capra Associates, Inc. ("La Capra Associates"), were retained to prepare this Staff report and to otherwise participate in this proceeding.

On July 28, 2010, Governor Markell signed into law Senate Substitute Bill No. 1 for Senate Bill No. 199, which amended the RPS in several material respects, including increasing Delmarva's SREC purchase obligations beginning in compliance year 2011, increasing the alternative compliance price for SRECs, and allowing a freeze in Delmarva's SREC percentage obligations if the cost to consumers for SRECs, Solar Alternative Compliance Payments ("SACP"), and ratepayer funded state solar rebates exceed one percent of applicable retail customer costs. Later in this report, we will address the implications of the very recent amendment to the RPS on Delmarva's application.

The SREC contracts represent the fifth (and sixth) long-term contracts that Delmarva has entered into with developers of renewable energy generation projects. Pursuant to the

² Direct Testimony of William R. Swink at 7.

³ Order No. 7788 at 1-2.

⁴ The three-day delay occurred because Delmarva provided its responses to Staff data requests three days after the date set forth in Order No. 7788. Based on discussions with the other parties, it is not expected that the dates for the filing of reply comments scheduled for August 10, 2010 or the hearing date scheduled for August 17, 2010 will require modification.

RFP process instituted under Section 1007(d) of the Electric Utility Retail Customer Supply Act of 2006 (“EURSCA”), Delmarva, on June 23, 2008, entered into a 25-year contract with Bluewater Wind Delaware, LLC (“Bluewater”) for the purchase of energy, capacity and renewable energy credits (“RECs”) from a large offshore wind project to be constructed by Bluewater. This Power Purchase Agreement (“PPA”) with Bluewater was approved by the Commission, the Delaware Energy Office, the Office of Management and Budget, and the Comptroller General, in Order No. 7440 on September 2, 2008.⁵ Also in 2008, Delmarva entered into three long-term contracts with land-based wind projects located in Maryland and Pennsylvania, which the Commission approved in Order No. 7462 (October 23, 2008). The three land-based wind PPAs, which were for the purchase of energy and RECs, were the result of an RFP process which Delmarva had initiated (and which Delaware Electric Cooperative (“DEC”) and Old Dominion Electric Cooperative, DEC’s full requirements wholesale supplier, had joined after the issuance of the RFP).

B. Summary of Conclusions

For the reasons set forth in this report, it is NEO’s opinion that the pricing and terms and conditions of the DPL/White Oak Contract are reasonable and in the public interest. However, the original rationale for the contractual arrangements involving the SEU—SREC banking—appears to be no longer necessary or at least has been substantially diminished as the result of the recent amendments to the RPS. Either the SEU’s participation in the overall transaction should be eliminated or the quantities associated with SEU’s participation in SREC banking should be substantially reduced. This is not intended as a criticism to any of the parties involved, including Delmarva and the SEU. When the transactions were entered into, the parties did not know that the RPS would be amended in a way that would substantially diminish or eliminate the benefits of the SEU’s greater SREC banking flexibility.

Initially, we agree with Delmarva that as a general matter entering into long-term contracts for RECs and/or energy from renewable energy projects is important in facilitating their financing and can bring about lower long-term pricing than resorting to purchasing RECs on the short-term market.

Our rationale for concluding that the pricing, terms, and structure of the Delmarva/White Oak Contract is reasonable, however, is quite different from Delmarva’s. The competitive procurement process initiated by Dover was not a robust competitive process for the procurement of energy and SRECs from a solar photovoltaic (“solar PV”) project. In fact, there was only one solar PV proposal—that of LS Power. This was in large part because the Dover RFP was an effort to solicit a broad array of proposals—it was not focused on solar PV projects. Only solar PV projects can produce SRECs under the Delaware RPS. Hence, any presumption that the best bid (or bids) in a competitive procurement process represents a reasonable market price for the product purchased (SRECs) cannot apply here. Nor is the rationale that the SREC price under the Delmarva/White Oak Contract is

⁵ On August 2, 2010, Delmarva filed an application to amend the Bluewater Wind PPA to, among other things, extend the deadline for Bluewater to terminate the PPA from June 23, 2010 to June 23, 2012. See Docket No. 06-241.

less than the SACP under the Delaware RPS or the price for SRECs available on the spot market sufficient justification to support the proposed contract, although it is very helpful supportive information. The relevant market is that for SRECs under long-term SREC contracts. Delmarva could have issued a RFP process to obtain bids for SRECs (and perhaps energy and capacity) over a 15-20 year period. Our conclusion also might have been different if Dover's RFP process had focused more clearly on solar PV and resulted in multiple solar PV proposals.

Nevertheless, we have reviewed the confidential pricing and project information involving all of the contracts associated with the White Oak Project (involving Dover, Delmarva, DEMEC, and the SEU), as well as other information in the public domain and our own knowledge base. In addition, we have taken into consideration the benefits of Delmarva's working collaboratively with other utilities in Delaware and the viability of the project and experience of the developer. Based on that information, we have concluded that the pricing, terms and conditions of the Delmarva/White Oak Contract are reasonable and that the project is viable. We also find that it would be reasonable for Delmarva to purchase directly from White Oak SRECs at the Delmarva/White Oak Contract price that otherwise would have been purchased by the SEU and resold to Delmarva at a higher price under the Delmarva/SEU Contract.⁶ The bases for these conclusions are described in more detail in this report.

C. Delmarva's Procurement Process and the Dover RFP

While Delmarva has entered into a number of long-term contracts with wind projects for the purpose of complying with the Delaware RPS, the Company has not previously entered into any long-term contract to procure SRECs to satisfy the solar PV carve-out provisions of the Delaware RPS. Pursuant to Commission Order No. 7432, Delmarva had recently begun to procure SRECs on a short-term basis to satisfy its obligations under the Delaware RPS. Previously, these obligations had been satisfied by the wholesale suppliers to Delmarva who were responsible for providing full requirements service so that Delmarva could provide SOS to customers not electing to receive service from a competitive retail electricity supplier.

In late 2008, Delmarva began to explore options to build a solar PV project or projects on Delmarva property or to enter into a PPA with a solar PV developer to purchase energy, capacity and SRECs. Delmarva representatives talked to several industry participants, who appeared eager to move forward with proposals.⁷

While Delmarva was reviewing its options, including the development of an RFP for development of a utility-scale solar project in Delaware, the Company was approached in December 2008 by representatives of the City of Dover regarding a proposed 10 MW solar PV project in Dover. The key contact was Francis Hodsoll, Vice President for Pace

⁶ If it is easier and not less cost effective to substantially reduce the SRECs acquired through the SEU rather than to eliminate the SEU's role in the transactions altogether, that result could be acceptable. The specifics of Staff's recommendations regarding SREC banking and the SEU's involvement in the transaction are addressed in Section IV.B of this report.

⁷ See Delmarva Response to Staff Data Request GM-4, Attachment GM-4, p. 2.

Global Energy Services Inc. (“Pace”), the consultant under contract to Dover regarding Dover’s RFP process for seeking incremental electric generation resources. Mr. Hodson made a presentation to Delmarva in February 2009 regarding LS Power’s proposal to build a 10 MW solar PV plant on Dover’s Garrison Tract site. Delmarva decided to pursue the White Oak project with LS Power (with Dover being an offtaker of energy and a small percentage of SRECs), rather than issuing a RFP of its own.

In the Dover RFP process, only one bidder had proposed to build a solar PV project (only solar PV projects can produce SRECs under the RPS). However, the fact that there was only one solar PV bidder might not have been clear to Delmarva.⁸ Delmarva “believed that Dover had conducted a robust RFP and was satisfied with the results of that process” and “Delmarva concluded that it would be wasteful and unnecessary to conduct its own RFP process for purchasing SRECs.”⁹

Delmarva entered into negotiations with White Oak for a long-term contract in early August 2009.¹⁰ After eight months of negotiations, the Delmarva/White Oak Contract was executed on April 22, 2010. This was also on or about the same day that the Dover/White Oak Contract was executed. In this same timeframe, discussions between Delmarva and the SEU had been initiated regarding the SEU’s ability to extend Delmarva’s ability to bank SRECs. This resulted in the execution of the SEU/White Oak Contract and the Delmarva/SEU Contract. Also, the White Oak/DEMEC Contract was negotiated and executed in this timeframe. Hence, the overall transaction consists of three major offtake contracts from White Oak (Dover, Delmarva and DEMEC), with two contracts to facilitate SREC banking (White Oak/SEU and SEU/Delmarva).

D. Matters Addressed in This Report

This report addresses whether the two SREC contracts executed by Delmarva should be approved as being in the public interest. In reaching our conclusion on this ultimate issue, we consider the following questions:

- Was it reasonable and in the public interest for Delmarva to procure SRECs under a long-term contract?
- If so, was the process by which Delmarva entered into the White Oak contract a reasonably robust and appropriate competitive process such that the resulting

⁸ In response to Staff Data Request GM-14, Glenn Moore stated:

At the time Delmarva decided to engage in negotiations to purchase SRECs from White Oak, it was our understanding that the City of Dover had received multiple proposals to build solar projects in response to its RFP process and that White Oak had been selected as the preferred bidder. Mr. Hodson informed Delmarva that the City of Dover had selected White Oak as the winner of its RFP process.

Apparently, Dover did receive another proposal involving solar power, but it was not solar PV and, hence, did not qualify to produce SRECs under the Delaware RPS.

⁹ Response to Staff Data Request GM-14.

¹⁰ Testimony of Glenn Moore at 6, lines 10-11.

White Oak contract SREC rates can be determined to be reasonable based on White Oak having “won” the competitive process vis-à-vis competitors?

- If not, can the White Oak SREC rates be determined to be reasonable on other grounds?
- Is inclusion of the SEU in the overall transaction to facilitate SREC banking reasonable and in the public interest?

The report also addresses the reasonableness of the contract terms and conditions (other than pricing) of the two contracts for which Delmarva seeks Commission approval.

E. Qualifications of Staff Consultants

New Energy Opportunities, Inc. is a consulting firm with expertise in the procurement and sale of energy, capacity and other products from electric generation facilities, with a focus on renewable energy. NEO and its principal, Barry Sheingold, have organized procurements, drafted Requests for Proposals, evaluated bids for both private and public clients, served as an Independent Evaluator (or the like) in a variety of competitive procurement processes, assisted sellers in developing proposals in response to RFPs, and participated in various power transactions outside of a competitive bidding process.

NEO served as the Independent Consultant for the Commission and other State Agencies with respect to Delmarva's 2006 In-State Generation RFP that led to the Delmarva-Bluewater PPA. In addition, NEO served as Commission staff consultant in the review of the three land-based wind PPAs entered into by Delmarva in 2008 and approved by the Commission in PSC Docket No. 08-205.¹¹ NEO has served or is serving as an independent party or consultant retained to review competitive procurements for long-term power purchase agreements (RFP design, bid evaluation, and or/ review of resulting power contracts) or other power transactions involving renewable energy projects in California, Hawaii, Oklahoma, Nova Scotia, Massachusetts, New York, Rhode Island, Arizona, Oregon and Utah.

La Capra Associates has participated with NEO on a number of assignments, including Delmarva's 2006 In-State Generation RFP, review of Delmarva Power's three land-based wind PPAs, and as Independent Evaluator for Oklahoma Gas and Electric Company's 2008 Wind RFP. Separately, La Capra Associates has provided testimony regarding proposals of National Grid and Western Massachusetts Electric Company to purchase and install solar PV facilities throughout their service territories in Massachusetts. La Capra Associates is an employee-owned consulting firm which has specialized in the electric and natural gas industries for more than 25 years with a strong focus on Northeastern and Mid-Atlantic markets. The firm's expertise includes economic and financial analysis of renewable energy projects and contracts, power market policy and analysis, power procurement, power resources planning, ratemaking regulatory policy, and advice on renewable energy project development, including siting and technical reviews. Over the

¹¹ Findings, Opinion, and Order No. 7462 (Oct. 23, 2008).

past decade, a substantial portion of La Capra Associates' practice has been in the renewable energy sector.

Additional information on the qualifications of NEO and La Capra Associates is set forth in Appendix A.

II. APPROPRIATENESS OF LONG-TERM CONTRACTING APPROACH AND PROCUREMENT PROCESS

A. Determination to Procure SRECs under a Long-Term Contract

Delmarva has the authority under section 1007(b) of the EURCSA, 26 Del. C. §1007(b), to enter into long-term contracts for the procurement of power necessary to serve its customers and to take any other Commission-approved action to diversify its retail load upon application to the Commission and a finding by the Commission that it is in the public interest to do so. In Order No. 7199, the Commission endorsed the concept of a portfolio approach to manage risk associated with the provision of SOS, including the utilization of long-term purchase contracts as a beneficial risk management tool.¹² Pursuant to Order No. 7432, issued on August 19, 2008 (Docket No. 04-391), the Commission granted Delmarva's request to remove prospectively the requirement that wholesale electricity suppliers provide RECs to Delmarva.¹³ Since that time, Delmarva has been procuring SRECs on the spot market to achieve Delaware RPS compliance.

As will be described in Section III.A.2 of this report, the market for SRECs in the Mid-Atlantic region is characterized by a shortage relative to legislatively-created demand, resulting in prices that approach the SACP set by various states. A key reason for the shortage is the lack of financially strong counterparties (buyers) under long-term contracts to support the financing of solar PV projects, especially for larger, more cost-effective projects, such as the one proposed by LS Power.

There are several benefits to ratepayers from a decision by Delmarva to enter into a long-term contract to procure SRECs. First, the price can be based on the cost of producing the products purchased by a solar project—energy, capacity and SRECs—rather than a higher price driven by a shortage of supply relative to demand. Second, entering into a long-term contract will facilitate financing of a utility-scale project, which, in turn, will tend to reduce market SREC prices or constrain their increase, hence creating another benefit for ratepayers. Of course, facilitating the construction of a new renewable energy project will itself help to create substantial environmental benefits by producing carbon-free electrical energy and backing off the generation of fossil-fired electric power at the margin in PJM.

¹² See Order No. 7199, PSC Docket No. 06-241, at 27-28 (May 22, 2007).

¹³ The wholesale requirements suppliers who entered into contracts prior to the issuance of Order No. 7432 continue to have the responsibility of supplying RECs and SRECs in proportion to their supply obligations for the remainder of their contracts.

The Delmarva/White Oak Contract is somewhat different from the four wind energy PPAs that Delmarva has entered into in that the White Oak Contract is a REC-only purchase, while under the four wind energy PPAs Delmarva purchased both energy and RECs.¹⁴ The energy (and capacity value) is being acquired by Dover so there was no need for Delmarva to purchase the energy. Delmarva's SREC purchase can be viewed as a hedge against future SREC prices (especially shortage-induced high SREC prices). Unlike the wind PPAs, there is no hedge against future electrical energy prices (primarily driven by natural gas prices). On the other hand, Delmarva and its customers are not taking the risk that contractually-specified electric energy prices will be higher than electric energy market prices over the long term. Under the Delmarva/White Oak Contract, Delmarva can contribute to facilitating the financing of a solar PV project by purchasing SRECs over a 20-year period, with its attendant benefits, without taking the risk of a long position regarding long-term energy prices.

Delmarva's decision to pursue a long-term contract to procure SRECs and/or solar PV energy—the Company's first contract of this type—was, in our view, a proper one with the potential for substantial ratepayer and environmental benefits and was consistent with the portfolio approach in providing SOS previously endorsed by the Commission.

We next address the manner in which Delmarva decided to pursue its solar PV objectives.

B. Decision to Rely on Dover RFP Process and to Commence Negotiations with White Oak without Conducting a Market Test

1. Delmarva's Initial Inquiry and Preliminary Discussions Regarding the Dover/LS Power Project

In the second half of 2008, Glenn Moore, Vice President of Delmarva Power's Newcastle Region, was given the responsibility of exploring ways to fulfill Delmarva's Delaware RPS responsibilities pertaining to SRECs, either through developing a Delmarva solar PV project in Delaware or entering into a long-term PPA with a developer of a solar PV project. In November 2008, he prepared a high level memorandum regarding a number of matters, including potential cost and build versus buy options. The memorandum noted that discussions were held with four companies interested in developing and/or building solar PV facilities, that the "solar industry is robust at this time," and that the companies with whom discussions were held were "more than willing to move forward with proposals." The size of the solar PV facilities addressed in the memorandum was up to 2 MW in capacity.

In December 2008, a Delmarva representative was contacted by the City of Dover regarding Delmarva's interest in the 10 MW solar PV project at the Garrison Tract site. Delmarva put together a team to investigate this option and scheduled an initial meeting with representatives of the City of Dover. Delmarva met several times with Francis Hodsoll, the Pace consultant leading Dover's RFP process, including in February 2009,

¹⁴ Delmarva also has purchased capacity under the Bluewater PPA.

when Mr. Hodsoll provided a presentation on the status of Dover's RFP process and the opportunity for, and importance of, Delmarva participating in the project as an offtaker.

2. The Dover RFP Process

Late in 2007, the City of Dover retained Pace to assist it in developing and implementing a RFP process for long-term generation-based capacity and energy to diversify its power supply portfolio and manage its risks. A plan was developed for a three-stage procurement process, which included (1) a Request for Qualifications ("RFQ") process to solicit conceptual proposals and evaluate the qualifications of the potential providers, (2) an RFP process whereby specific proposals would be submitted and evaluated, and (3) a final stage wherein negotiations would proceed with short-listed bidders based on an "open book" approach.¹⁵

In March 2008, Dover issued the RFQ. It (through Pace) sent the RFQ to over 40 companies by email (or at least sent an email notification).¹⁶ In addition, Dover published a notice of the RFQ in Platt's MW Daily, Gas Daily and Power Markets Week.¹⁷ The notice stated in pertinent part:

The City of Dover, Delaware has issued a request for qualifications (RFQ) for long-term generation-based capacity and energy to diversify its power supply portfolio. . . . Through the RFQ, Dover will select a short list of candidates to participate in a request for proposal (RFP) process.

Dover's City Manager, Tony DePrima said "Dover must proactively address the capacity deficiencies and energy volatilities in our region through the thoughtful examination of appropriate supply options."

Furthermore, in the RFQ, Dover states that they "will explore all proposals that can demonstrate economic viability, minimize the long-term cost of service to Dover's customers, and ensure the highest levels of reliability. Dover seeks to consider generation supply off-take contracts, equity participation options and other innovative structuring or partnership options." Dover also wishes to explore clean energy options as part of its supply portfolio.

*Dover invites participants to consider siting a generation project on a City owned 387 acre tract that has been designated for economic development.*¹⁸

The notice referred to the City of Dover website, where the RFQ document was available.

¹⁵ "Open book" refers to an approach where the bidder is asked to provide key cost and technical inputs supporting the bidder's price and other aspects of the bidder's proposal.

¹⁶ The list of the recipients of the RFQ has been provided in connection with this report.

¹⁷ Response to Staff Data Request FH-1.

¹⁸ The notice was entitled "City of Dover issues RFQ to supplement capacity and energy." Although the notice provided to Staff was marked "Confidential," it is not confidential since it was disseminated publicly through trade publications. Similarly, the RFQ referenced in the notice is not confidential, since the RFQ was referenced in the notice and interested persons were referred to the City of Dover's website to obtain a copy of the RFQ.

The RFQ, like the notice published in trade publications, focused primarily on the objectives of cost and reliability, but it also mentioned concerns for “environmentally clean energy” and stated that proposals may include ones for renewable resources as well as conventional resources. The RFQ stated:

*The City is particularly interested in cost-based, intermediate or higher dispatch generation to complement its current supply portfolio. Dover is also interested in opportunities to integrate renewable energy sources into its supply mix.*¹⁹

It seems that Dover was looking primarily for conventional generation, but a renewable resource project would be of interest, at least as a second or supplementary project. By way of footnote, the RFQ stated (p. 11, n. 5):

Multiple contract awards are possible resulting from this RFP process. For example, Dover could choose to participate in more than one generation project, particularly if renewable resources are involved.

Substantial information was provided regarding Dover’s 387-acre Garrison Tract site, so it was clear that there was specific interest regarding use of that site. In industry parlance, Dover’s RFP process, as described in the notice and RFQ, was an “all source” RFP, rather than one for any specific type of resource, such as solar PV. In addition, Dover made it clear that it would request an open book approach “to better evaluate and compare the economics of the competing proposals and to further its project equity participation considerations.”²⁰

None of the four companies referenced in Glenn Moore’s November 2008 memorandum as companies to which Delmarva had spoken regarding a potential solar PV project were included on Pace’s email distribution list. In fact, to our knowledge, none of the RFQ recipients included any companies that focused solely or almost exclusively on solar PV projects. Moreover, none of the trade publications in which the notice was published were specialized ones for renewable energy or solar power in particular.

A handful of companies responded to the RFQ, including LS Power.

In July 2008, Dover issued the RFP, with proposals due in October 2008. All companies that responded to the RFQ were invited to submit bids in response to the RFP.

The RFP was similar to the RFQ with respect to Dover’s interests in types of generation. As in the RFQ, it was clear that Dover had a strong interest in exploring use of the Garrison Tract site.

In October 2008, LS Power submitted a proposal for a PPA for a 10 MW solar PV project to be built on the Garrison Tract site. While a number of other generation proposals were submitted, including a few other renewable energy generation proposals, LS Power’s

¹⁹ RFQ p. 4.

²⁰ RFQ p. 12.

proposal was the only one for a solar PV project.²¹ Hence, it was the only proposal that would create SRECs under the Delaware RPS.

LS Power's solar PV project was selected by Dover for detailed due diligence and PPA negotiations—Phase III of Dover's RFP process. Delmarva's participation in the process—by procuring a large percentage of the project's SRECs—was sought. An initial meeting was held in January 2009, with a follow up meeting held in February 2009. Dover indicated to Delmarva that Delmarva's participation was needed to bring the project to fruition at the planned 10 MW level.

Over the course of 2009, LS Power developed several different solar PV technology options, having different amounts of capital costs and different levels of MWh output for the same amount of generation capacity. LS Power provided Pace with pro formas for these different approaches, including a base case, which were evaluated by Pace.

3. Delmarva's Decision to Go Forward with White Oak Without Conducting a RFP or Other Market Test

By mid-2009, Delmarva decided to pursue negotiations with White Oak rather than to pursue its own solar PV procurement process. Delmarva has provided the following reasons for doing so:

- Delmarva believed that Dover had conducted a robust RFP process;
- Delmarva was convinced that the process resulting in Dover's selection of LS Power was thorough;
- The costs and time associated with Delmarva's conduct of its own RFP process could be avoided, with a likelihood that the White Oak project could be brought on line earlier than a project or projects arising out of a Delmarva RFP process;
- Delmarva was comfortable with the knowledge and experience of Pace and LS Power;
- Joining a project with multiple participants provided for a larger project with attendant economies of scale;
- The White Oak project was in a relatively mature level of development, considering that Dover was providing the site;
- Pricing under consideration was below the SREC market price at the time, with a flat (non-escalating) price structure; and
- The proposed project would provide significant economic benefits, including job creation.²²

²¹ See Pace 2030 Energy Plan Committee Status Report (December 1, 2008) p. 16.

<http://www.cityofdover.com/media/exhibits/12-01-2008-1%20Council%20Workshop.pdf>.

²² See Testimony of Glenn Moore pp. 5-6 and Delmarva Responses to Staff Data Requests GM-13 and GM-15.

From the answers provided to Staff data requests, it is not clear that Delmarva understood that Dover had received only one solar PV proposal in response to Dover's RFP. While Delmarva was seeking something technology-specific—SRECs that would qualify under the Delaware RPS—Dover had conducted an all-source RFP and had received only one solar PV proposal (although it had received several renewable energy proposals). The lack of response on solar PV was likely due to a variety of reasons—the way the RFQ and notice of the RFQ was framed, the types of power plant developers who received the RFQ (or notice), and perhaps due to the relatively small size of Dover (and its needs) and the open book approach requested by Pace (this is not popular with many developers).

Regardless of the benefits the proposed Delmarva/White Oak Contract might present and regardless of the reasons why only one solar PV proposal was received by Dover in response to its RFP, the Delmarva/White Oak Contract cannot be justified as having been the result of an adequately competitive bidding process for SRECs (or other products, such as energy and capacity) from solar PV projects. Generally, a well designed competitive bidding process for the product or products being solicited will produce a sufficiently robust response such that the resulting pricing of the winning bid(s) (assuming the terms and conditions are acceptable and the project is viable) can be viewed as representing the lowest reasonable “market price” for the product or products being solicited. As a result, an independent reviewer can ordinarily conclude on the basis of the competitive procurement alone, and without having to rely on information outside the bidding process, that the pricing of the winning bid(s) is appropriate for the solicited product or products. However, that is not the case here.

As a result, we will review the proposed pricing and terms of the Delmarva/White Oak Contract in the context of (a) information available from the Dover RFP process and associated contract negotiations involving Delmarva and other offtakers, (b) information available to us regarding solar PV projects and costs and market information on SRECs, and (c) the reasons stated by Delmarva for pursuing contract negotiations with White Oak. Essentially, we will review the Delmarva/White Oak Contract for reasonableness as if it were a bilateral contract negotiated outside of a competitive bidding process. We acknowledge that Pace analyzed and reviewed the LS Power proposal based on the receipt of detailed technical and financial information and, applying its experience and expertise to that information, concluded that the White Oak project proposal (at least as it applied to Dover) was a reasonably competitive and viable project. Delmarva seems to rely primarily on its SREC contract price being lower than the SACP or current spot SREC market prices. Neither, in our view, is sufficient to justify long-term SREC contract pricing, by itself.

The Delmarva/White Oak SREC contract pricing must be compared, if possible, to other, reasonably comparable long-term SREC pricing streams, whether they can be derived directly or indirectly. Delmarva could have obtained comparable pricing by conducting a RFP at the time it became interested in the White Oak/Dover project—it could have asked that White Oak bid into the process (or possibly compared bids to whatever proposals White Oak had made). However, Delmarva chose not to do so. Since there are no proposals or contracts with which comparisons can be made (other than reference to spot

market prices and SACPs) present in the information provided to us, we have conducted our own evaluation, which will be summarized in the next section of this report.

III. Merits of the Delmarva-White Oak SREC Contract

A. Contract Price

1. Standard for Reasonableness of Long-Term SREC Contract Prices

As indicated previously, for a long-term contract for SRECs, the relevant market is the applicable state or regional long-term contract market for SRECs. The demand for SRECs is created by state Renewable Portfolio Standards. SRECs represent the “renewable premium” associated with solar PV projects. Effectively, this represents the difference on a risk-adjusted basis between (a) the cost of construction and operation of a solar PV project, including a reasonable return on investment and taking into consideration tax credits and other tax benefits, and (b) the value of revenues obtained from the sale of energy and capacity. This renewable premium for SRECs purchased under long-term contracts can be substantially less than the SREC spot market price for two reasons. First, there is less risk associated with SREC revenues where the developer has “locked in” the SREC price on a long-term basis. The risk is further reduced, where as in the case of LS Power, the energy and capacity value is also secured through long-term fixed \$/MWh pricing. Hence, there should be less of a risk premium than where a solar PV developer does not have long-term fixed price contracts, assuming the developer could finance the project in the first place.

Second, long-term SREC prices associated with long-term contracts should reflect the cost of developing, financing and building solar PV projects minus the value of the energy and capacity produced by the project, rather than a premium based on there being a short-term shortage of SREC supply relative to demand. While the short-term market for SRECs will be heavily influenced by the applicable SACP levels of the various states, long-term SREC prices obtained through a competitive bidding process for long-term contracts should be based primarily on developer cost, which should be substantially lower than the short-term SREC market where there is a shortage of supply relative to demand. Moreover, assuming that the project cost (including allowance for a reasonable return on investment) is reasonable, the allocation between revenues based on energy and capacity value and the SREC renewable premium should be a reasonable one. In the case of the White Oak project, the energy revenues it will obtain are based on the Dover/White Oak Contract, while Delmarva is only procuring SRECs.

Where, as here, there is a very limited market for long-term contracts and the competitive procurement process for the desired product was not robust, the reasonableness of SREC pricing can be based on an evaluation of (a) cost data both from the project proponent as well as through other sources and (b) the revenues to be obtained from the sale of energy and capacity in comparison to market projections for the value of energy and capacity. Comparisons to the applicable spot market can be taken into consideration, based,

however, on an understanding of spot market dynamics. Finally, a review of SACP levels can be undertaken, recognizing that the fact that long-term SREC pricing is below SACP levels is helpful and perhaps necessary but not sufficient to show reasonableness of long-term SREC prices.

In this section, we explore substantively whether the SREC pricing in the Delmarva/White Oak Contract is reasonable based on a review of a variety of sources of information. First, however, we describe the relevant market for SRECs in Delaware and the Mid-Atlantic states.

2. The SREC Market in Delaware and the Mid-Atlantic States

Delaware, like a number of other states in the Mid-Atlantic region and the Northeast, has incorporated a solar PV “carve out” as part of its RPS. The reason for the carve-out is that solar PV projects require a higher renewable premium than other lower cost renewables, such as wind and landfill gas. While the energy and capacity value (or benefit) of solar PV is generally higher than these alternatives, the \$/MWh cost is higher still due to a combination of higher capital costs and lower capacity factors, resulting in a substantially higher renewable premium. Delaware, like other states, enacted a solar PV carve-out—in 2007 amendments to the RPS—to stimulate installation of this specific technology. It is also a common view that with increased installations, solar PV technology will be improved, manufacturing will become more efficient, and costs will eventually become more competitive with other generating resources.

Solar PV economics are better in the Southwest where there is greater insolation and where land is more available and less expensive, facilitating larger projects, which are also more cost effective due to economies of scale. Investor-owned electric utilities in California, Arizona and Nevada, which have RPS obligations and are generally not subject to competitive retail electricity markets, have entered into a number of long-term contracts for bundled energy, capacity and environmental attributes from solar PV projects.

Delaware and eight other states plus the District of Columbia have solar carve-outs as part of their renewable portfolio standards.²³ These states currently require retail electricity suppliers (as defined in each state) to purchase SRECS equal to some percentage of their retail sales or load (as defined in each state).

The pertinent market for Delmarva’s purchase of SRECs from White Oak is defined by the Delaware RPS. However, as will be explained below, the Delaware market is influenced to some extent by some of the other solar carve-out RPS states.

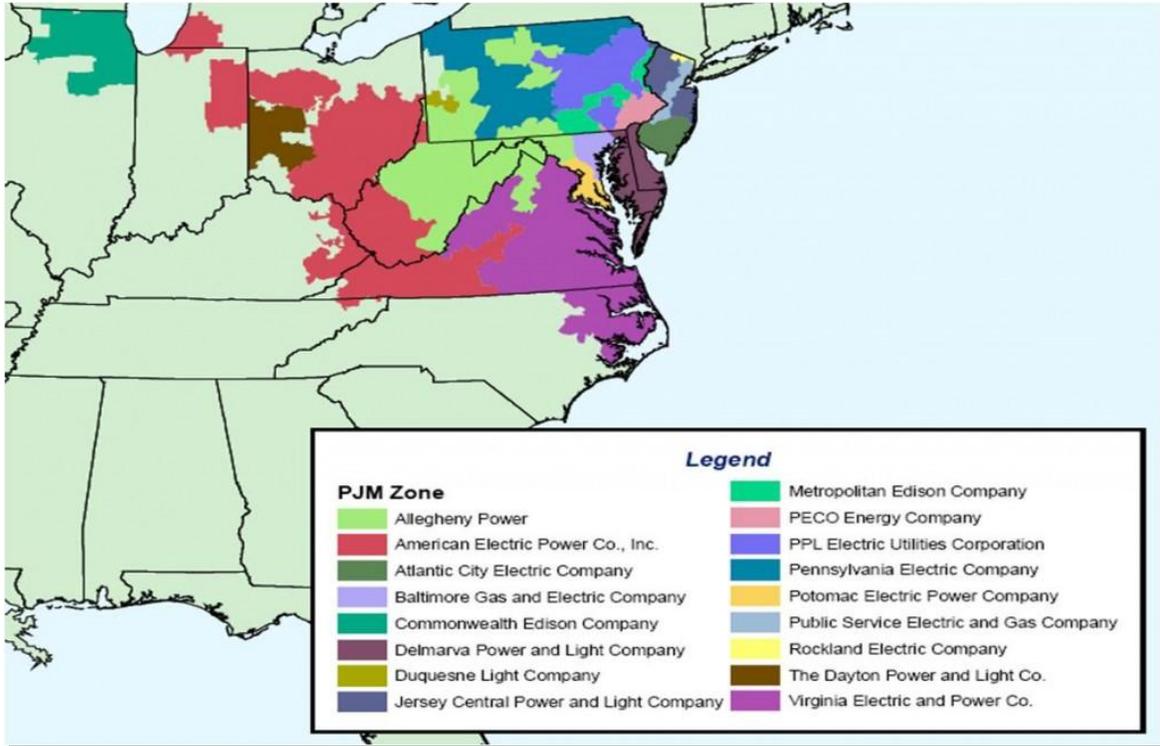
Geographic standards for eligible energy resources under the Delaware RPS, including solar PV energy resources, are defined in the Delaware RPS as “energy sources located within or imported into the PJM region.”²⁴ As such, Delaware RPS-compliant solar PV

²³ The other states are New Jersey, Pennsylvania, Ohio, Maryland, Massachusetts, New Mexico, North Carolina, and New Hampshire.

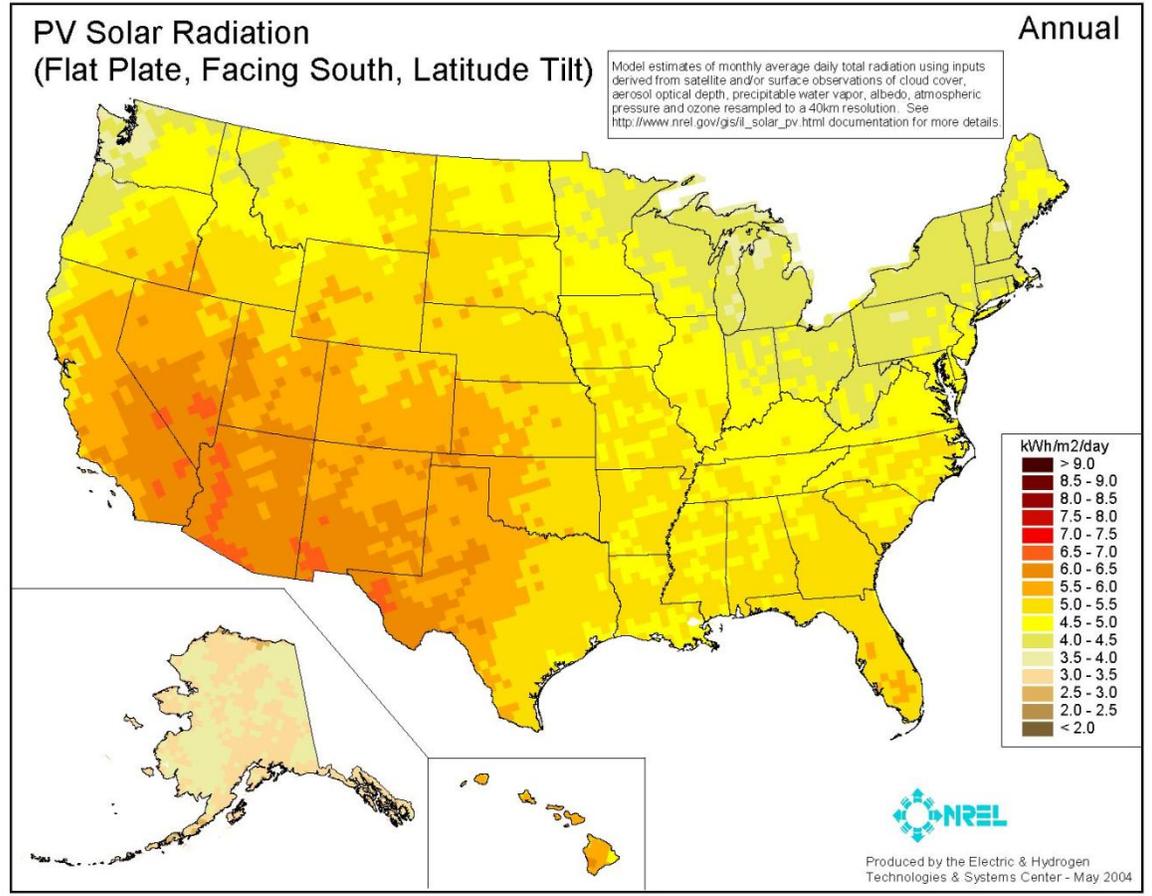
²⁴ 26 Del .C. §352(6).

generation can come from a wide region. As a practical matter, the great majority of projects would have to be located within PJM due to competitive disadvantages associated with the cost and complexity involved with importing into PJM and more attractive opportunities available to such developers elsewhere. From the perspective of Delmarva as a buyer of SRECs, the relevant market is for all practical purposes the PJM footprint.

As shown below, PJM includes all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.



While the quality of the wind resource varies dramatically within the PJM footprint, due to elevation and other factors, and tends to be very site-specific, solar radiation within the PJM footprint has much less variance, as shown in a solar radiation map published by the National Renewable Energy Laboratory.



Delmarva assumed that a solar PV project located in Delaware should be equally competitive with solar PV projects located in other PJM states due to the lack of substantial variance in insolation, and determined that it would be beneficial to buy SRECs from a project located in Delaware.²⁵

Delaware's SREC requirement was established in 2007 with the passage of Senate Bill No. 19, which amended the original RPS law that was enacted in 2005. The Commission implemented the 2007 amendment through rules and regulations issued on February 10, 2009.²⁶ After the Delmarva/White Oak Contract and Delmarva/SEU Contract were executed in April 2010, the Delaware RPS law was amended again on July 28, 2010 (the week before this report was prepared).

With regard to SRECs, the 2010 RPS amendments effectuated the following material changes:

- The RPS percentage obligations were increased substantially beginning in compliance years 2011 through 2018 and again from 2020 through 2025;

²⁵ See Direct Testimony of Glenn Moore at 3, lines 14-17.

²⁶ http://depsc.delaware.gov/electric/rpsrules_fin021009.pdf.

- The Delaware State Energy Coordinator, in consultation with the Commission, may freeze the SREC percentage obligation if the total cost of compliance with the solar PV program exceeds 1% of the total cost of electricity for retail suppliers in a year;
- The SACP is substantially increased;
- There are “extra credit” provisions available for solar installations sited in Delaware:
 - 10% where at least 50% of the renewable energy equipment is manufactured in Delaware;
 - 10% where the facility is constructed/installed with at least 75% in-state workforce.
- With some limitations, the RPS targets now apply to municipal utilities and rural electric cooperatives.

The table below compares Delmarva’s SREC purchase obligations based on its projections of SOS load under the Delaware RPS before and after the recent RPS amendments.

**Table 1 – Solar Renewable Portfolio Standard Minimum Requirements
2007 vs. 2010 RPS Amendments**

Compliance Year (beginning June 1 st)	Delmarva SOS Obligation (GWh)	Minimum Cumulative Percentage from Solar Photovoltaics		Delmarva SREC Obligations	
		2007 Amendment	2010 Amendment	2007 Amendment	2010 Amendment
2010	4308	0.018%	0.018%	595	595
2011	4346	0.048%	0.20%	2,086	8,692
2012	4392	0.099%	0.40%	4,348	17,568
2013	4429	0.201%	0.60%	8,902	26,574
2014	4463	0.354%	0.80%	15,799	35,704
2015	4502	0.559%	1.00%	25,166	45,020
2016	4548	0.803%	1.25%	36,520	56,850
2017	4588	1.112%	1.50%	51,019	68,820
2018	4633	1.547%	1.75%	71,673	81,078
2019	4682	2.005%	2.00%	93,874	93,640
2020	4423	2.005% ²⁷	2.25%	88,689	99,526
2021	4472	2.005%	2.50%	89,656	111,790
2022	4534	2.005%	2.75%	90,904	124,682
2023	4573	2.005%	3.00%	91,680	137,177
2024	4591	2.005%	3.25%	92,052	149,211
2025	4589	2.005%	3.50%	92,013	160,622

²⁷ It is assumed that the 2007 RPS Amendment would have allowed for a continuation of the SREC obligation at the 2019 levels.

In compliance years 2011 and 2012, the SREC obligation relative to prior law is quadrupled, while in the following compliance year it is tripled. After that, there are substantial, but lower percentage, increases. However, as described in Section III.A.5 below, the Delaware State Energy Coordinator, in consultation with the Commission, could freeze Delmarva's SREC percentage obligation as early as 2013. Such a freeze, if implemented, would counteract the increase in RPS demand under the 2010 amendments.

The 2010 amendments also increased the SACP that Delmarva would be required to pay if it failed to purchase a sufficient number of SRECs. The table below compares the SACP for SRECs in the 2007 and 2010 amendments.

**Table 2 – Solar Renewable Portfolio Alternative Compliance Payments
2007 vs. 2010 RPS Amendments**

	Solar Alternative Compliance Payment (\$/MWh) 2007 Amendment	Solar Alternative Compliance Payment (\$/MWh) 2010 Amendment
2010	250.00	400.00
If existing SACP was paid in prior year	300.00	450.00
If existing SACP was paid in prior year	350.00	500.00

The Delmarva SREC contract price of \$216.70 was below the SACP levels in effect at the time the contract was negotiated and executed. An increase in the SACP would not, in our view, significantly affect long-term SREC pricing for a utility-scale solar PV project. However, it does create additional benefit, or the likelihood of additional benefit, associated with Delmarva's decision to enter into a long-term SREC contract since the alternative of relying on the spot market would likely result in higher costs to Delmarva ratepayers. Moreover, the increased demand associated with the higher SREC RPS obligation and the expansion of the SREC obligation to municipal utilities and rural electric cooperatives would also have the impact of putting upward pressure on SREC prices, particularly spot SREC prices. On the other hand, as mentioned before, the increased demand could be reversed or mitigated as a result of the limits imposed by the 1% cost cap provisions, although these provisions should not have an impact on whether the Delmarva/SEU Contract should be approved, a matter we address in Section III.A.5 below.

Another effect of the 2010 RPS amendment is the impact on the need and rationale for the Delmarva/SEU banking arrangement. This issue will be addressed in Section IV.B below.

As mentioned previously, the Delaware RPS SREC market is also affected by interactions with SREC programs of some other states in the region and the availability (or lack

thereof) of long-term contracts. As shown in Appendix B, spot SREC prices have been generally lower than those in other regional states, but this may change with the increase in the SACP associated with the 2010 RPS amendments. A solar developer in Delaware could sell SRECs to a retail supplier serving load in Pennsylvania or the District of Columbia, where spot prices have been historically higher (obtaining a long-term contract is another matter). Moreover, it is probably unattractive for a New Jersey solar developer to sell SRECs for Delaware RPS compliance since New Jersey SREC spot market prices are so high—over \$600—in large part since New Jersey SRECs can only be provided by solar projects located in New Jersey²⁸ and the fact that New Jersey electric utilities are not entering into long-term PPAs with solar developers.

3. Reasonableness of Delmarva SREC Prices Based on Review of White Oak Revenue Contracts, Cost Data, and Energy and Capacity Price Projections

NEO and La Capra Associates reviewed price, cost, and performance information provided by Delmarva, Pace, and LS Power, much of which was confidential, to assess the reasonableness of the Delmarva/White Oak Contract SREC pricing. We utilized the cost and output information provided by LS Power and revenue information based on our review of the LS Power revenue contracts (Dover, Delmarva, DEMEC and SEU) as well as other sources. In addition, we reviewed the Dover energy (and capacity value) pricing relative to a May 2009 market forecast prepared by Pace and did some additional research to put into context that market forecast relative to today's market conditions. Finally, we reviewed the Delmarva SREC pricing compared to the SREC pricing in the Dover and DEMEC contracts in the context of their overall terms and conditions.

Initially, we reviewed the totality of the revenues to be obtained by White Oak based on achieving the planned amount of output using the base case technology and configuration reflected in a pro forma provided to Pace in November 2009. On the cost side, we used the information provided in the November 2009 pro forma provided to Pace. Using an 8 percent discount rate, we calculated the levelized all-in \$/MWh revenues to be obtained by White Oak based on our review of all of White Oak's revenue generating contracts. The reasonableness of the levelized all-in \$/MWh amount is addressed in Section III.A.4 below. Here, we assess whether the Delmarva/White Oak SREC price reasonably reflects the renewable premium associated with the White Oak project, which necessarily focuses on the revenue side of the equation.

After calculating the levelized \$/MWh total revenues of White Oak, we compared the energy revenues to be obtained by White Oak under the Dover/White Oak Contract, which reflect both an energy value and a capacity value (the addition of the White Oak project will reduce Dover's capacity obligations under PJM rules) and calculated the levelized value of the energy/capacity revenues. We then subtracted this amount from the all-in \$/MWh revenues; the result was the average renewable premium (or SREC) value. For

²⁸ SREC is defined under the New Jersey RPS as "a certificate . . . representing one megawatt hour (MWh) of solar energy that is generated by a facility connected to a distribution system in this state. . . ." http://www.njleg.state.nj.us/2008/Bills/PL09/289_.PDF.

purposes of this calculation, we treated the projected amounts to be paid by Dover and DEMEC under their contracts for actual fixed O&M costs as part of the renewable premium (or SREC payment) and not as part of the energy value (it is our understanding that the parties negotiating these contracts viewed it this way as well).

The resulting average SREC price to be received by White Oak (paid by Delmarva, Dover and DEMEC) was slightly less than the price to be paid by Delmarva. This reflected the fact that (a) the average SREC pricing to be received by White Oak, including a share of White Oak's fixed O&M costs to be paid by Dover and DEMEC, was less than the SREC price to be paid by Delmarva and (b) Delmarva would be buying 70% of the total amount of SRECs from White Oak.

Our next step was to compare the energy pricing embedded in the Dover/White Oak Contract with the May 2009 Pace energy and capacity price forecast. This forecast was used to negotiate the energy pricing in the Dover contract. Our evaluation, consistent with what is reflected in Dover documentation, is that on a levelized basis the Dover/White Oak energy pricing is modestly less than the combined energy and capacity value estimates in the May 2009 Pace forecast. Hence, we were able to conclude that the "revenue requirement" applicable to the SREC renewable premium is reasonable within the context of the cost/revenue structure of the White Oak project and combined White Oak revenue contracts.

We also reviewed forward market information for on-peak energy, natural gas and capacity applicable to Delaware to ascertain whether there have been any substantial changes in the year since the Pace forecast was prepared. Generally, natural gas and electric energy forward prices have declined, but capacity prices have increased. On the whole, these changes tend to offset each other and, hence, we have no reason for not using the May 2009 Pace forecast to evaluate whether the Delmarva/White Oak SREC price reasonably reflects the project's renewable premium.

Finally, we reviewed the differential between the combined SREC and O&M payments in the Dover and DEMEC contracts compared to the Delmarva SREC payment of \$216.70. The combined SREC/O&M payments in the Dover/DEMEC contracts are substantially lower than the Delmarva SREC price on a \$/MWh basis. The differences, however, can be explained and justified based on the following considerations:

- Delmarva is not taking the risk that White Oak's actual O&M costs will be higher than projected;
- White Oak is required to post security to support its obligations under its contract with Delmarva, while it is not required to do so under its contracts with Dover and DEMEC; and
- There are stricter performance standards in the Delmarva/White Oak Contract than in the Dover and DEMEC contracts.

A fuller description and assessment of the Delmarva/White Oak Contract terms and conditions is set forth in Section III.B of this report. One additional reason for the SREC pricing differential is that Dover, not Delmarva, was the initiator of the transaction. It is

not unusual in a project involving multiple parties that the initiating party obtains a somewhat better deal.

In conclusion, looking only at the revenue information applicable to the project and the various contracts entered into with White Oak by offtakers, as well as the energy and capacity market price projections at the time the transactions were being negotiated, the Delmarva/White Oak Contract SREC pricing appears to reflect a reasonable renewable premium for the project. The next question is whether the renewable premium is reasonable based on market and other information external to the transaction.

4. Market Data for Long-Term SREC Prices and Short-Term SREC Prices

There is a limited amount of market data for SRECs for Delaware RPS compliance purposes for compliance years 2011 and beyond (as well as for other states within the PJM footprint). There is a forward market for Delaware RPS-compliant SRECs, which is published online by SRECTrade. A forward SREC market is one where parties bid to buy and offer to sell SRECs over periods of compliance years. It can be a reasonably good indicator of forward markets, assuming that there is a sufficiently large quantity of products being traded and there is no attempt by any party to sway the results based on other than normal market motives and behavior.

Below are the bids and offers for forward Delaware SREC trades posted on SRECTrade's website as of August 2, 2010.

Table 3: SRECTrade Delaware Forward Prices (August 2, 2010)

DE Traditional Forwards Market				
	Bid Qty	Best Bid	Best Offer	Offer Qty
DE2010	25	\$260	\$305	25
DE2011	25	\$270	\$315	25
DE2012	25	\$275	\$320	25
DE2013	25	\$275	\$320	25
DE2014	25	\$275	\$320	25
DE2015	10	\$275	\$320	10
DE2016	10	\$270	\$315	10
DE2017	10	\$270	\$315	10
DE2018	10	\$265	\$310	10
DE2019	10	\$265	\$310	10
DE2020	5	\$260	\$305	5
DE2021	5	\$260	\$305	5
DE2022	5	\$260	\$305	5
DE2023	5	\$260	\$305	5
DE2024	5	\$260	\$305	5
DE2025	5	\$260	\$305	5
DE2026	5	\$260	\$305	5

The quantities are very small and they decline further after compliance year 2014. However, they provide some indication of forward SREC market prices in the range of \$280.

For compliance year 2010, SRECTrade shows that Delaware spot SREC auction prices ranged between \$200 and \$250 from July 2009 through April 2010. In the past two months, SREC prices have traded in the \$255 to \$300 range.²⁹

As discussed above, short-term SREC prices will be dependent on supply and demand conditions at particular points in time. Prices are sometimes highest during the initial years of an RPS requirement, especially when minimum requirement levels were established without consideration of the economic potential of solar installations in those initial compliance years or were purposely set high to provide greater incentives to kick-start installation of solar facilities.³⁰ In a nutshell, there is very little market information regarding long-term pricing for Delaware SRECs, but the little information that exists is supportive of the reasonableness of the Delmarva/White Oak SREC price.

5. Other Information Available to Assess the Delmarva/White Oak SREC Price

In light of the dearth of relevant market information, we evaluated, as did Pace, the build-up of the cost information provided by LS Power, including equipment costs, and checked the unleveraged return on investment in light of the expected revenues to be obtained under the various revenue generating contracts. Based on the information available to us, we found the equipment costs, capacity factor and other project assumptions to be reasonable. We also determined that the resulting unleveraged rate of return, taking into consideration use of the cash grant from the U.S. Treasury in lieu of the investment tax credit, was within a reasonable range for obtaining financing. This assessment was based on our own experience, which we confirmed with a consultant specializing in financing of renewable energy projects.³¹

In addition, we examined the efforts recently taken by the Vermont Public Service Board to establish standard offer prices for resources that qualify for the state's Sustainably Priced Energy Enterprise Development ("SPEED") program. SPEED resources consist of in-state renewable resources, including solar PV. These standard offer prices—or feed-in

²⁹ The SRECTrade auction prices for the Mid-Atlantic states are summarized in Appendix B hereto. See <http://www.srectrade.com/auctionhistory.php>.

³⁰ For example, in New Jersey where eligible resources are limited to in-state solar facilities and SREC requirements are higher than in other Northeast states and were recently increased, SREC prices are currently trading at close to the ACP of \$675 for the 2010-11 compliance year.

³¹ We did not discuss the White Oak project in particular with the financial consultant, but simply discussed reasonable ranges of unlevered returns for solar PV projects in the 5 MW-20 MW size range for projects seeking financing.

tariffs—are essentially the all-in prices on a \$/MWh basis to be paid to developers of reasonably competitive projects based on the assumptions and estimates of cost, capacity factor, tax treatment, and other matters that affect project economics. A separate all-in price is determined for each type of renewable resource (e.g., solar PV, wind, and landfill gas). As such, the results of the Vermont proceeding can be useful as a means of comparing the reasonableness of the all-in \$/MWh revenue of the White Oak Project, which, in turn, can be used for assessing the reasonableness of the Delmarva/White Oak SREC pricing.

The analyses conducted in Vermont and resulting all-in \$/MWh standard offer pricing were calculated to enable developers to cover their construction costs, financing costs (including a return to equity holders), and operating and maintenance costs. Using particular assumptions for a solar PV project of 2.2 MW, the Public Service Board concluded that a 24 cent/kwh price—\$240/MWh—should provide sufficient revenues to support deployment of solar PV resources in the state.³² This price was lower than the all-in levelized price that we calculated using the confidential project information provided by White Oak and Pace. As a result, we analyzed the particular assumptions utilized in Vermont to determine if they would be applicable and available to a developer, such as White Oak, in Delaware.

We found several differences. The principle ones are: (a) the availability of a Vermont state income tax credit for renewable resources built in Vermont for which Delaware has no similar tax credit and (b) the financial assumptions used in Vermont appear somewhat constrained. When these differences are adjusted for, the differences between the all-in rate (Vermont) and that for the White Oak project are relatively small. Hence, this analysis supports the reasonableness of the Delmarva/White Oak SREC price.

Finally, we examined data for utility-build options. Even with high SACP and SREC market prices, as currently found in New Jersey, most projects that have been financed in the Mid-Atlantic States, including New Jersey, are smaller, customer-sited solar installations. In New Jersey, there currently are plans by Public Service Electric and Gas Company to build utility-scale projects similar in scale (> 2 MW) to the proposed White Oak Project.³³ However, the Dover Sun Park would still likely continue to be the largest solar PV project of its kind in the region. In Massachusetts, investor-owned utilities have proposed to build solar PV projects, but these self-build options have featured relatively small projects (all less than 1.5 MW) with capital costs that are substantially higher than that of the White Oak Project on a \$/kW basis.³⁴ Based on our review of regional utility involvement and investment in solar facilities to date and the underlying costs of these

³² Order issued January 15, 2010, Establishment of Price for Standard Offer Under the Sustainably Priced Energy Enterprise Development (“SPEED”) Program, Docket No. 7533.
<http://psb.vermont.gov/docketsandprojects/electric/7523>.

³³ See http://www.pseg.com/media_center/pressreleases/articles/2010/2010-01-06.jsp.

³⁴ See <http://www.env.state.ma.us/dpu/docs/electric/09-38/102309dpuord.pdf> and <http://www.env.state.ma.us/dpu/docs/electric/09-05/81209dpuord.pdf>

projects, we find nothing inconsistent with our overall conclusions regarding the reasonableness of the Delmarva/White Oak Contract SREC pricing.³⁵

6. Rate Impact Limit

Section 11 of the 2010 RPS amendments provides that:

The State Energy Coordinator in consultation with the Commission, may freeze the minimum cumulative solar photovoltaics requirement for regulated utilities if the Delaware Energy Office determines that the total cost of complying with this requirement during a compliance year exceeds 1% of the total retail cost of electricity for retail electricity suppliers during the same compliance year.

In this section, we briefly examine the likelihood and timing of a potential freeze and the impact on the Delmarva/White Oak and Delmarva/SEU contracts.

Initially, we note that the freeze on the increase of the solar PV minimum purchase requirement appears to be discretionary, not mandatory. The State Energy Coordinator “may” order a freeze; it appears he is not required to order a freeze based on solar PV compliance costs exceeding a specified level.

Second, it is not clear to us that the denominator—the “total retail cost of electricity for retail electricity suppliers”—means purchased power costs (see Section 21 adding 26 *Del. C.* §363(g) which applies to municipal electric companies and rural electric cooperatives) or total costs, including distribution charges. We also note that the numerator—the total cost of compliance—includes “costs associated with any ratepayer funded state solar rebate program, SREC purchases, and solar alternative compliance payments.”³⁶ We are not familiar with costs or cost estimates associated with ratepayer-funded state solar rebate programs.

Finally, a forecast as to when the 1% cost impact level would be reached would necessarily be based on a variety of assumptions including (a) types of “total retail cost of electricity for retail electricity suppliers” costs to include in the analysis, (b) forecasting appropriate levels of such costs, (c) forecast average SREC/SACP combined payment levels, and (d) forecasting ratepayer funded state solar rebate costs.

In order to provide a rough sense of when that level could be reached, we assumed the following:

³⁵ We note that under Section 12 of the RPS amendments Delmarva might qualify for one or both of two potential 10% “extra credits” for in-state solar projects if the White Oak Project satisfies certain standards for having in-state manufactured components and an in-state workforce. If that is the case, the Delmarva/White Oak Contract pricing becomes even more attractive.

³⁶ Section 11 adding 26 *Del. C.* §354(i).

- Denominator
 - Types of costs: average cost per MWh paid by Delmarva for SOS full requirements plus added cost of SREC/SACP purchases
 - Assumed cost level: \$91.61/MWh in 2010 (compliance year) escalating at 2.5%/year plus incremental SREC costs @ \$216.70/SREC
- Numerator
 - SREC cost @ \$216.70/SREC (no escalation)
 - Solar rebates included: \$0

Based on these assumptions, the table below provides an estimate of cost impact by compliance year beginning in 2011.

Table 4: Estimate of SREC Cost Impact

	Electricity Prices (\$/MWh)	Solar REC Price (\$/MWh)	Ratio	Solar Requirement	Estimate of cost impact
2011	94.29	216.70	2.30	0.20%	0.46%
2012	97.09	216.70	2.23	0.40%	0.89%
2013	99.95	216.70	2.17	0.60%	1.30%
2014	102.88	216.70	2.11	0.80%	1.69%
2015	105.88	216.70	2.05	1.00%	2.05%
2016	109.07	216.70	1.99	1.25%	2.48%
2017	112.34	216.70	1.93	1.50%	2.89%
2018	115.69	216.70	1.87	1.75%	3.28%
2019	119.13	216.70	1.82	2.00%	3.64%

The use of \$91.61/MWh as a 2010 price is based on an estimate of average SOS payments Delmarva would make to wholesale requirements suppliers for the 2010 compliance year. This figure is multiplied by 2.5% annually, with incremental SREC costs added in. The SREC prices were based on the Delmarva/White Oak Contract. Dividing the first two columns yields the ratio between SREC prices and total retail electricity prices (based on the assumptions utilized). Since the RPS is applied on a volumetric basis, we can multiply the ratio times the proposed requirement for each year to arrive at the last column, which represents the potential cost impact as a percentage of total applicable retail electricity prices.

Based on these assumptions, the 1.00% threshold would be reached in the 2013 compliance year, possibly resulting in a freeze in the requirement at 0.60%. The tables below show the potential impact on Delmarva’s SREC purchase obligations compared to the proposed amount of SRECs to be purchased by Delmarva from the White Oak Project, the first assuming the banking arrangement with the SEU and the second assuming no banking arrangement with the SEU.

Table 5: Comparison of SREC Obligations With and Without a Freeze in Requirement Levels

Year	SREC Obligation— No Freeze	SREC Obligation under Freeze When 1% Cost Impact Reached	Contracted SRECS with SEU	Contracted SRECS without SEU (DP&L Directly Purchases 70% of SRECS Produced by Project)
2010	595	595		
2011	8,692	8,692	4,346	9,846
2012	17,568	17,568	4,296	9,796
2013	26,574	26,574	4,247	9,747
2014	35,704	26,778	4,199	9,699
2015	45,020	27,012	20,650	9,650
2016	56,850	27,288	20,602	9,602
2017	68,820	27,528	9,554	9,554
2018	81,078	27,798	9,506	9,506
2019	93,640	28,092	9,459	9,459

As shown above, the SREC purchases Delmarva would make from the White Oak Project (directly or indirectly) would be substantially less than Delmarva’s total SREC obligations assuming a SREC obligation freeze. Hence, we do not believe that the potential for a freeze of the SREC obligation militates for denial of Delmarva’s proposed SREC purchases in this proceeding.

We note that Delmarva’s average SREC purchase price levels may be significantly higher than \$216.70, which would put further pressure on the 1% cap threshold.³⁷ In fact, Delmarva’s average SREC purchase price would likely be higher in the early compliance years if the SEU banking arrangement is implemented, which would tend to increase the likelihood and timing of the 1% cap being reached, other things being equal. We address this as part of the discussion on the pros and cons of the SEU banking arrangement in light of the recent RPS amendments in Section IV.B of this report, after we address the reasonableness of the non-price terms and conditions of the Delmarva/White Oak and Delmarva/SEU contracts.

³⁷ Similarly, if average wholesale requirements purchase escalate at a rate less than 2.5% annually, which may very well be the case since the most recent wholesale procurement cost was less than the average for the last three years, there would be additional pressure on reaching the 1% cap. On the other hand, we have not included costs associated with Delmarva’s purchase of energy and RECs from the wind projects with which it has entered into PPAs.

B. Contract Terms and Conditions

1. Delmarva/White Oak Contract

The principal terms of the Delmarva/White Oak Contract are summarized at pages 7-11 of Glenn Moore's direct testimony. This portion of our report contains a summary and assessment of the Delmarva/White Oak contract terms and conditions.

The contract is effective on April 22, 2010, the date of the agreement, and generally has a term of 20 years following commercial operation, although Delmarva has an obligation to purchase SRECs during the testing period (but not prior to December 1, 2010).

Delmarva's obligation is to purchase its specified share of the environmental attributes produced by the White Oak solar PV facility, including Delaware RPS-complaint SRECs. Delmarva's share is 70% of the annual output of the Facility minus 5,500 MWh/year to be purchased by the SEU during the first four years of commercial operation. Delmarva's purchase obligations are limited to 70% of (a) 16,500 MWh during contract years 5-20 and (b) 14,500 MWh during contract years 1-4 minus the 5,500 to be purchased by the SEU; provided that, if more SRECs are available from the facility, Delmarva has the option to purchase the excess amounts (subject to its 70% purchase right and obligation) at the contract price. The contract price is \$216.70 for each SREC without any escalation over the term of the contract.

Either party may terminate the contract if the Commission, has not issued an order approving the contract that is acceptable to Delmarva and which becomes non-appealable within one year of contract execution. In addition, Delmarva may terminate the Delmarva/White Oak Contract if within a specified timeframe, its auditor determines that Delmarva would be required to consolidate White Oak in Delmarva's financial statements and the parties are unable to negotiate an amendment of the agreement that would avoid that result. In addition, either party may terminate the Delmarva/White Oak Contract due to a force majeure that prevents performance for one year prior to commercial operation or 18 months following commercial operation.

Delmarva's purchase obligations are contingent on: (a) the facility being certified as an eligible energy resource under the Delaware RPS; (b) the Commission issuing an order approving the Delmarva/White Oak Contract and the Delmarva/SEU Contract on terms acceptable to Delmarva and the order becoming final and non-appealable; and (c) White Oak delivers the contractually-required letter of credit to Delmarva.

White Oak's obligations are contingent on obtaining (a) all necessary governmental approvals to build and operate the facility and (b) financing for construction of the facility.

No security is required to be provided by White Oak, the seller, upon execution of the contract or upon Commission approval, as in the other PPAs Delmarva has executed with wind energy developers. Rather, White Oak is required to provide notice within six months following Commission approval that it has executed a turnkey construction

("EPC") contract and issued an unconditional notice to proceed under that contract. Failing that, White Oak must post a \$50,000 letter of credit in favor of Delmarva. If the letter of credit is provided and White Oak does not provide a notice to proceed under an EPC contract within one year after Commission approval, Delmarva may terminate the Delmarva/White Oak Contract and collect \$50,000 in liquidated damages.

Upon issuance of a notice to proceed under its construction contract, White Oak will issue a letter of credit in the amount of \$210,000 (approximately equal to \$30/kW based on 70% of 10 MW in capacity).³⁸ If commercial operation does not occur within 17 months of Commission approval or if commercial operation is achieved with a demonstrated capacity of less than 9.2 MW, White Oak would be liable for liquidated damages at the rate of \$800/day for up to six months of delay (with the daily rate pro-rated based on the amount of capacity shortfall). If commercial operation is not achieved within 23 months of Commission approval, Delmarva may terminate the agreement, in which case it would be entitled to liquidated damages of \$920,000.³⁹ If, by that time, the facility achieves commercial operation but fails to achieve a demonstrated capacity of 9.2 MW, White Oak would be liable for liquidated damages based on the capacity shortfall at a rate of \$100,000 per MW.⁴⁰

Upon commercial operation, White Oak is obligated to increase the letter of credit amount to \$420,000 (approximately equal to \$60/kW), which is not subject to replenishment if Delmarva draws upon it after a White Oak event of default.

The Delmarva/White Oak Contract has an annual performance guarantee (subject to adjustment due to force majeure events and curtailment).⁴¹ If the performance guarantee is not satisfied, Delmarva has the option of waiving its remedy or requiring White Oak to cover the shortfall by procuring replacement SRECs (of a similar kind and value). If no replacement SRECs can be found by either White Oak or Delmarva, White Oak would be liable for paying the SACP minus the SREC contract price for the amount of the shortfall. White Oak's liability for its output guarantee is limited to \$100,000 per year. White Oak's overall liability is limited to \$500,000; however, Delmarva may terminate the agreement if White Oak does not make payment of any liability in excess of the \$500,000 limit.⁴²

There are also a variety of provisions regarding changes in applicable law.⁴³ Delmarva will be responsible for any new taxes on the generation or sale of environmental attributes. If White Oak is required to incur capital costs in excess of \$50,000 to comply with any new law, White Oak would have the right to propose a price increase based on Delmarva's allocated share of 70 percent spread over 20 years, which would apply only to the remaining period of the Delmarva/White Oak Contract. White Oak may terminate the contract if Delmarva does not agree to the cost increase.

³⁸ Delmarva/White Oak Contract Section 13.13.

³⁹ *Id.* Section 4.1.

⁴⁰ *Id.* Section 4.2.

⁴¹ *Id.* Section 4.3.

⁴² *Id.* Section 7.3.

⁴³ *Id.* Article 6.

Delmarva may terminate the contract if there is a change in law prohibiting the environmental attributes from being conveyed separately from the energy generated by the facility and the parties are unable to amend the agreement to provide for the transfer of environmental attributes in a mutually acceptable manner. Delmarva will remain liable to purchase environmental attributes under the contract regardless of any change in law that eliminates its obligation to purchase environmental attributes or affects the value of such environmental attributes.

There are a number of similarities and differences between this contract and the wind energy contracts previously executed by Delmarva pursuant to previous RFPs. Important differences pertain to (a) not requiring development security at the time of contract execution and following Commission approval, (b) allowing the seller's obligations to be contingent on obtaining government approvals and financing,⁴⁴ and (c) limiting the seller's liability during the operating period (following commercial operation). These provisions, while not typical in contracts entered into by investor-owned utilities pursuant to competitive procurement processes, are not unheard of either. Also, Delmarva entered negotiations with White Oak after White Oak had commenced negotiations with Dover pursuant to Dover's RFP process. Hence, the negotiations started on terms proposed by White Oak based on the status of its negotiations with Dover.

In this context, the contract terms and conditions in the Delmarva/White Oak Contract are not unreasonable, especially when one considers the low risk profile associated with the proposed project, with its relatively short post-Commission approval development period and construction period and the relatively high probability that the project will be built. Another risk-reducing factor is that the contract is for SRECs only and not energy or capacity.

2. Delmarva/SEU Contract

Delmarva negotiated with White Oak to purchase 70% of the SRECs generated by the proposed facility (with certain quantity limitations). Under the Delaware RPS, Delmarva can bank SRECs for three years after they are generated, but there is no time limit on the SEU's ability to bank SRECs. Delmarva and the SEU negotiated a SREC banking arrangement involving two contracts: (a) a SREC purchase agreement, with the SEU as the buyer and White Oak as the seller; and (b) a SREC sale agreement with the SEU as the seller and Delmarva as the buyer. It is the latter agreement for which Delmarva seeks Commission approval.

Delmarva's justification for the SREC banking arrangement is addressed in the next section. Here, we review the terms and conditions of the Delmarva/SEU Contract.

⁴⁴ The Bluewater PPA, however, allowed a one-time termination right without liability on the part of the Seller (which is roughly akin to conditioning White Oak's obligations on obtaining government approvals and financing). The Company recently filed an application for approval of amendments to the Bluewater PPA that would permit Bluewater to extend the period in which it may terminate the PPA. See Docket No. 06-241, Letter Application dated August 2, 2010.

The principal terms of the Delmarva/SEU Contract are summarized at pages 12–13 of Glenn Moore's direct testimony. Under the Delmarva/SEU Contract, Delmarva will purchase SRECs associated with up to 5,500 MWh/year of energy produced by the facility during the first four years of commercial operation and which have been purchased by the SEU from White Oak under the SEU/White Oak Contract. Delmarva will purchase half of the aggregate amount (11,000 SRECs) within 90 days after the conclusion of the fourth year of commercial operation of the facility, with the other half (11,000 SRECs) purchased within 90 days of the conclusion of the fifth year of commercial operation.

Delmarva will purchase the SRECs at \$249—a 15% premium to Delmarva's purchase price from White Oak. The reason for the price difference is so that the SEU can finance its purchase of the SRECs from White Oak and carry them until they are sold to Delmarva. The implicit carrying charge is 4.7 percent.⁴⁵

The Delmarva/SEU Contract is dated April 22, 2010, the same as the Delmarva/White Oak Contract. Either party may terminate the contract if the Commission has not issued an order acceptable to Delmarva approving the contract and the Delmarva/White Oak Contract. In addition, Delmarva may terminate the Delmarva/SEU Contract if within a specified timeframe, Delmarva's auditor determines that the Company would be required to consolidate the SEU in Delmarva's financial statements and the parties are unable to negotiate an amendment of the agreement that would avoid that result. Upon termination of the Delmarva/SEU Contract for any reason, Delmarva would be liable to purchase any SRECs previously purchased by the SEU. If such termination is due to any reason other than the SEU's default, Delmarva would also be liable for out-of-pocket costs incurred by the SEU pursuant to its financing of its SREC purchases from White Oak.

Delmarva's obligations are contingent on: (a) the facility being certified as an eligible energy resource under the Delaware RPS; and (b) the Commission issuing an order approving the Delmarva/White Oak Contract and the Delmarva/SEU Contract on terms acceptable to Delmarva and the order becoming final and non-appealable.

The SEU's obligations are contingent on: (a) obtaining financing for its purchase of SRECs from White Oak; and (b) the SEU/White Oak Contract being in full force and effect. It is Delmarva's understanding that the SEU will issue bonds to finance its acquisition of SRECs from White Oak.⁴⁶

Delmarva will be liable for any new taxes on the purchase, ownership or sale of environmental attributes for which the SEU becomes responsible. Delmarva will remain obligated to purchase the environmental attributes under the Delmarva/SEU Contract regardless of any change in law that eliminates Delmarva's obligation to purchase environmental attributes or that affects the value of such attributes.⁴⁷

⁴⁵ Delmarva Response to Staff Data Request WS-15.

⁴⁶ Delmarva Response to Staff Data Request GM-38.

⁴⁷ Delmarva/SEU Contract Article 4.

IV. Merits of the Delmarva-SEU Contract

A. Justification for the Contract before the RPS Amendment

Delmarva provides two reasons for entering into the contract with SEU. First, there is a risk that some of the SRECs would expire if Delmarva were to acquire 70% of the SRECs produced by the White Oak Project for the years 2011 through 2014 without banking 5,500 SRECs/year with the SEU. Second, Delmarva believes that purchasing these additional amounts in these early years would basically remove it from participation in the Delaware SREC market, which would affect the viability of the market given the Company's size relative to other potential purchasers of SRECs in the state.⁴⁸

Delmarva may bank any excess SRECs procured for use in future compliance periods for up to three years. Based on the assumption that Delmarva would purchase 70% of the SRECs produced by White Oak without any banking by the SEU, the table below shows the forecasted banking activity for SRECs produced in the years 2011-2015 under the RPS law before its recent amendment and is based on data provided in response to Staff Data Request WS-7. The table shows that under anticipated SREC requirements prior to the recent RPS amendments, only 2011 and 2012 vintages will require the full three years of banking; 2013 and 2014 vintages will only require two years of banking; and all purchases beyond the 2015 vintage SRECs will be required to meeting SREC requirements in 2015. In sum, banking of any unused SRECs appears to not have been a problem before the RPS amendment given Delmarva's current supply position and anticipated requirements.

Table 6: SREC Banking Prior to the Passage of the 2010 RPS Amendments

	Purchased	Used	Banked/Shortfall
Compliance Year	2011 Vintage		
2011	9,846	2,086	7,759
2012	n/a	4,348	3,411
2013	n/a	3,411	0
	2012 Vintage		
2012	9,796	0	9,796
2013	n/a	5,490	4,306
2014	n/a	4,306	0
	2013 Vintage		
2013	9,747	0	9,747
2014	n/a	9,747	0

⁴⁸ See Direct Testimony of Glenn Moore at 11-12.

	2014 Vintage		
2014	9,699	1,746	7,953
2015	n/a	7,953	0
	2015 Vintage		
2015	9,650	17,603	(7,565)

Even in the event that SREC requirements were to decrease due to customer migration from SOS, Delmarva would always have the ability to sell any unused SRECs to other companies with an SREC obligation for which White Oak SRECs would qualify, including those providing service in Delaware, Pennsylvania and the District of Columbia. We understand Delmarva’s reasons for promoting some ongoing liquidity in the SREC market during its initial years; however, with passage of the 2010 RPS amendments, the justification for the Delmarva/SEU banking arrangement has been substantially eroded.

B. Justification for the Contract After the RPS Amendment

The 2010 RPS amendments significantly increased the SREC requirement in the years 2011-2016, which are the years covered by the Delmarva/SEU Contract. The table below replicates the analysis found in the prior table using the new, higher SREC requirements.

Table 7: SREC Banking After Passage of the 2010 RPS Amendments

	Purchased	Used	Banked/Shortfall
Compliance Year	2011 Vintage		
2011	9,846	8,692	1,154
2012	n/a	1,154	(16,414)
	2012 Vintage		
2012	9,796	9,796	(6,818)
	2013 Vintage		
2013	9,747	9,747	(16,827)

Due to the higher SREC requirements, banking is only required for one year for the 2011 vintage. In 2012 and 2013, the entire amount of SRECs purchased in that year are necessary for compliance and substantial amounts of additional purchases will still be necessary to meet the obligation levels. Hence, Delmarva’s concern with not being an ongoing participant in the Delaware SREC market is essentially mitigated except for 2011. Moreover, the 2010 RPS amendments add an SREC obligation to municipal electric companies and rural electric cooperatives. This should provide additional liquidity to the Delaware SREC market by adding demand from additional buyers.

Finally, as noted in Section III.A.6 of this report, the Delmarva/SEU banking arrangement will tend to exacerbate the issue of reaching the 1% SREC cost cap during the 2011-14 period since it is likely that the 5,500 SRECs/year that the SEU would purchase in lieu of Delmarva would be replaced by SRECs (purchased by Delmarva) at a higher cost.

As a result of the RPS amendments, the benefits of the SEU banking arrangement appear to be small and are outweighed by the costs associated with financing the banking arrangement, in our opinion. We recommend that either the SEU banking arrangement be removed from the overall transaction or the volumes banked through the SEU be substantially reduced. If the SEU banking arrangement is to be eliminated, the Delmarva/White Oak Contract would need to be modified in several respects, with the key modification being the change in the contract quantity—Delmarva would now purchase 70% of the SRECs produced by the facility (subject to the annual caps), but without the reduction of 5,500 SRECs during the first four contract years (which under the proposed agreements, would be purchased by the SEU from White Oak). Both the Delmarva/SEU Contract and the SEU/White Oak Contract would be terminated.

Alternatively, if there is good justification for keeping the Delmarva/SEU Contract and SEU/White Oak Contract in place at reduced volumes, the agreements could be modified so that SEU's obligation to purchase 22,000 SRECs from White Oak in the first four contract years (5,500 SRECs/year) and obligation to resell the 22,000 SRECs to Delmarva in the next two contract years (11,000 SRECs/year) would be proportionately reduced. In Staff's view, a reduction in the order of 90% would be appropriate if this approach is taken. Hence, if the SEU banking arrangement were reduced by 90%, the following volume modifications would be in order:

- Under the SEU/White Oak Contract (not before the Commission for approval), SEU would purchase 2,200 SRECs, 550 SRECs/year for the first four contract years;
- Under the Delmarva/SEU Contract, Delmarva would purchase 2,200 SRECs, 1,100 SRECs during the fifth contract year and another 1,100 SRECs during the sixth contract year; and
- Under the Delmarva/White Oak Contract, Delmarva would purchase (subject to the annual limit caps) 70% of the SRECs generated by the White Oak facility, subject to a reduction of up to 550 SRECs that would be purchased by SEU from White Oak.

We note that before the RPS Amendments were enacted into law, Delmarva acknowledged that "DPL and the SEU might need to reevaluate the volumes to be purchased by the SEU" if Senate Substitute No. 1 for Senate Bill 199 were enacted,⁴⁹ an eventuality that has come to pass.

⁴⁹ Delmarva Response to Staff Data Request GM-23.

V. Conclusions and Recommendations

Delmarva has entered into two contracts for which it seeks approval from the Commission as being “in the public interest” pursuant to Section 1007(b) of the Electric Retail Utility Customer Supply Act of 2006. The first is a contract to procure 70 percent of the SRECs generated by the 10 MW White Oak solar PV project to be built in Dover, Delaware minus approximately 5,500 SRECs for the first four contract years at a price of \$216.70/SREC. This quantity of SRECs—22,000 in total—would be purchased for \$249/SREC pursuant to a second contract with the SEU in the fifth and sixth contract years after having been “banked” by the SEU. The SEU under Delaware’s RPS law has unlimited banking capability, while Delmarva can bank SRECs it cannot currently utilize for up to three years.

Despite not resulting from a typical competitive bidding process, it is our conclusion that the pricing, terms and conditions of the Delmarva/White Oak Contract are reasonable, based on our review of the relevant project agreements, confidential project information, and pertinent market and industry data. However, with the increase in Delmarva’s RPS percentage obligations under the recent amendments to the Delaware RPS, it is our view that there is insufficient benefit to be derived from the Delmarva/SEU banking arrangement relative to the additional costs associated with the arrangement. Hence, the banking arrangement should be eliminated, or, if there is sufficient justification, substantially downsized, with Delmarva procuring all or almost all of the 70% of the SRECs produced by the White Oak project, subject to the caps set forth in the Delmarva/White Oak Contract at the \$216.70/SREC contract price.

Appendix A: Experience and Qualifications

New Energy Opportunities, Inc.

New Energy Opportunities, Inc. is a consulting firm with a focus on the procurement and sale of electric power and other products from generation facilities, especially those using renewable resources. Barry Sheingold, President of NEO, has over 20 years of experience in the design and structuring of long-term contracts for the purchase and sale of electric power, the design of competitive procurements, evaluating bids, and oversight of competitive procurements, including considerable experience with competitive procurements for long-term contracts involving renewable energy projects. Mr. Sheingold was formerly Senior Vice President of Citizens Power LLC, the nation's pioneering electric power marketing company, where he served in a senior business capacity after serving as General Counsel. Previously, Mr. Sheingold worked for Delmarva Power and Light Company, Delmarva's independent power development affiliate, Delmarva Capital Technology Company, and the Federal Energy Regulatory Commission. He is a graduate of Boston College Law School (*cum laude*) and New College, now the honors college of the Florida university system.

NEO has provided consulting assistance in the renewable energy field in a variety of capacities and for different types of clients. Mr. Sheingold has performed, or is performing, an independent evaluator function for renewable energy RFPs in several states, including Delaware (2006 Delmarva Power In-State Generation RFP, with La Capra Associates and Merrimack Energy Associates), California (2009 Southern California Edison Company ("SCE") Renewable Energy RFP and 2007 Pacific Gas and Electric Company Renewables RFO, both with Merrimack Energy Associates), Hawaii (2008 Hawaiian Electric Company Renewable Energy RFP), Oklahoma (2008 Oklahoma Gas & Electric Company Wind RFP, with La Capra Associates), Utah (2008 Pacificorp Renewable Energy RFP, with Merrimack Energy), Arizona (2008 Arizona Public Service Distributed Energy Resources RFP, with Merrimack Energy) and Oregon (2003 Portland General Electric RFP, with Merrimack Energy). In this capacity, Mr. Sheingold has authored or co-authored a variety of reports.

Mr. Sheingold has also represented a variety of public clients involving competitive bidding. In 2003, Mr. Sheingold was the lead consultant in providing the conceptual and detailed design for the Massachusetts Technology Collaborative's competitive bidding program for the procurement of renewable energy certificates, and options on renewable energy certificates, under long-term contracts. The purpose of this program—the Massachusetts Green Power Partnership—was to provide financing support for new generation facilities in a competitive, deregulated market where long-term contracts were very difficult for developers to obtain. In addition, Mr. Sheingold was the principal consultant in developing the economic evaluation criteria, evaluating the bids from an economic perspective, and advising on contract negotiations with the winning bidders. He collaborated with La Capra Associates in the conduct of the bid evaluation. He has also advised the New York State Energy Research and Development Authority ("NYSERDA") in its program of procuring generation attributes from renewable energy projects under long-term contracts in implementing the New York Renewable Portfolio Standard, again

working with La Capra Associates. He has advised the Town of Fairhaven, Massachusetts in the design of a competitive procurement, bid evaluation and contract negotiations involving the leasing of town land to a developer of a wind energy project and the purchase of power from the project. In 2003, he testified on behalf of Hydro-Quebec Distribution in the regulatory review of power contracts resulting from a competitive procurement with respect to confidentiality issues. He has assisted the State of Rhode Island, in conjunction with La Capra Associates, regarding a Request for Proposals for offshore wind projects. Recently, he testified on behalf of the Nova Scotia Consumer Advocate regarding the proposal by Nova Scotia Power, Inc. to build a biomass-fired power plant.

For private clients, Mr. Sheingold has provided due diligence and other negotiation assistance regarding commercial arrangements associated with project development for onshore wind farms (Iowa, Texas, Colorado, New York, Vermont and Maine), offshore wind farms (Ireland) and other types of generation projects.

Mr. Sheingold has many years of relevant experience, both from a commercial and legal perspective. As Senior Counsel with Delmarva Power in the 1980s, he helped in developing the company's first competitive power procurement under long-term purchase contracts. The RFP was issued after Mr. Sheingold left the company in early 1989 to take the position of General Counsel and Vice President at Citizens Power, the nation's first independent electric power marketing company, where he played an important role in pioneering market-based ratemaking for power marketers (and later independent power producers) with the 1989 *Citizens Power* decision at the Federal Energy Regulatory Commission. At Citizens Power, Mr. Sheingold specialized in long-term contracts between generators and utilities and the restructuring of those contracts, working for both buyers and sellers and for Citizens Power acting as a principal. He advised clients in a variety of competitive power procurements in Massachusetts, Oregon, New Jersey, Indiana, California, Maryland, Nevada and elsewhere.

La Capra Associates, Inc.

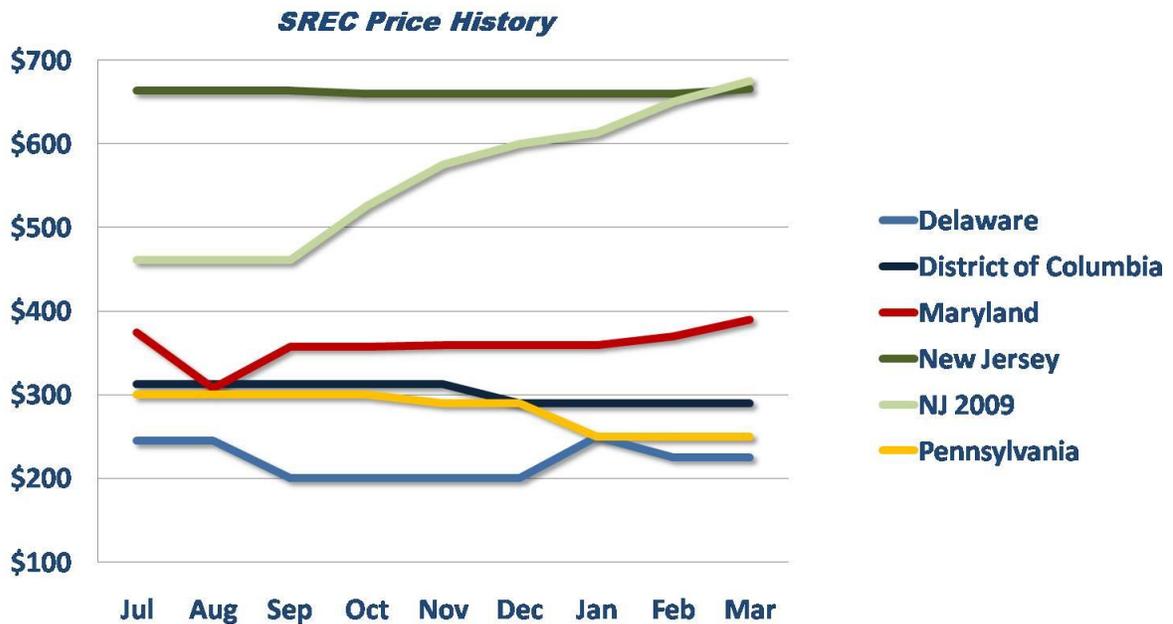
La Capra Associates is an employee-owned consulting firm which has specialized in the electric and natural gas industries for more than 25 years. The firm's expertise includes power market policy and analysis (wholesale, retail, and renewable), power procurement, power resources planning, economic/financial analysis of energy assets and contracts, and regulatory policy. La Capra Associates has been involved in many aspects of the renewable energy sector over the past decade. As a firm, La Capra Associates has conducted a number of renewable resource potential and economic impact analyses for various states (Massachusetts, New York, North Carolina, Connecticut, South Carolina, and Arkansas). The company also has power markets modeling expertise, especially in the Northeast and Mid-Atlantic regions. La Capra Associates analyzes renewable energy certificate markets, by developing an understanding of project economics, tracking of proposed projects and RPS regulations. Furthermore, the firm provides transaction advice, financial modeling and asset valuation support to private and government entities seeking to sell renewable output and certificates and engage in purchases of renewable energy, including through long-term PPAs. The firm has extensive experience in regulatory proceedings involving analysis of PPAs and utility investment in renewable energy projects. Recently, La Capra Associates staff has provided testimony in a number of regulatory proceedings in the Northeast, including review of solar as a non-transmission alternative to the Maine Power Reliability Project and evaluation of the proposals of National Grid and Western Massachusetts Electric to purchase and install solar facilities throughout their service territories in Massachusetts.

Alvaro E. Pereira, Ph.D., a Senior Consultant at La Capra Associates, plays a major role in the firm's activities in the renewable energy sector. He has extensive familiarity with project development and market issues in the Northeast and has conducted and examined a number of market forecasts, including energy, capacity, and reserve markets, for use in renewable project analyses. He has hands-on experience with power markets modeling, financial modeling, and power project economics. Dr. Pereira has examined the viability of an off-shore wind facility for the Town of Hull and has provided testimony regarding the solar installation proposals of National Grid and Western Massachusetts Electric in Massachusetts. For private clients, Dr. Pereira provides advisory services related to power and REC procurement and the feasibility of signing long-term PPAs. He recently advised the Massachusetts Water Resources Authority regarding the entry into a 20-year PPA for solar and is currently advising Amtrak regarding a similar PPA for a solar facility in Pennsylvania. Prior to joining La Capra Associates, Dr. Pereira was at the Massachusetts Division of Energy Resources for nearly 9 years as the head of a group responsible for economic and technical analyses of policies, programs, and regulatory filings.

APPENDIX B

SREC Auction History

The table below includes all historical auction pricing on SRETrade. 2009 New Jersey SRECs were first sold in September of 2008. They are no longer eligible for sale in the auctions because the 2009 Energy Year has ended and the market has closed. SREC auctions were first held in Maryland, Pennsylvania and Delaware in July of 2009. The 2010 New Jersey SREC auctions began in July of 2009 and will be eligible for sale until the end of the 2011 energy year. The first auctions for Massachusetts, North Carolina and Ohio are expected to occur later in 2010.



REPORT ON DELMARVA POWER'S REQUEST FOR APPROVAL OF SOLAR RENEWABLE ENERGY CREDIT CONTRACTS

Month	NJ10	MD09	MD10	OH09	OH10	PA09	PA10	DE10	DC09	DC10	NJ09
07/2010	\$665.04		\$315.00		\$300.00		\$290.00	\$255.00		NONE	
06/2010	\$665.00		\$326.50		\$325.00	\$310.00	\$310.00	\$300.00		\$290.00	
05/2010	\$665.00	\$325.00	\$326.00		\$325.00		\$310.00	NONE	\$290.00	\$290.00	
04/2010	\$665.00		\$325.00				\$250.00	\$225.00		\$290.00	
03/2010	\$665.00	\$390.09					\$250.00	NONE	\$290.00		
02/2010	\$660.00	\$370.08						\$225.00	\$290.00		
01/2010	\$660.00	\$360.00				\$250.00		\$250.00	\$290.00		
12/2009	\$660.00	\$360.00				\$290.00		\$200.00	\$290.00		
11/2009	\$660.00	\$360.00				\$290.00		\$200.00	\$312.50		
10/2009	\$660.00	\$358.00				\$300.00		\$200.00			
09/2009	\$663.00	\$358.00				\$300.00		\$200.00			\$680.00
08/2009	\$663.00	\$308.00				\$300.00		\$245.00			\$680.00
07/2009		\$375.00				\$300.00		\$245.00			\$675.00
06/2009											\$675.00
05/2009											\$675.00
04/2009											\$675.00
03/2009											\$675.00
02/2009											\$650.00
01/2009											\$612.50
12/2008											\$600.00
11/2008											\$575.00
10/2008											\$526.00
09/2008											\$461.00