DELMARVA POWER & LIGHT COMPANY

DIRECT TESTIMONY GLENN A. MOORE

BEFORE THE DELAWARE PUBLIC SERVICE COMMISSION

CONCERNING DELMARVA'S APPLICATION FOR COMMISSION APPROVAL

OF TWO PROPOSED LONG TERM CONTRACTS

FOR THE PURPOSE OF SUPPLYING SOLAR GENERATION PRODUCTS

TO DELMARVA POWER'S SOS CUSTOMERS

DOCKET NO. _____

Q: Please state your name and address.

A: My name is Glenn A. Moore. My business address is Delmarva Power & Light Company, 401 Eagle Run Road, Newark, Delaware, 19702.

Q: With who are you employed and in what capacity?

A: I am the Vice President of Delmarva Power's Newcastle Region.

Q: What are your responsibilities in that position?

A: My main responsibilities focus around Government Affairs and Public Policy. The goal is to build and maintain positive relationships with the branches of the State and local government within our service territory. I also work with business leaders, low income associations, community organizations and other customer groups. These relationships allow a two-way communication to understand the needs of our communities and customers and to develop policies to meet these needs. We work across our entire organization to achieve these goals. One of the important legal/public policy initiatives I have worked on over the last several years is the achievement of Delmarva's Delaware Renewable Portfolio Standards (RPS). The

current RPS includes a 2% solar carve-out. Helping Delmarva meet its entire RPS, and particularly, the solar carve-out, has been an important goal to which I have been assigned. I have been working on meeting this goal and became involved in the Dover Sun Park due to this responsibility.

Q: What is the purpose of your testimony in this proceeding?

A: I am providing testimony in support of Delmarva Power's application for Commission approval of two proposed long term contracts for the purpose of supplying solar generation attributes to Delmarva Power's SOS customers. The first proposed contract is Delmarva Power's Solar Renewable Energy Credit Contract with White Oak Solar Energy LLC (White Oak) as an SREC Source for Delmarva's Standard Offer Service Customers (the "Delmarva/White Oak Contract"). The second proposed contract is a Solar Renewable Energy Credit Sale/Repurchase Contract with the Delaware Sustainable Energy Utility (the "Delmarva/SEU Contract"). I am the general policy witness for Delmarva's application. I also served as the lead negotiator for the project on behalf of Delmarva.

Q: Please explain why Delmarva Power is seeking approval for these two SREC contracts.

A: First of all, as the Application explains, pursuant to the Utility Retail Customer Supply Act ("EURCSA"), Delmarva Power is required to seek Commission approval of long-term contracts necessary to serve its SOS customers. Delmarva is also required to comply with the Delaware Renewable Energy Portfolio Standards Act ("REPSA"). Under REPSA, Delmarva's total retail sales of electricity must include a minimum percentage of eligible renewable energy resources. The minimum percentage of renewables increases each year until it reaches 20% in 2019. Within the minimum percentage of renewables is a carve-out for a mandatory percentage

of solar renewable energy credits ("SRECs").

Q: What led Delmarva to enter into a long term contract for SRECs as opposed to simply purchasing SRECs from the wholesale market?

A: In PSC Docket No. 06-241, the Commission issued Order No. 7199, which provided that Delmarva should utilize a portfolio approach to meet its SOS supply obligation. Since the REPSA requirements went into effect in 2007, Delmarva has been obtaining the vast majority of its SRECs through the current reverse auction process for SOS load in which the lowest bidding wholesale energy providers win the right to provide energy and other required products to Delmarva's SOS customers. The wholesale providers have been required to include SRECs in their bids. Through Commission Order No. 7432 in Docket No. 04-391, however, the Commission granted a request by Delmarva to relieve the wholesale providers of the obligation to include the necessary SRECs. In compliance with the Commission's Order Nos. 7199 and 7432, Delmarva began developing another source for obtaining some portion (or all) of its SRECS, other than through the reverse auction process. Because Delaware's solar resource is relatively equal to that of other PJM states, Delmarva determined that it would be beneficial to its customers and the State if a source of SRECs could be established in Delaware for fulfilling some or all of Delmarva's SREC needs.

Q: How did Delmarva proceed?

A: I was given the responsibility of exploring the opportunities for fulfilling the REPSA obligations of Delmarva's SOS load through either a long term contract or, potentially, Delmarva development of a qualified utility scale solar facility located in Delaware. I started by evaluating properties owned by Delmarva Power. This included evaluating the possibility of installing solar generation facilities at our distribution and transmission substations. The distribution substations

are relatively small and could support 10-20kW solar facilities. Our transmission substations (Keeney and Red Lion) are significantly larger and could accommodate utility scale (2-5MW) solar facilities. We were also looking into the potential of building a larger solar installation on other property. At the time I was concluding this evaluation, we were contacted about our potential interest in the Dover Solar Project, which was larger and much farther along in its development.

Q: Please explain how you first learned of the potential for becoming involved in the proposed project.

A: In the December 2009 timeframe, while I was conducting the evaluation of our facilities, I was contacted by Marianne Abdul, who is our Senior Wholesale Relations Manager. She informed me that she had been contacted by the City of Dover to determine our interest in the Dover Sun Park.

Q: What did Delmarva do from there?

A: We put together a team to assist in looking into the possibility of moving forward with the Dover facility, rather than having Delmarva move forward with its own solar project. That team was comprised primarily of myself, William R. Swink (our Manager of Energy Procurement), who will also testify in this proceeding, Mark Finfrock (our Chief Risk Officer), Marianne Abdul (Delmarva's Senior Wholesale Relations Manager) and Todd Goodman (Delmarva's in-house Delaware Regulatory Counsel). We did, of course, rely upon the assistance and expertise of many other individuals within Delmarva Power and our affiliate, Pepco Holding, Inc. We then scheduled an initial meeting with representatives from the City of Dover who had undertaken the process of developing the solar project to date.

The Delmarva team met several times with Francis Hodsoll. Mr. Hodsoll also provides

testimony in support of this Application. He is the Vice President of Asset of Management for Pace Global Energy Services, LLC. ("PACE"): Mr. Hodsoll explained that PACE had been retained by Dover as consultants to assist the City of Dover in developing a utility scale solar facility. Through our meetings with Mr. Hodsoll, we learned that Dover had already completed a request for proposal process (RFP) in which qualified developers had been identified. Mr. Hodsoll explained, and we discussed at length, the fact that after analyzing the qualified bidders, Dover had selected White Oak, an affiliate of L.S. Power, to move forward as the proposed developer. Mr. Hodsoll provides testimony in support of this Application concerning: the RFP process, why White Oak was selected, why Dover reached out to Delmarva Power, and why the participation of Delmarva Power is needed to bring this important renewable energy project to the State of Delaware. Mr. Hodsoll's testimony is attached as Exhibit C to Delmarva's Application. I will leave it to Mr. Hodsoll to address those issues in more detail.

After a few meetings with Mr. Hodsoll (some in person and some via conference call), several meetings were conducted with representatives of White Oak, including Joe Gorberg, who also provides testimony in support of this Application. In addition to these meetings, Delmarva engaged in numerous internal meetings and engaged in its own examination concerning White Oak/L.S. Power and the proposed solar project. Delmarva ultimately determined that, due to several factors, we would move forward with Dover and White Oak, rather than continuing to pursue a Delmarva-only solar project.

Q: <u>What were the reasons underlying Delmarva's decision to work with Dover rather than continuing to investigate a Delmarva Power only project?</u>

A: There were several reasons for that decision. We were very comfortable with our initial series of meetings with Mr. Hodsoll, who was running the project for Dover, and the

representatives from White Oak/L.S. Power. It was clear to us that both Mr. Hodsoll of PACE and the individuals at White Oak/L.S. Power were experienced and knowledgeable. Dover had already conducted a significant RFP selection process. Dover had already identified a site that was under its ownership and control. Dover had selected a proposed developer (White Oak). Dover informed us that it needed the participation of Delmarva to bring its project to fruition. In addition, joining Dover's process would allow a larger project to be constructed, which would likely lead to the benefits of economies of scale.

Q: What occurred after the decision to move forward with White Oak was made?

A: Delmarva entered into negotiations with White Oak for a long term contract in early August 2009. Delmarva used the same initial project team, and eventually brought in experienced outside counsel specializing in energy contracts to help ensure that an eventual contract would adequately protect the interests of Delmarva's customers. As with any long term contract, the negotiations were extensive and were conducted very carefully. Negotiations continued for approximately 8 months, until April 22, 2010, before the final proposed Delmarva/White Oak Contract was executed.

THE PROPOSED DELMARVA/WHITE OAK CONTRACT

Q: Would you describe some of the important elements of the proposed Delmarva/White Oak Contract?

A. It was determined early in the negotiations that the City of Dover would take all the energy and capacity, due to the fact that the interconnection would be within the distribution system of Dover. Additionally, a direct interconnect to the Dover distribution system avoids the PJM-associated costs involved with interconnecting to the Delmarva-owned transmission system, thereby lowering the overall cost of the project. It was determined by Dover that it

would take 15% of the SRECs produced by the project. During Delmarva's negotiations with White Oak, Delaware Municipal Electric Corporation ("DEMEC") also entered into negotiations with White Oak. We considered that to be a very positive development for the prospects of ultimately bringing the project to fruition. We eventually learned that DEMEC agreed to take 15% of the SREC output from the proposed project. As I will describe later in this testimony, it was eventually agreed that Delmarva would take 70% of the SREC's from the Facility.

Q. Was White Oak in negotiations with Dover and DEMEC during its negotiations with Delmarva?

A. Yes. White Oak was simultaneously negotiating with Dover and DEMEC. Delmarva, Dover, and DEMEC agreed that our respective contracts with White Oak should contain similar pricing, benefits and terms, adjusted as needed to address any additional assurances or letters of credit that any of the utilities might require.

Q. Was it eventually determined that all the utilities had similar prices and terms?

A: Yes. In order to assure that no utility was given materially better terms than any other, we all reviewed one-another's contracts once they had all been completed. All parties were satisfied that this objective was met.

Q: Could you summarize the terms of the proposed Delmarva/White Oak Contract?

A: Certainly. The Proposed Contract is rather lengthy, as such long term agreements generally are. In an effort to make my testimony more comprehensible (and hopefully less tedious for the Commission to review) I have set forth below a chart that summarizes the major terms of the Proposed Contract:

Parties:	White Oak Solar Energy, LLC ("***White Oak***"), as seller, and Delmarva Power & Light Company ("***DPL***"), as purchaser.
Commodity:	White Oak will sell DPL renewable energy credits and all other environmental attributes (collectively, the "***Attributes***") associated with a

	portion of the energy produced by a solar photovoltaic generating facility (the "***Facility***") to be developed by White Oak in Dover, Delaware. Attributes do not include tax credits associated with the production of solar energy.
Quantity:	DPL will purchase Attributes associated with 70% of the annual output of the Facility, less those associated with up to 5,500 MWh per year to be purchased by the Delaware Sustainable Energy Utility ("***SEU***") during each of the first 4 years of commercial operation. DPL's purchase obligation is limited to 16,500 MWh per year (14,500 MWh for each of the first 4 years). If more is available from the Facility (after taking into account quantities sold to City of Dover and the SEU), DPL has the option to purchase all or any portion of such excess at the contract price.
Term:	20 years of commercial operation plus testing period prior to commercial operation, provided that DPL is not obligated to purchase any Attributes prior to December 1, 2010.
Purchase Price	$216.70/MWh, payable monthly within 10 days of invoice. Interest on late payments accrues at prime plus 2%.
Termination Rights:	Either party may terminate the Agreement if the Delaware Public Service Commission ("***DPSC***") fails to approve the Agreement on terms acceptable to DPL within 1 year of its execution. DPL may terminate the White Oak Agreement if: (a) its auditor determines that, as a result of the agreement, it would be required to consolidate White Oak in DPL's financial statements; and (b) the parties are unable to negotiate an amendment to the agreement that would avoid that result. Either party may terminate the White Oak Agreement based on a force majeure that prevents performance for an uninterrupted period of: (a) 1 year prior to commercial operation; or (b) 18 months after commercial operation.

Conditions Precedent:	DPL's purchase obligations are contingent on: (a) the Facility being an eligible energy resource under the Delaware REPSA; (b) the DPSC issuing an order approving the White Oak Agreement and the SEU Agreement on terms acceptable to DPL; and (c) White Oak delivering a letter of credit (as described below) to DPL. White Oak's obligations are contingent on obtaining: (a) all governmental approvals; and (b) financing.
Curtailment:	White Oak is not allowed to curtail output except: (a) when directed by PJM; (b) for maintenance of the Facility (which White Oak may not schedule in June, July, August or September without DPL's consent); (c) due to an emergency; or (d) if required pursuant to its interconnection agreement with the City of Dover.
Schedule Guarantees (4.1):	Within 6 months of DPSC approval of the White Oak Agreement, White Oak must: (a) provide evidence that it has issued notice to proceed under a turnkey construction contract; or (b) post a $50,000 letter of credit in favor of DPL. If White Oak posts such letter of credit and fails to provide evidence that it has issued notice to proceed under a turnkey construction contract within 1 year of DPSC approval of the White Oak Agreement, DPL may terminate the White Oak Agreement, in which case it would be entitled to $50,000 in liquidated damages. If, within 17 months of DPSC approval of the White Oak Agreement, the Facility fails to achieve commercial operation or achieves commercial operation with a demonstrated capacity less than 9.2 MW, White Oak would be liable for liquidated damages at the rate of $800/day (pro-rated based on the capacity shortfall) for up to 6 months of such delay. If the Facility fails to achieve commercial operation within 23 months of DPSC approval of the White Oak Agreement, DPL may terminate the White Oak Agreement, in which case it would be entitled to liquidated damages equal to $920,000.
Capacity Guarantee (4.2):	If the Facility fails to achieve a demonstrated capacity of 9.2 MW within 23 months of DPSC approval of the White Oak Agreement, White Oak would be liable for liquidated damages based on the capacity shortfall (calculated at the rate of $100,000 per MW).
Production Guarantee (4.3):	White Oak guarantees that the Facility will generate no less than 75% of the estimated output on an annual basis. The guaranteed amounts range from 7,838 MWh for the first year of operation to 6,664 MWh for the 20th year. White Oak is excused from this production guarantee to the extent output is reduced due to curtailment, force majeure or any de-rating of the Facility at commencement of operation (for which liquidated damages would have been paid as set forth above).

	In the event of a shortfall, DPL would have the option of waiving its remedy or requiring White Oak to cover the shortfall. In the event no Attributes were available for purchase from third parties to cover the shortfall, White Oak would be liable to pay DPL the amount of the alternative compliance payment that would be owed for such shortfall (whether or not DPL is liable to pay such amount) less the amount that would have been owed for the purchase of the same quantity of Attributes. White Oak's liability with respect to its output guarantee is limited to $100,000 per year.
Preferred rate (5.9):	For the period lasting through 18 months after commercial operation, White Oak has agreed not to sell Attributes from the Facility pursuant to a 20-year contract at a price (without a separate pass-through for operation and maintenance costs) less than the contract price plus $2/MWh.
Changes in Law (Art 6):	If White Oak is subject to a new tax on the generation or sale of Attributes, DPL would be liable for such new taxes.
	If White Oak is required to incur capital costs in excess of $50,000 to comply with any new law(s), White Oak would be entitled to propose a price increase based on DPL's allocated share of such cost. DPL's share would be calculated by taking 70% of the total cost spread ratably over a 20-year period and then allocating to DPL the portion of such cost payable over the remainder of the contract term. DPL would have the right to accept or reject such price adjustment, provided that if DPL rejected the adjustment White Oak would have the right to terminate the White Oak Agreement.
	If there is a change in law prohibiting the Attributes from being conveyed separately from the energy generated at the Facility and the parties are unable to amend the agreement to provide for the transfer of the Attributes in a mutually acceptable manner, DPL may terminate the White Oak Agreement.
	DPL would remain liable to purchase Attributes under the Agreement regardless of any change in law that eliminates DPL's obligation to purchase Attributes or affects the value of such Attributes.
Limitation of Liability (7.3(D)):	White Oak's liability under the White Oak Agreement is limited to $500,000, provided that DPL may terminate the White Oak Agreement if White Oak incurs, and declines to pay, any liability in excess of that amount.
Indemnities (10.1):	Each party indemnifies the other against third-party claims for personal injury or property damage and against fines or penalties resulting from the other party's breach of the Agreement, negligence or willful

misconduct.

Assignment (Art. 12):	White Oak must assign the White Oak Agreement to any purchaser of the Facility. Other assignments by a party are subject to the other party's consent, except for: (a) assignments by a party to an affiliate; and (b) assignments in connection with a financing or refinancing of the Facility (in which case DPL agrees to execute a consent).
Credit Support (13.13):	Upon issuance of a notice to proceed under its construction contract, White Oak will issue an irrevocable letter of credit in the amount of $210,000. Upon commercial operation, the letter of credit will be increased to $420,000. Such letter(s) of credit will: (a) be available to DPL to satisfy an obligation of White Oak after an event of default; and (b) not require replenishment.

THE PROPOSED DELMARVA/SEU CONTRACT

Q. At some time during Delmarva's negotiations with White Oak, did the sustainable Energy Utility (SEU) become involved with Delmarva Power?

A: Yes. It became apparent early in the negotiations that the SEU could play a pivotal role. Due to the size of the facility, the favorable prices in the Contract, and the fact that Delmarva's SREC obligation under REPSA grows quickly in future years, Delmarva's 70% share of SRECs from the facility was advantageous to Delmarva's SOS customers. Although Delmarva has a limited ability to bank additional SRECs under REPSA, the size of Delmarva's purchase obligation in the initial years of the Contract poses a risk that some of the SRECs could expire before they are used. In addition, the amount of SRECs to be purchased vs. the REPSA obligation in the early years of the Proposed Delmarva/ White Oak Contract would eliminate the need for Delmarva to be in the SREC market for several years. Delmarva is, by far, the largest potential customer for SRECs in the State. Delmarva strongly believes that for the Delaware solar market to be viable, Delmarva must procure SRECs on an ongoing and largely uninterrupted basis. The SEU has been given very flexible SREC banking privileges by State

Legislation. The SEU's flexible SREC banking privileges and Delmarva's desire to support a viable SREC Market in Delaware resulted in Delmarva and the SEU negotiating and eventually executing a contract on April 22, 2010. The terms of the Delmarva/SEU Contract are set forth in detail in the chart below and the Proposed Contract itself is attached to this testimony as "Attachment 2." In the proposed Contract, Delmarva and the SEU agreed that the SEU will take 40% of Delmarva's 70% SREC share from the Facility for years one through four of commercial operation. The SEU will then sell those SRECs back to Delmarva in years five and six. That arrangement will serve both to: (a) preserve Delmarva's need for SRECs on a continued basis (therefore maintaining an SREC market in Delaware) and (b) mitigate the risk of those SRECs expiring before they are used to satisfy the SREC obligations of Delmarva's SOS customer load. As I did above with the proposed Delmarva/White Oak Contract, I have included a chart below that summarizes the terms of the proposed Delmarva/SEU Contract:

Parties:	The SEU, as seller, and DPL, as purchaser.
Commodity/ Purchase Obligation:	DPL will purchase Attributes associated with up to 5,500 MWh/year of energy produced by the Facility during the first 4 years of commercial operation and purchased by the SEU from White Oak. DPL will purchase half of that aggregate amount within 90 days of the conclusion of the 4th year of commercial operation of the Facility, and the other half of that aggregate amount within 90 days of the conclusion of the 5th year of commercial operation.
Purchase Price	$249 for the Attributes associated with each MWh. Purchase price payable within 10 days of invoice. Interest on late payments accrues at the greater of 5.5% or prime plus 2%.
Termination Rights (2.1):	Either party may terminate if the DPSC fails to approve the SEU Agreement on terms acceptable to DPL within 1 year of the date of the agreement. DPL may terminate the SEU Agreement if: (a) its auditor determines that, as a result of the agreement, DPL would be required to consolidate SEU or DPL's obligations under the agreement would need to be characterized as debt on DPL's financial statements; and (b) the parties

	are unable to negotiate an amendment to the agreement that would avoid that result. Upon termination of the SEU Agreement for any reason, DPL would be liable to purchase any Attributes previously purchased by the SEU. If such termination was due to any reason other than an SEU default, DPL would also be liable for out-of-pocket costs incurred by the SEU pursuant to its financing.
Conditions Precedent:	DPL's obligations are contingent on: (a) the Facility being an eligible energy resource under the Delaware REPSA; and (b) the DPSC issuing an order approving the SEU Agreement and the White Oak Agreement on terms acceptable to DPL. The SEU's obligations are contingent on: (a) the SEU obtaining financing; and (b) the agreement between the SEU and White Oak having been executed and in full force and effect.
Changes in Law (Art 4):	If the SEU is subject to a new tax on the purchase of Attributes from White Oak, the ownership thereof or the sale of Attributes pursuant to the SEU Agreement, DPL would be liable for such new taxes. DPL would remain liable to purchase Attributes under the SEU Agreement regardless of any change in law that eliminates DPL's obligation to purchase Attributes or affects the value of such Attributes.
Indemnities (8.1):	DPL indemnifies the SEU against third-party claims for personal injury or property damage and against fines or penalties resulting from DPL's breach of the SEU Agreement or the negligence or willful misconduct of DPL, its contractors, agents or employees.
Assignment (Art. 9):	Any assignment by a party is subject to the other party's consent, except that the SEU may assign the agreement without consent in connection with its financing.

Q: <u>Are the Delmarva/White Oak and Delmarva/SEU Contracts in the public interest?</u>

A: Absolutely. As for the pricing in both contracts, Mr. Swink will address the reasonableness of the pricing in his testimony. I will however, comment here that the pricing is favorable to Delmarva's customers. Delmarva will not voluntarily enter into any contract unless it believes that the prices and terms are favorable to its customers. In addition, the Delmarva/White Oak Contract price does not escalate for the 20 year term of the Contract, thus

providing outstanding price stability for the contracted SRECs from the Facility. EURCSA makes clear that price stability is an element that Delmarva should consider in planning resources for meeting its SOS obligations. Moreover, EURCSA requires Delmarva to consider other specific elements in planning resources to meet its SOS load obligations, including:

1. "Resources that utilize new or innovative baseload technologies."

   As the testimony of Joe Gorberg discusses, the Facility uses modern photovoltaic technologies.

2. "Resources that provide short- or long-term environmental benefits to the citizens of this State (such as renewable resources like wind and solar power)"

   The Facility is, of course, a "solar power" facility, which is specifically encouraged by EURCSA.

3. "Resources that promote fuel diversity."

   The Facility will add up to 10 MW of solar energy production within the State of Delaware. Building such a relatively large solar facility in Delaware – one of the largest in the Mid-Atlantic region - promotes fuel diversity in Delaware's overall generation makeup.

4. Finally, EURCSA requires Delmarva to consider "environmental value" in planning resources to meet its SOS load obligations.

   Solar generation is renewable and clean. Thus, the facility will add clear "environmental value" to both Delmarva's SOS portfolio and the overall generation makeup of the State.

Delmarva also agrees with the policy that the development of solar technologies and a solar/SREC market in Delaware is beneficial to Delaware's energy future. As I explained earlier

in this testimony, Delmarva believes that for the Delaware solar/SREC market to be viable, Delmarva, as the largest consumer of SRECs in the State, needs to procure SRECs on an ongoing basis. As described above, the SEU/Delmarva Contract will serve to both develop and preserve Delaware's solar/SREC market, while preserving the life of excess SRECs in the early years of the Delmarva/White Oak Contract.

Q: Are there other benefits to the proposed Delmarva/White Oak and SEU Contracts that might not relate directly to generation or generation attributes?

A: Yes, we believe there are. While Delmarva would not seek to enter into any contract that we did not believe provides beneficial and fair pricing for our SOS customers, we feel that there are benefits in addition to the manifest benefits of price, price stability and clean energy. In addition to the benefits addressed above, the development of such a large facility within the State should bring significant economic benefits to Delaware and its citizens. Mr. Gorberg provides testimony considering the expected job creation the Facility will generate. It goes without saying that job creation, especially in these trying economic times, would be beneficial to the State.

Due largely to the efforts of the University of Delaware and Delaware companies such as DuPont, Delaware has emerged as an important player in the development of solar technologies. Development of such a large new facility in Delaware should help Delaware continue to grow as a leader in solar development. The employment caused directly and indirectly by the Facility, as well and the Facility's role in furthering Delaware's position as a center for solar development, provide important "fringe" economic benefits that should arise out of the Contracts.

Q: Does this conclude your direct testimony?

A: Yes, it does.

DELMARVA POWER & LIGHT COMPANY

DIRECT TESTIMONY WILLIAM R. SWINK

BEFORE THE DELAWARE PUBLIC SERVICE COMMISSION

CONCERNING DELMARVA'S APPLICATION FOR COMMISSION APPROVAL

OF TWO PROPOSED LONG TERM CONTRACTS

FOR THE PURPOSE OF SUPPLYING SOLAR GENERATION PRODUCTS

TO DELMARVA POWER'S SOS CUSTOMERS

DOCKET NO. _____

Q: Please state your name and address.

A: My name is William R. Swink. My business address is 701 Ninth Street NW, Washington, DC 20068.

Q: With who are you employed and in what capacity?

A: I am the Manager of Energy Transactions for utility divisions of Pepco Holdings Inc., including Delmarva Power & Light Company ("Delmarva Power" or "Delmarva").

Q: What are your responsibilities in that position?

A: My department is responsible for managing the portfolio of products required to meet customer's energy requirements for all of PHI's electric utility brands that are not supplied through either the SOS reverse auction process or retail/choice suppliers.

Q: What is the purpose of your testimony in this proceeding?

A: I am providing testimony in support of Delmarva Power's application for Commission approval of two proposed long term contracts for the purpose of supplying solar generation attributes to Delmarva Power's SOS customers. The first proposed contract is Delmarva

Power's Solar Renewable Energy Credit Contract with White Oak Solar Energy LLC (White Oak) as an SREC Source for Delmarva's Standard Offer Service Customers (the Delmarva/White Oak Contract"). The second proposed contract is a Solar Renewable Energy Credit Sale/Repurchase Contract with the Delaware Sustainable Energy Utility (the "Delmarva/SEU Contract"). I am the technical witness for Delmarva's application. I participated in most, if not all of the negotiation sessions. I and my staff prepared analyses of all pricing offers and of the ability of the Dover Sun Park (the "Facility") to meet the Solar Renewable Energy Credit (SRECs) requirements of DPL's Standard Offer Service ("SOS") customers in Delaware.

Q: <u>What requirement is Delmarva Power attempting to serve with these contracts?</u>

A: To meet Renewable Portfolio Standards ("RPS") in Delaware, each supplier must serve a certain percentage of their energy requirements from solar photovoltaic ("PV") facilities. Suppliers demonstrate compliance with this requirement by providing solar renewable energy credits ("SRECs") to the State for retirement. An SREC represents 1 MWH of energy generated by solar PV facilities. Beginning in the Compliance Year ('CY') 2010 (which is June 1, 2010 through May 31, 2011), the Commission approved a new process by which Delmarva will purchase renewable energy (and/or RECs) to meet its RPS requirements for its SOS Customers. Before that, Delmarva's wholesale SOS providers had the responsibility of making purchases to meet the RPS obligations. The current RPS has what is often referred to as a "solar carve-out," which requires suppliers to supply .018% of their customers' load from solar facilities. By CY 2019, the solar carve-out will increase to 2.005%.

A projection of DPL SREC requirements for the period CY 2010 through CY 2019 is presented in the table below. This projection is based on forecasts of Delmarva's energy sales

and energy efficiency reductions (15% by 2015) that have been prepared for the 2010 Integrated Resource Plan to be filed later this year.

Table WRS-1 Project Delmarva SREC Obligation for SOS Customers in Delaware

Compliance Year	SOS Customer Load Forecast (GWH)	Energy Efficiency Reductions (GWH)	SOS Customer Net Load (GWH)	RPS Solar PV Carve-Out (%)	Projected SOS Customer SREC Obligation (SRECs)
2010	4,376	68	4,308	0.018%	892
2011	4,421	75	4,346	0.048%	2,086
2012	4,479	87	4,392	0.099%	4,348
2013	4,530	102	4,429	0.201%	8,902
2014	4,580	117	4,463	0.354%	15,799
2015	4,629	127	4,502	0.559%	25,168
2016	4,678	130	4,548	0.803%	36,519
2017	4,720	132	4,588	1.112%	51,022
2018	4,767	134	4,633	1.547%	71,678
2019	4,818	136	4,682	2.005%	93,869

Q: How many SRECs does Delmarva expect to receive through the Delmarva/White Oak and Delmarva/SEU contacts?

A: The Facility is anticipated to produce over 14,000 SRECs in the first year. The facility's output is expected to decrease by about 0.5% each year thereafter, which is typical of modern photovoltaic modules. Actual output will vary based on facility's final design, and variations in weather, maintenance schedules, and equipment outages.

As is set forth in the testimony of Glenn Moore, Delmarva will receive 70% of the SRECs generated from the facility over the term of the contracts. For the first four years of commercial operation, the SEU will purchase 5,500 SRECs, reducing Delmarva's share. The

SRECs purchased by the SEU will then be resold to Delmarva at the beginning of the following two years. Normally, SRECs have a life of three years from when they are generated. When SRECs are held by the SEU, however, the running of their useful life is stayed or "frozen." The useful life of SRECs held by the SEU does not begin to run again until those SRECs are sold. Accordingly, the SRECs purchased by the SEU will not expire until three years after they are resold to Delmarva. As Mr. Moore explains, the SEU's involvement will give Delmarva the flexibility to continue participating in the SREC market and reduces the risk of SRECs expiring before Delmarva can utilize them.

Q: How do the SRECs received through these two proposed contracts fit into Delmarva's SOS supply portfolio?

A: Table WRS-2 illustrates how the SRECs purchased under the two proposed contracts will be used to meet Delmarva's SOS customer's requirements in Delaware. For purposes of the Table, it was assumed that the Facility would come online on June 1, 2011. The projected SOS customer SREC Obligation for 2010 is reduced by 1/3rd to reflect that that portion of the requirements will be met through full requirements service agreements signed prior to Commission Order No. 7432...

Table WRS-2 Illustrative Use of the Dover Sun Park SRECs

Compliance Year	Projected SOS Customer SREC Obligation (SRECs)	Project SRECs From the DPL/White Oak Contract (SRECs)	Project SRECs From the DPL/SEU Contract (SRECs)	Project SRECs Retired for Compliance (SRECs)	End-of-Year SREC Bank (SRECs)
2010	595	0	-	0	-
2011	2,086	4,346	-	2,086	2,259
2012	4,348	4,296	-	4,348	2,207
2013	8,902	4,247	-	6,455	-
2014	15,799	4,199	-	4,199	-
2015	25,168	9,650	11,000	20,650	-
2016	36,519	9,602	11,000	20,602	-
2017	51,022	9,554	-	9,554	-
2018	71,678	9,506	-	9,506	-
2019	93,869	9,459	-	9,459	-

As demonstrated in the table above, SRECs from the contracts will meet most of Delmarva's requirements through the compliance year 2015. Thereafter, Delmarva's requirements grow rapidly and the Contracts will no longer be sufficient to fulfill all of the SREC needs of Delmarva's SOS supply portfolio.

Q: <u>Will the project be interconnected to Delmarva's distribution system?</u>

A: No. The Dover Sun Park will be interconnected to the City of Dover's distribution system. The City of Dover will be purchasing all of the capacity and energy from the facility at a predetermined price based on a current forecast of future market prices over the term of the contract.

Q: <u>Are any other utilities participating in the Dover Sun Park?</u>

A: Yes, as Glenn Moore described in his testimony, the City of Dover and the Delaware

Municipal Electric Corporation ("DEMEC") will each be purchasing 15% of the SRECs generated by the facility through their own contracts with White Oak. As Mr. Moore explained in his testimony, Delmarva reviewed the agreements that White Oak signed with Dover and DEMEC and found them both acceptable.

Q: Are you satisfied that the SRECs Delmarva would purchase from the Dover Sun Park under the proposed contracts will be eligible under Delaware law?

A; Yes, the Contracts require the Facility to be an "Eligible Energy Resource" as defined in the Renewable Energy Portfolio Standards Act ("REPSA") at 26 *Del. C.* 352 (6) a. Under REPSA, SRECs are appropriate for certification if they are delivered from within or delivered to PJM. The SRECs generated by the Dover Sun Park must be certified by the State and be appropriate for meeting Delmarva's solar RPS obligations.

Q: Is the price Delmarva paying for SRECs from the project reasonable?

A: Yes.

The White Oak contract provides Delmarva with SRECs at a fixed price over the entire 20 year term of the contract of $216.70/SREC. The current Alternative Compliance Payment (ACP) in the State is $300/SREC and market prices have tended toward 90% to 100% of the ACP or about $270-300/SREC. The White Oak contract prices are, therefore, in the range of 20-28% below the current market price.

Under the proposed Delmarva/SEU Contract, the SEU will re-sell SRECs to Delmarva at $249/SREC, reflecting the cost of the SEU carrying the SRECS over the contract period. This results in an SREC price that is a bit higher for those relatively few SRECs. Even with the slightly higher prices for the SRECs under the proposed Delmarva/SEU Contract, that price is still 8-17% below the current market price and represents only a small portion of the SRECs

Delmarva will obtain from the Facility. Assuming 2.5% inflation and an 8% discount rate, the volume weighted levelized cost of SRECs from both contracts is $222/SREC or about 18-26% below market price. The impact of this purchase on customer's rates will be less that 0.05 cents per kWh and the impact on a typical residential customer's monthly bill will be less than 50 cents per month.

By purchasing SRECS at a fixed price for 20 years under these contracts, Delmarva will greatly reduce the uncertainty with the supply and price of SRECS. To date, there has been a shortage of SRECS available to meet requirements in Delaware and suppliers in Delaware have been paying the ACP. As a result, it is likely that the ACP will be raised to $350/SREC for the 2011 compliance year making the contractual prices appear even more favorable to SOS customers.

Q: <u>Does this conclude your direct testimony?</u>

A: Yes, it does.

C

DIRECT TESTIMONY OF
Francis Hodsoll

DELMARVA POWER & LIGHT COMPANY

DIRECT TESTIMONY FRANCIS HODSOLL

BEFORE THE DELAWARE PUBLIC SERVICE COMMISSION

CONCERNING DELMARVA'S APPLICATION FOR COMMISSION APPROVAL

OF TWO PROPOSED LONG TERM CONTRACTS

FOR THE PURPOSE OF SUPPLYING SOLAR GENERATION PRODUCTS

TO DELMARVA POWER'S SOS CUSTOMERS

DOCKET NO. _____

1. Q. Please state your name and position and business address.

A My name is Francis Hodsoll. I hold the position of Vice President for Pace Global Energy Services Inc. (Pace). Our business address is 4401 Fair Lakes Court, Fairfax, VA 22033.

2. Q. What is your education and business experience?

A I received a Master of Science in Business Administration, concentrating in finance, from the Sloan School of Business at Massachusetts Institute of Technology and a Bachelor of Arts in Economics from Colby College. In my current role at Pace, I have overall responsibility for two groups: one, our Asset Management group; and two, our solar power plant project development services. Our Asset Management group provides commercial advisory services for utility operations including power plant dispatch; oversight of power plant operations and management; management of the

PJM interface; forward and derivative transactions in the wholesale markets for electricity and fuels; risk management advisory; and integrated resource planning. Our solar power plant project development services provides advisory services in the development of solar power plant projects including market analysis, energy price forecasting, commercial terms structuring, public outreach and education support and negotiations support.

Prior to joining Pace in 2007, I held the position of CFO for a renewable energy company call Ingenco. Ingenco develops, constructs and operates landfill gas to electricity power plants and landfill gas processing plants with 16 plants in operations. Prior to Ingenco I was Deputy Director of Minerals Management Service, the federal regulator for offshore energy. I have held additional executive and consulting positions in the energy and technology sectors.

3. Q. <u>What is Pace's experience with energy development?</u>

A Pace Global Energy Services (Pace) is an independent energy consulting and management firm. Since 1979, Pace has provided innovative services to support the execution of business strategies, complex energy transactions, asset development and operations in over 40 countries on six continents. The average number of years of experience in the energy business among senior staff exceeds 20 years.

Pace is headquartered outside Washington, D.C. and has offices in Houston, Columbia, London, and Moscow. Pace provides expertise in the following areas: renewable project development, corporate strategy, resource planning, M&A, acquisition and disposition, energy and carbon management, enterprise and

commodity risk management, asset management, financial management, energy procurement, energy efficiency, and engineering services.

Pace has experience in all types of energy including natural gas, oil, coal and electricity. Additionally Pace teams have supported numerous hydro, wind, biomass and other renewable energy projects. We have participated in over $40 billion of energy assets around the world. We manage energy portfolios valued at over $3 billion for over 200 clients around the world. We manage risk portfolios of approximately $5 billion of energy expenditures. We have represented clients in all segments of the energy value chain from exploration, production, and generation through transportation and distribution down to end use consumption.

4. Q. <u>What was Pace's role in this project?</u>

A Dover, DE as the host of the Dover SUN Park initiated and executed the original Request for Proposal (RFP) procurement process to assess market solutions for generation-based capacity and energy. This RFP was structured with two unique stages: first a Request for Qualifications (RFQ); and second candidates that were selected through the RFQ proposed projects that were evaluated during the RFP. Dover sought long-term reliable, cost competitive and environmentally prudent sources of electricity supply for its citizens. This RFP, initially released in March 2008 was titled the

City of Dover, Delaware
Request for Proposals
Generation-Based Capacity and Energy

(the "2008 Dover Generation RFP").

As a load serving entity in the PJM, Dover transacts in the energy and ancillary markets. Pace serves as the Asset and Energy Manager for the City. Pace provides risk management, energy management, asset management and related services to minimize the cost to serve while maximizing the value of the generation assets. Dover sought opportunities to integrate renewable energy sources into its supply mix. Pace assessed the opportunities provided through the responses to the RFP against pre-determined criteria to assess the efficacy for Dover.

Pace designed and managed the RFP procurement process; provided independent technology and market evaluations; provided leadership for the initial Dover SUN Park five-party discussions; and represented the Dover SUN Park to various stakeholders. Pace developed the procurement rules specific to exploring generation resources; a Request for Qualifications process; a Request for Proposal process; and the overall governance process through the City Council.

Pace provided Dover with an independent assessment of the market conditions, technology viability, the costs; developer's qualifications; and regulatory requirements for a solar project. Pace provided the analyses and assessments utilized by Dover to determine the selection of the Dover SUN Park as a finalist in its 2008 Dover Generation RFP.

Once the Dover SUN Park proposal by LS Power was selected as a finalist, Dover approached other utilities to determine their interest in participating in the Dover SUN Park. Delmarva Power and DEMEC demonstrated strong interest in the project

and ultimately Pace supported both the contract negotiations with LS Power and worked with Delmarva Power and DEMEC to develop the overall commercial structure. In addition, Pace supported both the contract negotiations with White Oak and the analyses and discussions with both Delmarva Power and DEMEC. In representing Dover, Pace supported the negotiations of four contracts between Dover and White Oak Solar Energy, LLC, ("White Oak"), the Special Purpose Entity created for this project by LS Power.

In summary, Pace supported the City of Dover in the creation and management of the competitive procurement process, the 2008 Dover Generation RFP; the due diligence, analyses and recommendation development for the evaluation of the proposals received through this RFP; the development of the commercial terms between all the parties for the Dover SUN Park; the contract negotiations; and representation of the project to various stakeholders.

5. Q. <u>Please describe the 2008 Dover Generation RFP</u>

A Dover's objectives for the RFP process were to effectively evaluate and potentially select a proposal(s) that would result in reliable, cost competitive and environmentally prudent energy. These proposals could have included but were not limited to:

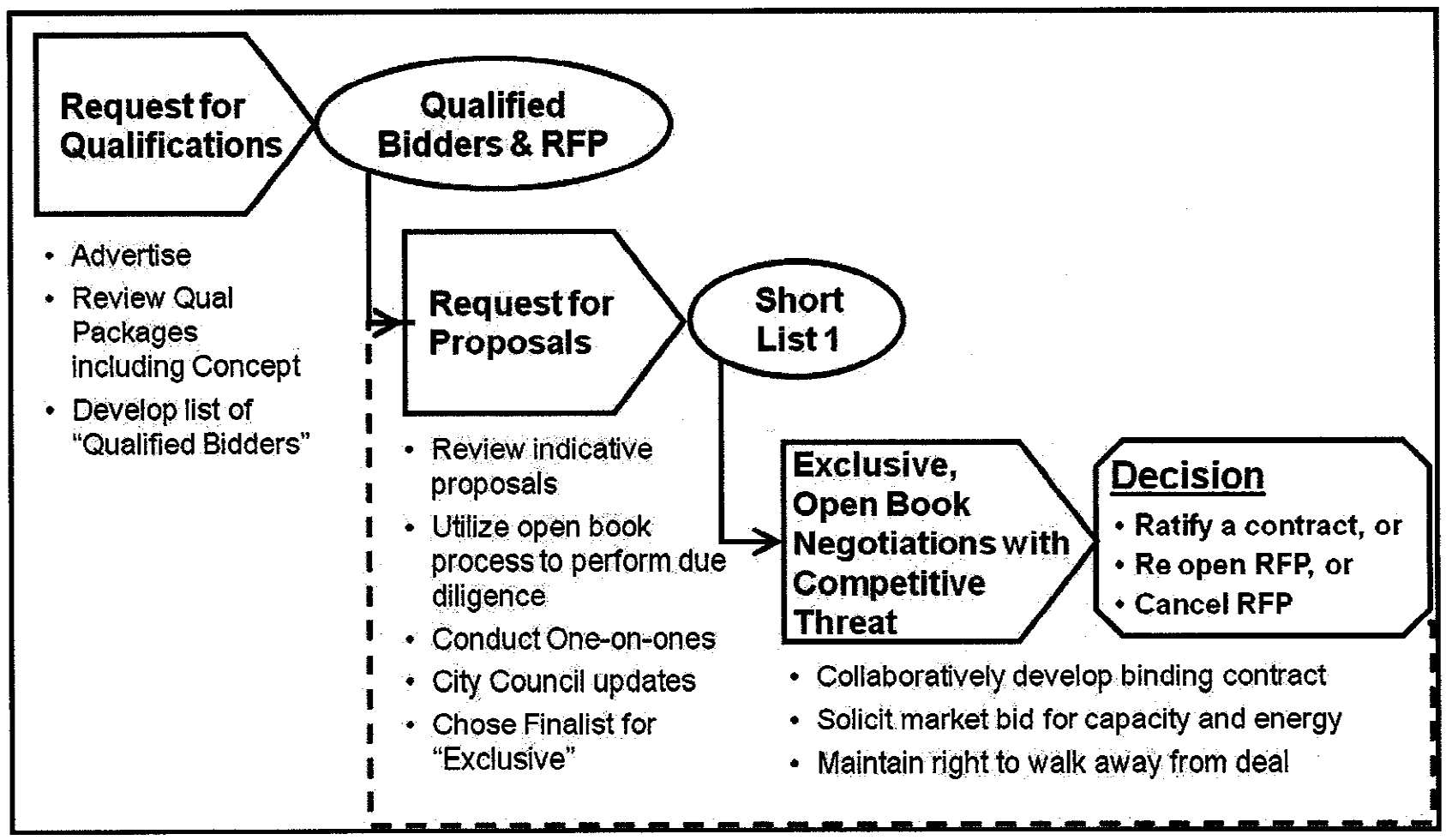
- Electrical capacity and energy options.
  - Cost based capacity
  - Generation plant based energy
- Options for increasing supplies over time as load grows
- Options for equity investment and owner participation

- Value for Dover's contributions to a project
- Conventional and renewable supply sources

The RFP process was designed to facilitate these objectives by:

- Accessing specialized market expertise in the development of creative solutions for Dover's consideration
- Conducting a fair, impartial, structured and competitive process
- Creating a transparent process fostering clarity and ease of assessment
- Defining and managing a process that efficiently utilizes rate payer funds by identifying the best qualified candidate partners and suppliers prior to expending significant resources developing and evaluating specific proposals

The overall Request for Proposal process was tiered and included a qualifications phase, a proposal phase, and a pre-development phase. This process is depicted in the following graphic.



In the initial "Request for Qualifications" phase, Dover evaluated the participants based on their submissions and pre-determined evaluation criteria. A short list of candidates was selected to enter the second phase of the "Request for Proposal." In

this second phase Dover evaluated specific proposals, conducted due diligence, and selected one or more finalists.

In the third "Pre-Development" phase, Dover negotiated toward a binding proposal. If during the third phase, Dover determined that it was not in Dover's best interests to continue discussions with the party or parties in this phase, Dover would have the right at its sole discretion to re-engage another participant(s) from the second phase or re-launch the RFP process to the market. During Phases II & III, Dover required selected developers to use an open book approach in order to better evaluate and compare the economics of the competing proposals.

There were three bodies with distinct roles throughout the RFP process. The City Council ultimately bore the responsibility for any binding decisions. A Steering Committee was commissioned to review information, identify key questions related to the project, make decisions throughout the process, and make recommendations to the City Council. Pace supported the Steering Committee throughout the procurement and evaluation processes and supported the negotiations of the contracts.

In providing a timeline for the process gates, Dover sought an effective balance between an efficient process and a process that provides for the appropriate exchange of information. Dover required proposals to be submitted within four weeks from the time of the public notification through the trade press. Dover selected the finalists from the RFQ process and issued the RFP in July 2008, approximately four months after issuing the initial RFQ.

Dover required the proposals in response to the RFP Phase II to be submitted by October 3, 2008, within eight weeks of the start of the RFP phase. Out of the proposals received, Dover selected two finalists to enter into Phase III and achieved Dover City Council approval to commence Phase III in January of 2009.

6. Q. <u>How were the bids analyzed?</u>

A The following commercial and technical criteria were applied to determine which, if any, bidders progressed to the Pre-Development Phase. Dover sought to determine the long-run best value for its capacity, energy and environmental needs. In this endeavor, Dover developed composite assessments for each proposal's long-term value. Dover reviewed the environmental attributes, the projected costs for capacity and energy; additional value elements as described below; and the inherent risks in the participation options being proposed.

- Alignment of resource(s) being offered with Dover's near-term and long-term capacity and energy needs such as plant size and generation technology attributes
- Impact on Dover's cost of service including where applicable the impact of the participation options provided to Dover – factors to be considered include
  - Cost of committed capacity
  - Cost of energy
  - Capital costs
  - Fuel costs
  - Fixed and variable non-fuel O&M costs
- Risks and risk management approach: Dover evaluated all the relevant and material risks in the following categories
  - Construction costs and construction timeline
  - Financing risks including funding of development and construction activities

- Operating performance and O&M costs
- Legislative and regulatory risks including environmental, health and safety

➢ Participation options for Dover including but not limited to equity ownership and rights to call capacity

➢ Environmental impact on biophysical, social, and other relevant effects of the proposal

➢ Jobs and Economic Development Impact to Dover and Delaware

Pace conducted market research; due diligence on the companies bidding and material assumptions in their proposals; performed independent financial modeling of the projects; assessed the risk and defined the likely range of outcomes for the financial viability of these projects; developed recommendations; and synthesized and communicated this information to the Steering Committee. Over four months of deliberations the Steering Committee developed recommendations for review by the Dover City Council. Over the course of two meetings in December, 2008 and January, 2009 the City Council approved the recommendations from the Steering Committee.

7. Q. **How did Dover provide for a competitive process?**

A Pace, on behalf of Dover, released Phase I of the RFP process, the Request for Qualifications in March, 2008. Pace both advertised the RFP in some of the most widely read industry publications and sent individual correspondences to 93 developers at 43 companies. Articles announcing the RFP were printed in MW Daily, Power Markets Week and Global Power Report. At the onset of this competitive RFP process a Steering Committee was formed to assess information and recommendations provided by Pace and provide guidance over the analytical and due diligence process.

In order to provide interested participants an occasion to better ascertain the value potential and to clarify open issues, Pace provided for a Q&A session. Companies had two weeks to provide questions and Pace in collaboration with the Steering Committee answered those questions within one week of the deadline. Furthermore, Dover, supported by Pace, held meetings with developers to address specific questions.

The steering committee evaluated the qualifications during Phase I. The steering committee evaluated Functional Capabilities and Experience, Relevant Market Expertise, Financial Strength and the strength of the electric generation concepts presented.

All respondents to Phase II (the RFP) were provided explicit instructions as to the information required and the format to ensure that the proposals were comparable and the effectiveness of the relative evaluations was maximized. Proposals would only be deemed complete when the format adhered to the structure provided below.

- Executive Summary
- Technical Proposal
- Project Financials
- Risks and Risk Management
- Contract Terms
- Proposal Limitations
- Statement on time frame that proposal remains in effect

The **Technical Proposal** sections were required to include sufficient information to fully assess the capabilities to deliver and the technical risks of delivering capacity and energy:

- Capacity ratings at ambient conditions as defined in proposal and any factors that would impact capacity measurements
- Capacity factor and material factors impacting the capacity factor
- Technology descriptions for all major components of the generating facilities
- Fuel type(s)
- Heat rates
- Physical location
- Emissions characteristics
- Material existing and future reasonably-anticipated environmental regulations and the expected technology to comply with said regulations
- Transmission service to be provided if facility requires transmission service to Dover, including any contractual limitations on the transmission service
- Unit contingency requirements
- Unit ramp rates and dispatch parameters
- Provision of ancillary services and limitations such as spinning reserves, regulation or load following, reactive power, etc.
- Expected construction schedule

If the Respondent planned to offer or planed to require an equity position by the City of Dover, the **Financials** section was required to include a twenty year pro forma. Respondents were required to provide all material assumptions related to such financing structures. Pace, on behalf of Dover, independently assessed the probability of the expected case, the plausible range of outcomes and the systemic risks. The categories for the assumptions included but were not limited to:

- Pricing for wholesale fuels, electricity and associated transportation or transmission
- Fuel source, delivery points and transportation
- Fixed and variable O&M costs
- Routine and major maintenance expenses and timing
- Annual emission allowances and requirements for purchasing or bidding on additional allowances
- Unit availability and expected forced outage rate
- Derivative instruments used to back up terms of service
- Construction costs including development costs, real property costs, equipment costs and construction labor
- Financing approach including financing during construction and related cash flow requirements
- Generating plant expected life

If respondent proposed to provide a PPA to the City of Dover, the **Financials** section was required to include not only pricing and pricing terms for capacity, energy and ancillary services to the extent applicable, but also to provide all other material terms and conditions.

The **Risk Management** section required a description for all the material risks and the approach to be used to mitigate these risks whether by market instrument or contracting terms.

- Construction costs and timeline
- Financing risks including funding of development and construction activities
- Operating performance and O&M costs
- Legislative and regulatory risks including environmental, health and safety

The **Contract Terms** section was requested to include a comprehensive listing of the terms and conditions the Respondent would seek during contract negotiations. To

the extent practical and relevant, the Respondent was encouraged to consider providing a rationale for any terms or conditions that would be non-standard or considered unique to the particular proposal.

The **Proposal Limitations** section was required to include all factors including relevant area system conditions, operational or technical limitations, market conditions and commercial terms that could result in a failure to deliver either capacity or energy to Dover.

Therefore, in addition to broad participation in RFP process, Dover had access through the proposals to a very significant amount of technical, financial, market and other relevant information in the assessment of the relative value of the proposals.

8. Q. <u>Why was the White Oak solar project selected?</u>

A Dover's Steering Committee for the 2008 Dover Generation RFP assessed the proposed generation projects through an independent assessment of the proposed technology, market conditions for the energy and the environmental attributes, and the financial viability of the project. Pace, with direction from Dover, conducted due diligence and independent modeling for each of the proposals and presented that information to the steering committee over the course of four months.

The first assessment, conducted by Pace, was to evaluate the capabilities of each of the proposers. In the majority of the cases, including in the case of White Oak, Pace was very familiar with the projects having been completed by the respondent and familiar with the respondent's capabilities. In addition, Pace conducted financial due diligence on all respondents to confirm the information provided in the RFQ

stage. In cases where Pace was not sufficiently familiar with the respondent's capabilities, Pace performed an independent assessment by contacting references.

Pace analyzed the market demand and supply conditions for each of the proposed projects including the demand for Solar Renewable Energy Credits ("SRECs") in DE and states where DE-based projects could sell SRECs. Current pricing dynamics were analyzed and scenarios for forecasts were created and assessed. Pace conducted market research and evaluated the potential for competing projects to impact the financial viability for each of the proposals. Finally, in assessing the scenarios for the future value of the energy Pace assessed the current and potential future regional power flows.

In conjunction with the market assessments, Pace utilized its in house expertise to assess the technology choices presented in the proposals. Pace evaluated competing technology options within the context of the specific application being proposed and within the context of the market. In the case of the solar projects, Pace reassessed the viability of solar thermal on the East coast. In addition, Pace evaluated traditional photovoltaic crystalline panels verses thin film panels and evaluated tracking systems verses fixed mount systems. Finally, Pace conducted due diligence on the capital cost assumptions associated with the technologies proposed.

Pace incorporated its market and technology assessments into an independent financial modeling exercise to provide Dover with an assessment of the pricing proposed. Pace provided an independent verification of the key assumptions in the pro forma models. Pace also assessed the efficacy of the financing structure being

proposed and modeled independent financing structures. Pace provided an independent assessment for the costs of capital. Pace incorporated its technology assessment into the modeled operating assumptions including dispatch expectations, availability factors, operating and maintenance costs.

Finally, the due diligence and modeling exercises were incorporated into multiple half day sessions where the Steering Committee evaluated against the pre-determined evaluation criteria the relative merits of each proposal. The Steering Committee developed recommendations which were presented to the City Council and subsequently approved after two meetings over the time frame December, 2008 through January, 2009. Dover's selection process utilized a broadly distributed competitive RFP process with an independent verification and assessment of the value proposition to Dover.

Dover selected the White Oak solar project based on the expected value to Dover, the environmental benefits and the near term jobs. Although Dover is not subject to the RPS, Dover assessed the Sun Park as the lowest cost option for maintaining parity with the requirements of the RPS. In Delaware the public power philosophy is to maintain the policy requirement, which is consistent with the Delaware public power philosophy to maintain parity with the state's renewable policy goals trough a voluntary program. Further, given the unprecedented and potentially unrelenting volatility in the energy markets, renewable energy is one of a very few options that can provide long-term price certainty beyond the duration of the market based natural gas futures contract. In Dover's opinion, a 10 MW solar project displaces a significant portion of the Dover fossil based electricity supply. Finally, a community

scale solar project will deliver critical jobs in a fairly short period of time providing some relief to the difficult unemployment situation in Delaware. In summary, Dover determined that this project provided the lowest compliance costs, provided electricity pricing stability, provided significant environmental benefits and provided needed jobs in the short term.

9. Q. <u>Please provide your assessment of the benefits of this project to Dover and to Delaware.</u>

A 34 States and the District of Columbia have determined that a Renewable Portfolio Standard is a critical policy objective. The Delaware State Senate in the 143rd General Assembly stated in Senate Bill No. 74 the following

> *The General Assembly finds and declares that the benefits of electricity from renewable energy resources accrue to the public at large, and that electric suppliers and consumers share an obligation to develop a minimum level of these resources in the electricity supply portfolio of the state. These benefits include improved regional and local air quality, improved public health, increased electric supply diversity, increased protection against price volatility and supply disruption, improved transmission and distribution performance, and new economic development opportunities.*

Furthermore, Delaware has successfully implemented numerous sustainable energy initiatives including the Sustainable Energy Utility. Delaware is also the home of the US Solar Center of Excellence. Delaware has demonstrated leadership in its forward thinking renewable energy policy targets and demonstrated leadership in the implementation of the infrastructure required to facilitate the implementation of these policy objectives.

The Dover SUN Park provides Dover, the customers of Delmarva Power, and the State of Delaware a very cost effective solar electricity generating source. The Dover

SUN Park significantly advances the achievement of the Delaware renewable energy policy objectives and provides a high profile example of Delaware's ability to lead the region in solar development. Finally, Dover and Pace have held the firm belief that the Dover SUN Park can provide a catalyst to future economic development.

10. Q. <u>What is the status for the approval by the Dover City Council of the Dover SUN Park Agreements between the City of Dover and LS Power?</u>

A The Dover City Council has approved all the agreements between the City of Dover and White Oak. Those agreements are as follows:

- SOLAR ENERGY PURCHASE AGREEMENT BETWEEN WHITE OAK SOLAR ENERGY, LLC AND CITY OF DOVER, DELAWARE;
- GROUND LEASE by and between THE CITY OF DOVER, DELAWARE and WHITE OAK SOLAR ENERGY, LLC;
- SMALL GENERATOR INTERCONNECTION AGREEMENT Between the City of Dover, Delaware and White Oak Solar Energy, LLC; and
- 69 KV TRANSMISSION SERVICE CLASSIFICATIONS FOR TRANSMISSION SERVICE FOR WHITE OAK SOLAR ENERGY, LLC

11. Q. <u>Why did Dover seek Delmarva Power's participation in this project?</u>

A Dover's vision for the Dover SUN Park was always that this project would provide benefits to all of Delaware and that the environmental benefits from a large scale solar project would accrue beyond Dover. Dover represents but a small fraction of the electric service within Delaware. Therefore, to gain broad participation in the project, Dover sought out Delmarva Power. Furthermore, Dover recognized that Delmarva Power had the single largest Solar Renewable Energy Credit requirement in the State and therefore the participation of the Delmarva Power was necessary to place the supply of the Dover SUN Park SRECs. Finally, Delmarva Power has taken a leadership position in the field of renewable energy, with long term power purchase

agreements for three land-based wind farms and the first long term contract for offshore wind in the nation. Based upon Delmarva Power's demonstrated support for the development of renewable energy, Dover believed that Delmarva would seriously consider participating in the Dover SUN Park.

12. Q: <u>Does this conclude your testimony?</u>

A: Yes.

DELMARVA POWER & LIGHT COMPANY

DIRECT TESTIMONY OF JOE GORBERG

BEFORE THE DELAWARE PUBLIC SERVICE COMMISSION

CONCERNING DELMARVA'S APPLICATION

FOR COMMISSION APPROVAL

OF TWO PROPOSED LONG TERM CONTRACTS

FOR THE PURPOSE OF SUPPLYING SOLAR GENERATION PRODUCTS

TO DELMARVA POWER'S SOS CUSTOMERS

DOCKET NO. _____

TESTIMONY OF JOE GORBERG

Q: Please provide your name and business address:

A: My name is Joe Gorberg. My business address is 1700 Broadway, 35th Floor, New York, NY 10019.

Q: Please identify who you work for, your job title, and describe the responsibilities of your position:

A: I hold the position of Senior Vice President- Renewable Energy at LS Power. I served as the lead negotiator for the project on behalf of White Oak, a wholly owned subsidiary of LS Power, and coordinated the project proposal in response to the City of Dover 2008 RFP. My main responsibilities focus on strategy, markets and commercial opportunities for renewable generation for LS Power in the US. In this capacity, my activities include identifying markets for renewable generation development, manage and lead commercial activities including power purchase agreement negotiations, and coordinate renewable technology

evaluations to develop, engineer, procure and construct renewable generation projects.

Q: What is the purpose of your testimony in this proceeding?

A: I am providing testimony in support of Delmarva Power's application for Commission approval of a long term contract for the purchase of solar renewable energy credits from White Oak Solar Energy, LLC (the "Contract").

Q: Please describe LS Power and its experience with developing and operating generation projects, both solar and non-solar.

A: The Dover SUN Park (the "Project"), a nominal 10 MW solar photovoltaic power plant, is being developed by White Oak Solar Energy, LLC ("White Oak"), which is indirectly owned by LS Power Development, LLC (together with its affiliates, "LS Power"). LS Power is a privately held entity focused exclusively on developing, owning, managing and operating large-scale power generation and transmission projects.

Since its formation in 1990, LS Power and its affiliates have successfully developed eleven greenfield domestic power generation projects totaling in excess of 7,000 megawatts of electrical output and a capital investment of over $6 billion. In addition, LS Power has significant experience managing all commercial aspects of power generation facilities and has been responsible for operations management for twenty-five natural gas-fired projects representing approximately 20,000 MW of capacity.

In addition to the Project, LS Power currently has a number of other projects in advanced stages of development including Centinela Solar Energy (125 MW Solar PV facility in California), Arlington Valley Solar Energy (two

125 MW Solar facilities in Arizona) and the West Deptford Energy Station (600 MW gas-fired facility in New Jersey).

Since 2005, LS Power has raised over $13 billion in debt and equity for project financing, acquisitions or investment purposes in the power sector. The common feature of all these financings is that a subsidiary created by LS Power raises the capital required to construct, acquire, and/or operate a power-related business, with equity support and asset management services provided by LS Power.

Each LS Power-financed project has been financed on the basis of a strong structure which includes project permits, real estate rights, and project documents including long-term off-take contracts. As a result of this approach, LS Power has delivered on every power purchase agreement it has signed.

Q: Please describe the Project.

A: White Oak has acquired land rights for approximately 103 acres, which has been previously disturbed, and located on land known as the Garrison Tract ("Garrison Tract") on White Oak Road in Dover, Delaware through a long term lease agreement with the City of Dover. White Oak has permitted and will construct and operate the Project on this site. The City of Dover Utility will purchase all energy and capacity from the facility through a power purchase agreement. Delmarva Power and Light Company ("Delmarva"), City of Dover, Delaware Municipal Electric Corporation, Inc. and the Delaware Sustainable Energy Unit will purchase the Environmental Attributes (including Solar Renewable Energy Credits) generated by the Project. The Project will connect directly into the City

of Dover distribution system, eliminating the need for transmission upgrades and wheeling charges. Seeking the best value for the community, the system will use the most cost effective technology available today. The Project will coexist next to numerous additional land uses on the Garrison Tract, including agriculture and community and educational activities. The Project will supply enough clean power for over 1,300 homes in the community and will bring the environmental benefits from clean renewable energy.

Q: Does White Oak have all of the permits needed to move forward with the Project?

A: All major permits required to construct the Facility have been obtained.

Q: What is the timeline for project completion?

A: Assuming, for sake of this response, that this Commission provides regulatory approval for Delmarva's contracts with both White Oak and the SEU by July 31, 2010, White Oak is targeting the following dates:

- August 2010 - White Oak issues a Notice to Proceed to the Project's contractor.
- August 2010 through June 2011 – Project engineering, construction and commissioning.
- July 2011 – Project achieves commercial operation.

Q: Please describe the technology and equipment to be used in the Project.

A: The Project will be made up of tens of thousands of photovoltaic modules mounted on low profile racking systems. The direct current energy output will be converted to utility grade alternating current through the use of utility-scale inverters and then the voltage will be stepped up to the line voltage for interconnection. Electric and communication lines will be strung on poles for an

approximate half mile to interconnect the Project to the existing City of Dover 69 kilovolt distribution grid through a line tap on White Oak Road.

Q: Why is the particular site selected for this project appropriate?

A: The site was determined to be appropriate through the application of the following criteria used to identify viable locations for solar projects: 1) sufficient solar insolation year round to make the project economically viable, 2) land has been previously disturbed (farming), 3) desire by the City of Dover to develop the Garrison Tract for economic and resource development, 4) areas of minimal environmental impact, and 5) location close to existing distribution lines. The exact design and output specifications are now being determined, but the photovoltaic modules and inverters will be supplied by an established company with technology that is well proven. The Project is expected to generate more than 14,000 MWh of energy and environmental attributes in the first full year of operation.

Q: Do you expect the Project to create employment in Delaware?

A: Yes. The Project will create approximately 100-150 direct construction jobs. Of course, having that many new jobs in the area will also generate collateral economic activity (meals, transportation, shopping, tax income, etc.) that I am not qualified to attempt to estimate. Unlike older technologies such as coal generation plants, however, the Project is designed to operate as a largely unmanned facility. The Project will be operated remotely. There will be security and maintenance personnel needed to maintain the facility. These personnel will either be provided by a third party operations and maintenance services provider

or by White Oak. The number of permanent post-construction jobs that will be created by the Project has not yet been determined. The Project will be part of a larger development on the Garrison Tract. I understand that the Project is considered by Dover to be a very important part of the development of Garrison Tract, which the City of Dover considers to be an important economic development initiative for Dover.

Q: Please describe the availability obligations in the Contract.

A: The Contract requires the Project to achieve commercial operation by a date certain. Such date is based on when (and if) the Contract is approved by the Public Service Commission. White Oak is subject to delay and liquidated damages to Delmarva to the extent the commercial operation date occurs after the required date and such delay is not excused pursuant to the terms of the Contract. Once operational, the average expected availability of the Project is at least 97%.

Q: Are their warranties and/or other protections for Delmarva's customers should the Project fail to perform as required by the Contract?

A: Yes. Major equipment purchased and installed in the Project will include industry standard warranties. The Contract itself also contains specific project performance obligations which subject White Oak to the payment of liquidated damages to Delmarva if performance of the Project falls below the target levels and is not excused pursuant to the terms of the Contract.

Q: Could the Project be developed absent approval by the Public Service Commission?

A: Not unless White Oak could find another off-taker or off-takers to match the obligation of Delmarva. Considering the fact that Delmarva is the only regulated

utility in Delaware and is required to meet certain SREC purchase requirements, it seems certain that without Delmarva's Contract with White Oak, this project would not proceed, or would proceed on a smaller scale with higher product pricing. In order for the Project to go forward, the Delmarva Contract must be "effective," which requires Public Service Commission approval. The Project will be financed via a non-recourse project financing structure. Under this structure, the assets of the Project, including the Delmarva Contract, will provide the collateral for the Project's lenders. Since the Project's lenders only have the assets of the Project itself to look to for repayment of the loan, they will require that all of the Project's contracts be in full force and effect before making a loan to White Oak.

Q: Are you aware that Delmarva will be asking the Delaware Public Service Commission to expedite its consideration of Delmarva's application for approval of it Contract with White Oak?

A: Yes, I am. White Oak asked Delmarva to seek to expedite the process and Delmarva agreed to do so. Achieving approval by the Commission as soon as possible – hopefully by July 31, 2010 - is very important for financing and construction of the Project. While White Oak is confident that Delmarva would also like to have the Project finished quickly, timely consideration and approval of the Delmarva Contract is especially important to White Oak.

Q: Why is approval by July 31, 2010 so important for White Oak?

A: Until and unless the Delmarva Contract is approved by the Delaware Commission, which makes the Contract "effective," White Oak bears the risk of cost escalation with respect to construction and equipment for the Project because

White Oak will not yet be able to lock-in construction and equipment prices or financing terms. The Engineering, Procurement and Construction contract with a qualified construction contractor will only be executed after DPSC approval of the Delmarva Contract. As I explained earlier in this testimony, the financing for the project also cannot be finalized until (and only if) the Delmarva Contract is approved. The Delmarva Contract will not be "in effect" until and if it is approved by the Commission. The Project's lenders will require that all of the Project's contracts be in full force and effect before making a loan to White Oak.

Moreover, as I identified above, the schedule for the project is based upon a Commission approval date of July 31, 2010. If the Commission provides an approval by that date, White Oak believes that it can have the Project operational by July 2011. Completing the project by July 2011 is important because July is a primary month for solar generation. For each month beyond July that the project is delayed, the Project will generate less clean energy and SRECs for that year.

Q: Do you have any other comments at this time?

A: I have reviewed the testimonies of Glenn Moore, William Swink, and Francis Hodsoll filed with Delmarva's Application. I agree with their testimonies. Solar energy is an important component for developing clean reliable energy sources and we are confident that the approval of this Contract by the Commission will be in the best interests of the customers of Delmarva, the residents of Dover, and the many customers of DEMEC. All of us at White Oak and LS Power believe that this is a very good project that will bring benefits to Delmarva's customers and the State of Delaware as a whole.

Q: Does this conclude your testimony?

A: Yes, it does.