

BEFORE THE STATE OF NEW JERSEY

BOARD OF PUBLIC UTILITIES

**I/M/O THE PETITION OF PUBLIC SERVICE)
ELECTRIC AND GAS COMPANY FOR)
APPROVAL OF A SOLAR ENERGY PROGRAM) BPU DKT. NO. EO07040278
AND AN ASSOCIATED COST RECOVERY)
MECHANISM)**

**TESTIMONY OF DAVID E. DISMUKES
ON BEHALF OF THE
NEW JERSEY DEPARTMENT OF THE PUBLIC ADVOCATE,
DIVISION OF RATE COUNSEL**

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**DIRECT TESTIMONY OF
DAVID E. DISMUKES, PH.D.
ON BEHALF OF THE
NEW JERSEY DEPARTMENT OF THE PUBLIC ADVOCATE
DIVISION OF RATE COUNSEL
BPU DOCKET NO. EO07040278**

I. INTRODUCTION

Q. WOULD YOU PLEASE STATE YOUR NAME AND BUSINESS ADDRESS?

A. My name is David E. Dismukes. My business address is 6455 Overton Street, Baton Rouge, Louisiana.

Q. WOULD YOU PLEASE STATE YOUR OCCUPATION AND CURRENT PLACE OF EMPLOYMENT?

A. I am a Consulting Economist with the Acadian Consulting Group (“ACG”), a research and consulting firm that specializes in the analysis of regulatory, economic, financial, accounting, statistical, and public policy issues associated with regulated and energy industries. ACG is a Louisiana-registered partnership, formed in 1995, and is located in Baton Rouge, Louisiana with additional staff in Los Angeles, California, and Carson City, Nevada.

Q. HAVE YOU PREPARED ANY ATTACHMENTS TO YOUR TESTIMONY OUTLINING YOUR QUALIFICATIONS IN ENERGY AND REGULATED INDUSTRIES?

A. Yes. Attachment 1 to my testimony provides my professional resume that

1 includes a complete list of my publications, presentations, and pre-filed expert
2 witness testimony, expert reports and affidavits, expert legislative testimony, and
3 public testimony.

4 **Q HAVE YOU PREPARED ANY EXHIBITS WITH YOUR TESTIMONY?**

5 A Yes, I have 14 exhibits that were prepared directly by me or under my
6 direct supervision.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. I have been retained by the New Jersey Department of the Public
9 Advocate, Division of Rate Counsel (“Rate Counsel”) to provide an expert opinion
10 to the Board of Public Utilities (“BPU” or “Board”) on the different policy issues
11 associated with Public Service Electric & Gas Company’s (“PSE&G” or “the
12 Company”) solar energy proposal.

13 **Q. HOW IS THE REMAINDER OF YOUR TESTIMONY ORGANIZED?**

14 A. My testimony is organized into the following sections:

- 15 • Section II: Summary of Recommendations
- 16 • Section III: Background on New Jersey Solar Energy Markets
- 17 • Section IV: Recent Changes in New Jersey Solar Energy Markets
- 18 • Section V: PSE&G Solar Program Deficiencies
- 19 • Section VI: Estimated Rate Impacts of the PSE&G Proposal
- 20 • Section VII: Other Policy and Market Structure Issues
- 21 • Section VIII: Conclusions and Recommendations

22 **II. SUMMARY OF RECOMMENDATIONS**

23 **Q. WOULD YOU PLEASE SUMMARIZE YOUR RECOMMENDATIONS?**

1 A. I recommend that the Board reject the current solar energy proposal
2 offered by PSE&G. The proposal is not a relatively cost-effective means of
3 developing solar energy, creates unnecessary rate impacts for ratepayers, and
4 could have important unintended consequences relative to the development of
5 solar energy markets in New Jersey. Even if these issues did not exist, the
6 Company's proposal is premature since a number of long-run solar market
7 structure issues are yet to be determined. If the Board disagrees with my
8 recommendations regarding the costs and rate impacts of this proposal, it should
9 consider holding this proposal in abeyance until these longer-run issues are
10 decided.

11 **III. BACKGROUND ON NEW JERSEY SOLAR MARKETS**

12 **Q. CAN YOU GENERALLY DESCRIBE THE ORIGINS OF THE NEW**
13 **JERSEY SOLAR ENERGY MARKET?**

14 A. In April 2006, the Board adopted a policy to expand its renewable energy
15 portfolio standard ("RPS") commitment to 22.5 percent by the year 2020. The
16 Board's new RPS requirements increased the state's solar energy commitment
17 from its earlier level of 90 megawatts ("MWs") to two percent of all electricity
18 generation in 2020. One of the unique aspects of this requirement is that the
19 solar energy has to be obtained from a New Jersey-specific (in-state) solar
20 energy resource. The most recent estimates of the needed solar energy to meet
21 these RPS requirements have been provided in Exhibit DED-1.

22 **Q. HOW HAVE SOLAR PROJECTS BEEN DEVELOPED IN NEW**
23 **JERSEY?**

1 A. A large share of the projects developed over the past several years have
2 been funded by a rebate program that has been part of the Clean Energy
3 Program (“CEP”). This funding source, known as the Customer On-site
4 Renewable Energy (“CORE”) Rebate Program, provided a fixed rebate for the
5 installation of solar projects that varies depending upon size. For instance, small
6 private systems between 1 to 10 kW in size are currently eligible for a \$3.50 per
7 watt (“W”) rebate in 2006. The program has been a relatively successful, but
8 expensive means of promoting the development of solar energy in the state.
9 Exhibit DED-2 shows the trends in solar energy development under the CORE
10 program. Exhibit DED-3 shows the installed cost trends, on an installed per
11 kilowatt (“kW”) of capacity basis, for projects funded under the program.

12 **Q HOW DO SOLAR ENERGY MARKETS WORK IN NEW JERSEY?**

13 A Load serving entities (“LSEs”) and other electricity generators are required
14 to acquire a fixed percent of their electricity resources from renewable energy,
15 including a fixed share from solar energy, at levels defined within the Board’s
16 RPS. Market participants can obtain these solar energy requirements in two
17 ways. First, they can actually develop and operate solar energy resources on
18 their own behalf to meet their solar energy requirements. These installations
19 would be eligible to receive certificates known as Solar Renewable Energy
20 Certificates (“SRECs”), which in turn, can be used to meet (certify) their solar
21 requirements. Alternatively, market participants can purchase SRECs from
22 other suppliers, aggregators, or brokers.

23 **Q. ARE SOLAR ENERGY PRICES CAPPED IN NEW JERSEY?**

1 A. Yes, the Board also created what is referred to as a Solar Alternative
2 Compliance Payment (“SACP”) process which serves as a capped, default
3 alternative for market participants needing solar energy credits. These SACP
4 prices are usually set at levels higher than what is anticipated to be needed to
5 develop solar resources in the market (i.e., the SREC price). The goal in setting
6 the SACP price is to strike a balance between keeping this SACP rate high
7 enough to encourage trading in the traditional SREC markets, but not so high
8 that the SACP does not serve as a meaningful cap to bound solar energy costs
9 that are eventually passed through in retail rates.

10 **Q. HAVE ANY ISSUES ARISEN RECENTLY RELATIVE TO THE**
11 **CONTINUED DEVELOPMENT OF THIS SOLAR MARKET?**

12 A. Yes, while the rebate program has had some success in bringing solar
13 installations to the market, particularly for smaller, more expensive applications,
14 the program itself is relatively expensive. What has been of more concern is that
15 the program, if used as the sole or primary means of supporting solar, could get
16 prohibitively expensive particularly as the solar set-aside requirements increase
17 in the outgoing years of the RPS. This anticipated increase in cost, and the
18 challenge in meeting the solar set-aside goals in a cost effective manner,
19 stimulated the Board into considering other market design opportunities for
20 encouraging future solar energy development. As a result of its January 19,
21 2007 Order establishing Energy Year 2008 (“EY2008”) ACP and SACP values,
22 the Board created a stakeholder process (Docket EO06100744) to consider a

1 wide range of solar energy market designs and policies. This stakeholder
2 process has commonly been referred to as the “solar transition proceeding.”

3 **Q. WHAT WAS THE PURPOSE OF THE SOLAR TRANSITION**
4 **PROCEEDING?**

5 A. The formal purpose of the proceeding was to examine the appropriate
6 levels for SACP prices in upcoming years. However, the stakeholder process
7 also included a more generalized examination of a wide range of issues related
8 to solar energy market structure and design, including whether or not a rebate-
9 based approach should be maintained relative to other financial support options
10 that might rely more heavily on tradable SRECs. In its January Order creating
11 the stakeholder process, the Board issued a series of eight different questions
12 upon which stakeholders were requested to comment. The Board’s Order also
13 authorized hiring an independent consultant to examine the rate impacts of the
14 various different market design options under consideration.

15 **Q. WHAT WERE THE DIFFERENT MARKET DESIGNS EXAMINED IN THE**
16 **SOLAR TRANSITION PROCEEDING?**

17 A. There are seven general market designs or “models” that best reflect the
18 opportunities considered during the course of the solar transition proceeding that
19 included: (1) the then-current Rebate/SREC Model; (2) SREC-only Model; (3)
20 Underwriter Model; (4) Commodity Market Model; (5) Auction Model; (6) Full
21 Tariff Model; and (7) Hybrid-Tariff Model. Briefly, these models are comprised of
22 the following general attributes.

- 1 • **(Former) Rebate/SREC Model:** This model was based upon an analysis
2 of continuing what was the status quo at that time. Under this model solar
3 energy would be supported by a combination of rebates and SREC
4 revenues.
- 5 • **SREC-Only Model:** This would be an unfettered market-based approach
6 that would support all solar energy installations. Projects would be
7 supported by electricity savings and SREC revenues that were attained
8 from the sale of their renewable (solar) energy attributes.
- 9 • **Underwriter Model:** An underwriter model is one of several providing
10 securitization, through a 15-year contract, of a solar energy project. The
11 underwriter serves as the contracting entity for all solar projects funded
12 under this mechanism and sets a SREC price floor to guarantee projects.
13 The underwriter uses SACP revenues to support all projects striking on
14 the solar put.
- 15 • **Commodity Market Model:** This represents a variation of the underwriter
16 model which takes its basic characteristics, but allows projects less than
17 100 kW to be funded under the current rebate process for three additional
18 years to assist in the transition to the new market design. Rebates would
19 be discontinued after three years.
- 20 • **Auction Model:** This works much like a competitive bidding process
21 utilized in traditional regulation. Projects would bid into an auction for 5
22 year contracts which would be used to securitize projects. Projects would
23 be selected in least-cost fashion up to the point where the annual total
24 capacity target is met. All projects are paid the market clearing price for
25 solar energy (i.e., the last incremental bid into auction).
- 26 • **Full Tariff Model:** A tariff is developed for solar energy which supports 15
27 year contracts for solar energy resources. The revenues collected under
28 the tariff serve as the support for the securitization of the solar projects
29 developed under the market design.
- 30 • **Hybrid-Tariff Model:** This is a market design supported by a combination
31 of 10 year contracts and SREC revenues from the market.

32 **Q. WERE ANY RATE IMPACT STUDIES CONDUCTED FOR THESE**
33 **SOLAR MARKET DESIGNS?**

34 A. Yes, the OCE hired Summit Blue Consulting as the independent
35 consultant authorized in the Board's January Order to conduct a two-phase
36 analysis for each of these solar market designs (or models). The first phase
37 examined the conceptual and policy implications for each market design. The

1 second phase of Summit Blue’s research examined the rate impacts for each of
2 the models. Each phase was codified in a report that was, and continues to be,
3 highly cited in the discussion of New Jersey solar markets.

4 **Q. WAS ANY SINGLE ISSUE IDENTIFIED AS BEING A MAJOR POLICY**
5 **CHALLENGE IN THESE REPORTS AND THE SOLAR TRANSITION**
6 **PROCEEDING?**

7 A. A significant challenge that has been acknowledged by most participants
8 during the course of the solar transition proceedings has been in addressing
9 issues associated with regulatory certainty for solar energy. The entire market
10 for SRECs has been created artificially by the Board. Major changes to RPS
11 goals, or the rules for selling or buying SRECs, could create concerns about the
12 stability of solar energy markets and the ability of sources of capital to fully
13 recover their return of, and on, a solar capacity investment. It is the risk of the
14 potential for a wholesale change in the regulations governing the solar energy
15 market in New Jersey that concerns these sources of solar investment capital.

16 **Q. WHAT POLICY OPTIONS HAVE BEEN DISCUSSED TO REMEDY THIS**
17 **PERCEIVED REGULATORY UNCERTAINTY?**

18 A. The primary policy remedy that has been discussed by many of the
19 stakeholders in the transition proceeding has been the potential establishment of
20 long-term contracting, or what has been referred to as program “securitization.”

21 **Q. WHAT IS MEANT BY SECURITIZATION?**

1 A. Using the terms “long-term contracting” and “securitization” synonymously
2 may strike many in utility regulation as strange since they typically have related,
3 but very different meanings. While the regulatory process recognizes the
4 importance of long-term contracting and regulatory certainty in the ratemaking
5 processes, the use of securitization to provide that certainty is somewhat less
6 common.

7 **Q. DO YOU HAVE ANY EXAMPLES OF HOW SECURITIZATION HAS**
8 **BEEN USED IN UTILITY REGULATION?**

9 A. Yes, securitization has been used over the past decade as a relatively low
10 cost financing mechanism to fund the cost recovery of exceptionally high cost
11 (illiquid) assets over an extended period of time. This financial support
12 mechanism is almost always some long term debt-type instrument and is
13 secured by payments coming directly from ratepayers through non-bypassable
14 charges. Recent examples of major utility securitization mechanisms have
15 included storm damage cost recovery along the Gulf Coast in 2004 and 2005.
16 Another example of securitization in the utility industry occurred in the early to
17 mid-1990s during the electric retail competition process where uneconomic utility
18 assets (referred to as “stranded costs”) were financed through similar
19 instruments and recovered from ratepayers through non-bypassable charges.

20 **Q. WHY IS THIS DISTINCTION IMPORTANT?**

21 A. It is important because, while PSE&G’s proposal brings certain aspects of
22 regulatory certainty, it does not bring any of the benefits commonly associated
23 with the securitization of utility assets. In fact, the Company’s proposal creates

1 ratepayer impacts that move in the opposite direction of traditional utility
2 securitization. Rather than providing a lower-cost vehicle for financing high cost,
3 uneconomic, and illiquid assets, the Company actually proposes a mechanism
4 based upon an overall cost of capital that is much higher than what is even used
5 for traditional utility investments.

6 **Q. WHAT BENEFITS WOULD LONG-TERM CONTRACTING FOR SOLAR**
7 **ENERGY BRING TO RATEPAYERS?**

8 A. Long-term contracting could bring considerable benefits to ratepayers
9 depending upon its scope and structure, particularly for the development of those
10 solar projects with higher unit costs and relatively longer paybacks. The benefits
11 of long term contracting were recently identified in the rate impact analysis
12 conducted by Summit Blue Consulting for the OCE. The report noted:

13 Given the critical nature of price certainty in the process of
14 financing large-scale renewable energy projects, one of the
15 strongest elements associated with low RPS compliance costs is
16 the ability for renewable energy generators to enter into long-term
17 contracts ... this factor plays a defining role in determining the pace
18 of renewable energy project development ... States that lack
19 elements to facilitate long-term contracts end up relying on more
20 volatile short-term market pricing. When combined with project
21 development delays and resulting early-phase supply shortages ...
22 this drives compliance costs up ... it is clear that long-term
23 contracting, coupled with ample resource availability and limited
24 siting issues, are a recipe for low-cost RPS compliance...Given the
25 relatively short-term BGS contract cycle and given New Jersey's
26 large RPS goals for in-state solar, one of the most expensive
27 resources to develop, it is imperative for New Jersey to address the
28 issue of price certainty in order to keep RPS compliance costs from
29 reaching the cap set by future ACP and SACP levels.¹

¹ An Analysis of Potential Ratepayer Impact of Alternatives for Transitioning the New Jersey Solar Market from Rebates to Market-Based Incentives, Prepared for New Jersey Board

1 **Q. HAS RATE COUNSEL BEEN SUPPORTIVE OF LONG-TERM**
2 **CONTRACTING ISSUES?**

3 A. Rate Counsel has been, and continues to be, supportive of long-term
4 contracting for solar energy resources provided it operates on certain principles
5 that ensure diversity and cost-effectiveness. Long-term contracting can bring
6 positive benefits to ratepayers in the form of reduced risk premiums, and
7 hopefully lower overall cost of solar energy development. However, overly large
8 commitments, that are not balanced in terms of contract duration and are not
9 tempered with competitive pressures, can result in negative impacts to
10 ratepayers in the form of a new stranded cost burden. Bidding requirements
11 through a competitive process has been one suggestion offered by Rate Counsel
12 to ensure that only the least cost resources are included in any long-term
13 contracting process.

14 **Q. DOES THE PSE&G PROPOSAL PROVIDE THIS TYPE OF LONG-**
15 **TERM SUPPORT AND POTENTIAL RATEPAYER BENEFITS?**

16 A. Not entirely. While the Company's proposal does provide long-term
17 support for solar development, it does so at a cost that is considerably higher
18 than necessary. The proposal runs counter to most regulatory policies
19 supporting traditional securitization mechanisms which attempt to seek lower-
20 than-normal financial instruments to support high-cost assets. The PSE&G
21 proposal even runs contrary to the financing of traditional utility infrastructure

of Public Utilities, Office of Clean Energy. Summit Blue Consulting, July 31, 2007, pages 61, 62 and 63.

1 since the overall cost of capital has been increased to incorporate an incentive
2 return.

3 **Q. DID ANY OF THE MARKET DESIGNS YOU DISCUSSED EARLIER**
4 **HAVE ANY SECURITIZATION CHARACTERISTICS?**

5 A. Yes, of the seven different models or market designs I discussed, three
6 included provisions for long-term contracting. These include the 15 Year Full
7 Tariff Model, an Auction Model, and an Underwriter Model. While the original
8 proposal offered by many in the solar industry was to examine the Auction Model
9 under a five-year contract term, Rate Counsel recommended a portfolio of
10 contract durations, of fixed blocks of time, averaging 15 years in duration.

11 **Q. WHAT WERE THE ESTIMATED RATE IMPACTS FROM THE MODELS**
12 **THAT HAVE LONG-TERM CONTRACTING CHARACTERISTICS?**

13 A. The Auction Model and the Full Tariff Model were estimated to have
14 comparable rate impacts if contracts for both models are developed on a 15 year
15 basis. The Underwriter Model, which has been recognized by the Company as
16 being comparable to its own proposal, was not cost-competitive with either of
17 these two longer-term contracting approaches. One of the advantages found with
18 the Auction Model however, was that in addition to having overall comparatively
19 favorable rate impacts, it also had the least amount of rate impact variance (i.e.,
20 the cost variation from the estimate was smaller than other models). I have
21 provided a comparative analysis of the rate impacts for each of the models
22 examined during the solar transition proceeding in Exhibit DED-4. The model
23 impacts are based upon my estimates using the Summit Blue analysis

1 framework. In addition, Exhibit DED-5 provides a graph examining the policy
2 variance estimated in each of these models.

3 **IV. RECENT CHANGES IN NEW JERSEY SOLAR ENERGY MARKETS**

4 **Q. WOULD YOU PLEASE DISCUSS THE RECENTLY ADOPTED OCE**
5 **MARKET DESIGN?**

6 A. The Board recently adopted a proposed market design, developed by the
7 OCE, which defines many aspects of how solar energy markets will be governed
8 on a forward-going basis. The underlying basis for the OCE market design
9 begins with the segmentation of the market into two types of installations:
10 smaller, typically residential systems that are less than 10 kW in size; and larger
11 systems greater than 10 kW in size. The OCE market design assumes that large
12 systems will be financially supported by a combination of SREC revenues and
13 electricity savings while smaller systems are assumed to be supported by a
14 combination of SREC revenues, electricity savings and some form of rebate, the
15 form and level of which has not been determined by the Board.

16 **Q. HOW DO SREC REVENUES SUPPORT SOLAR PROJECTS UNDER**
17 **THE OCE MARKET DESIGN?**

18 A. The primary means of support for most solar installations on a forward-
19 going basis will be the SREC revenues generated from the project. These
20 revenues are determined by multiplying the total number of credits generated by
21 the installation and the prevailing SREC price. One significant change
22 associated with the OCE market design is that solar energy projects are limited in
23 the number of years in which they can earn SREC revenues. Projects will now

1 have what is referred to as “qualification lives” which limit the SREC earning
2 potential of these installations to 15 years. The purpose of establishing these
3 qualification lives has been to limit the time period in which solar installations can
4 obtain financial support from the market at SREC rates.

5 **Q. DOES THIS NEW OCE MARKET DESIGN CREATE ANY**
6 **OPPORTUNITIES FOR LONG-TERM CONTRACTING OR**
7 **“SECURITIZATION?”**

8 A. No, the new OCE market structure does not include any form of long-term
9 contracting or what has commonly been referred to as securitization. Instead,
10 the program is based upon a rolling eight-year schedule of SACP prices. As I
11 noted earlier, these SACP prices act as a ceiling on the maximum amount that
12 can be paid (or required to be paid) for solar energy, and can also serve as the
13 market of last resort for those entities unable to secure SRECs in the market.

14 **Q. ARE ANY KNOWN PRICING TRENDS BUILT INTO THIS SACP**
15 **SCHEDULE?**

16 A. Yes. The SACP schedule has a built-in deflator that reduces the ceiling
17 prices annually by three percent. This decrease is built into the SACP schedule
18 to reflect longer-run technological innovation, efficiency, and overall external
19 economies of scale.

20 **Q. HOW ARE THESE SACP PRICES SET?**

21 A. These prices are determined by the OCE and submitted to the Board for
22 approval. The OCE has noted that it sets these prices as a fixed mark-up above
23 what they believe is the typical SREC price needed to bring solar projects to the

1 market. This threshold SREC price, in turn, is a function of internal customer
2 economics needed to develop solar projects. The SREC price is set for large
3 private installations with a target internal rate of return (“IRR”) of 12 percent and
4 a payback period of six years. IRRs for all installations are positively correlated
5 with qualification lives, SREC levels, and electricity savings. In other words,
6 IRRs increase as any of these three factors increase.

7 **Q. ARE THE DIFFERENCES BETWEEN THE THRESHOLD SREC PRICES**
8 **AND THE SACP LEVELS CLOSE?**

9 A. Yes. The OCE has noted that they estimate the difference as being
10 around \$100 between the two different types of credits. In other words, the
11 SACP in any given year is set at a level that is \$100 above what OCE believes is
12 needed in SREC prices to clear the market. In order to be effective, this margin
13 needs to be large enough to cover any unanticipated/incorrectly estimated IRRs
14 as well as any underlying “hurdle rate” that might push market participants into
15 the default SACP market.

16 **Q. WHAT DO YOU MEAN BY HURDLE RATE?**

17 A. This is the subjective rate at which market participants stop seeking out
18 solar transactions in the SREC market and choose SACPs instead. It can be
19 thought of as a point at which the marginal cost of seeking out SREC
20 transactions is equal to or exceeds the benefits from finding these potential
21 transactions in the market. Or, in more simple terms, it is some pricing level at
22 which market participants do not want to be hassled with finding solar
23 transactions and accept the SACP default.

1 **Q. DO INTERNAL CUSTOMER ECONOMICS IMPACT THIS SREC/SACP**
2 **DIFFERENTIAL?**

3 A. Yes, factors influencing the IRR will cause this differential to either
4 contract or expand. If customers need an increasingly higher IRR in order to
5 develop solar energy, it could whittle away at this differential. Likewise, if
6 installed solar system costs, or other costs associated with bringing projects to
7 the market (“development costs”) are higher than anticipated, or are decreasing
8 at a rate slower than the SACP schedule, the headroom between the two pricing
9 points will start to contract. The tighter the headroom, the more likely SREC
10 prices will move to the hurdle level which could cause the market to default to the
11 higher ceiling prices. The opposite would be true if solar installation costs
12 decreased at a rate faster than that assumed in the OCE market design, or the
13 IRRs needed to bring projects to the market were lower, or found new sources of
14 financial support (like a new tax credit or subsidy), from those anticipated in the
15 OCE design.

16 **Q. HOW DOES ALL OF THIS RELATE TO THE PSE&G PROPOSAL?**

17 A. Exhibit DED-6 shows the historic relationship between SREC and SACP
18 levels over the past several years. The exhibit shows a tightening margin even
19 prior to the advent of the new OCE market design. In addition, the program
20 development costs upon which the OCE SREC/SACP prices are based are
21 considerably different than what is included in the Company’s proposal. A
22 comparison of the SRECs needed under the OCE’s assumed customer
23 economics relative to the costs included in the Company’s proposal shows that,

1 in fact, the SREC prices needed to clear the market under the PSE&G program
2 are well above not only OCE-assumed levels, but those already included in the
3 proposed SACP schedule.

4 **Q. HAVE YOU ESTIMATED THE IMPLIED SREC PRICES NEEDED**
5 **UNDER THE PSE&G LOAN PROGRAM?**

6 A. Yes, but before discussing these estimates it may help to examine the
7 nature of the flows of costs and revenues between the different market
8 participants under the proposed PSE&G plan. A schematic attempting to show
9 these flows as proposed by PSE&G has been provided in Exhibit DED-7.

10 **Q. CAN YOU GENERALLY EXPLAIN THIS SCHEMATIC?**

11 A. There are three major blocks within the schematic. On the left is a block
12 intended to represent ratepayers. This block has two sub-parts, those ratepayers
13 participating in the PSE&G program and those not participating. The block
14 representing PSE&G is located in the middle of the exhibit. The block on the
15 right-hand side of the exhibit is intended to represent LSEs. Flows between
16 market participants are color-coded. Flows representing costs or charges are
17 colored as green lines. Flows representing SREC movements are colored as red
18 lines. Flows representing payments (revenues, surcharges) from ratepayers to
19 LSEs or PSE&G are represented as black lines.

20 **Q. CAN YOU EXPLAIN THE FLOWS BETWEEN PSE&G AND THOSE**
21 **RATEPAYERS PARTICIPATING IN THE LOAN PROGRAM?**

1 A. These flows represent the transfer of loans from PSE&G to the program
2 participants. These participants, in turn, are expected to surrender their SRECs
3 as payment for the financial support provided under the program.

4 **Q. CAN YOU EXPLAIN THE FLOWS BETWEEN PSE&G AND THE LSES?**

5 A. Under its proposal, PSE&G will transfer SRECs surrendered from the loan
6 program to LSEs serving its distribution customers. There is no value or charge
7 assessed to these LSEs for the SRECs.

8 **Q. CAN YOU EXPLAIN THE FLOWS RELATED TO THE PSE&G
9 PROGRAM COSTS?**

10 A. The Company is proposing to charge its program costs through the SBC.
11 These program costs include the cost of financing the program, the incentive
12 return to the Company, and its program administrative costs. Lost revenues,
13 also part of the program costs, are recovered at some point in the future as lost
14 revenues.

15 **Q LASTLY, CAN YOU EXPLAIN THE FLOWS BETWEEN LSES AND
16 RATEPAYERS?**

17 A. Under the Company's proposal, LSEs will charge retail customers for the
18 electricity they provide into the market place less the market value of the SRECs
19 that obtained from PSE&G and its solar loan program. This is anticipated to
20 lower the price of compliance for these LSEs by an amount equal to the going
21 value of SRECs in the market. These SRECs, in turn, will be determined by the
22 prevailing market forces, which are highly determined by the most recently
23 adopted OCE market design.

1 **Q ARE THERE ANY INCONGRUITIES IN THE FLOWS?**

2 A Yes. The market value for SRECs, that will be discounted in the BGS
3 rates, are set at levels completely different than those implied by the PSE&G
4 proposal. The PSE&G proposal includes both additional costs (like an incentive
5 return) and higher overall financing costs, than what was envisioned when OCE
6 set its SREC and SACP prices. This would suggest that the costs of the program
7 are going to be greater than the benefits flowing back from the SREC market.

8 **Q HOW DOES THIS RELATE TO IMPLIED SREC VALUES NEEDED**
9 **UNDER THE PSE&G PROGRAM?**

10 A Exhibit DED-8 compares the OCE “market clearing” SREC price to the
11 one implied under the Company’s proposed solar loan program. As seen in the
12 comparison, the SREC prices needed to recover the costs of the Company’s
13 proposal are considerably higher. In fact, the PSE&G-implied SREC prices are
14 much higher than the SACP prices that have been recommended by the OCE.

15 **Q. ARE THERE ANY OPPORTUNITIES FOR REDUCING SREC PRICES**
16 **THAT ARE WITHIN THE COMPANY’S CONTROL?**

17 A. Yes, the Company has proposed to use its weighted average cost of
18 capital, plus an incentive return of 100 basis points, which is equal to 12.11
19 percent, as the means of financing all types of programs. While this is
20 comparable to many of the assumptions for large systems during the solar
21 transition proceeding, it is not the case for many smaller scale applications. In
22 order to drive the costs of these SREC prices down, the Company would need to

1 reduce its financing cost down to a more reasonable level especially for the
2 smaller installations.

3 **V. PSE&G SOLAR PROGRAM DEFICIENCIES**

4 **Q. WHAT ARE THE MAJOR DEFICIENCIES ASSOCIATED WITH THE**
5 **PSE&G SOLAR PROPOSAL?**

6 A. The PSE&G proposal suffers from a number of deficiencies that make it a
7 relatively unattractive means for developing solar energy in New Jersey. These
8 shortcomings include:

9 • The proposal comes at an awkward time since a number of longer run
10 solar market structure issues, which could be impacted by this
11 proposal, have not been determined.

12 • The program appears to have a number of inconsistencies with the
13 recently adopted OCE market design that could result in unnecessary
14 adverse rate impacts for all New Jersey ratepayers.

15 • The program is based upon a complicated interaction of costs and
16 revenues that are likely to be offsetting only by coincidence. The
17 overall rate impact could be significantly adverse to ratepayers.

18 • The program is an expensive means of developing solar energy.
19 Ratepayers would be better served by some alternative market design.

20 **Q. LET'S TURN TO THE FIRST ISSUE YOU'VE RAISED. HOW IS THE**
21 **TIMING OF THIS PROPOSAL AWKWARD?**

1 A. As noted earlier, the Company's proposal was filed during the middle of
2 the solar transition proceeding examining solar energy market structure issues.
3 While the Board recently adopted the proposal offered by the OCE, their decision
4 opened a number of other proceedings under which ongoing solar energy market
5 design issues should be examined, two of which relate directly to the Company's
6 proposal. The first issue includes the amount, level and structure of the solar
7 energy rebate program, while the second issue is associated with the overall
8 process of securitization. At minimum, the Company's proposal is premature
9 since the outcome of both investigations could have significant implications on
10 costs and rate impacts of the proposal.

11 **Q. HOW DOES THE REBATE PROGRAM IMPACT THE COMPANY'S**
12 **PROPOSAL?**

13 A. The Board has not decided on the scope and structure of the rebate
14 program. In fact, comments on the Clean Energy Budget are currently in the
15 process of being solicited and public hearings were originally scheduled to not be
16 completed until mid-October. Within the past week, parties received notice that
17 these public meetings have been cancelled leaving the remaining schedule of
18 this proceeding, which is inter-tied with ongoing Energy Master Plan ("EMP")
19 issues, entirely open. The nature of the rebate program will impact the overall
20 "floor" price included in the Company's proposal as well as the implied payback
21 periods and internal rates of return for smaller scale projects, and most
22 importantly, the PSE&G implied SREC prices that I discussed earlier.

1 **Q. HOW DOES THE SECURITIZATION ISSUE IMPACT THE COMPANY'S**
2 **PROPOSAL?**

3 A. The Board's future decision on securitization could have considerable
4 impact on the attractiveness (or unattractiveness) of a proposal like that currently
5 being offered by PSE&G. The Company has noted in its testimony and petition
6 that one of the primary factors motivating its proposal has been an attempt to
7 move the solar market forward relative to the inherent regulatory uncertainty that
8 exists in the current market structure. While that is an admirable goal, this
9 initiative completely prejudices, and potentially pre-empts, other possible
10 mechanisms for creating long-term market certainty. As noted in the solar
11 transition proceeding, there are several other market models (or combination of
12 models) under which long-term contracting could be established. It is highly
13 likely that an alternative form of regulatory-backed long-term contracting would
14 provide a wide range of financial support in the market, rendering PSE&G's
15 proposal moot. In addition, a broader market design approach to longer-term
16 contracting would provide more market breadth, potentially at lower cost, than
17 the Company's current proposal.

18 **Q. LET'S TURN TO THE SECOND ISSUE YOU RAISED. HOW IS THE**
19 **PSE&G PROPOSAL INCONSISTENT WITH THE RECENTLY ADOPTED OCE**
20 **MARKET STRUCTURE?**

21 A. The proposal is inconsistent with the approach recently approved by the
22 Board. During this process, the OCE rejected the Underwriter Model in favor of
23 its own market design, which was recently approved by the Board. Further, there

1 are a number of implementation issues that create conflicts between the two
2 programs. First, the floor amounts set by PSE&G do not appear to be consistent
3 with comparable minimum support levels included in the OCE market structure,
4 particularly for smaller-scale applications. Second, the OCE market structure
5 includes a new mechanism referred to as a “qualification life” which could have
6 impacts on individual project finance and their ability to pay off the loans that are
7 part of the Company’s proposal. Also, the implied value of SRECs under the
8 OCE market design are based upon a completely different cost structure and
9 financial basis, that could create problems for loan repayment.

10 **Q. LET’S TURN TO THE THIRD ISSUE YOU RAISED. ARE THE TRUE**
11 **COSTS OF THIS PROGRAM VERY TRANSPARENT?**

12 A. No. The Company has developed a program that is somewhat
13 complicated in the ways various program costs and revenues are treated. For
14 instance, Exhibit DED-7, referenced earlier, shows how program payments move
15 in one direction, SREC prices move in another direction, and loan repayments
16 progress in a different direction. It would appear a balancing of all these flows
17 would occur only by coincidence given their complicated interaction and timing.

18 **Q. HOW DO THE FINANCE COSTS COMPARE TO THE MARKET**
19 **MODELS THE SOLAR TRANSITION PROCEEDING HAS BEEN**
20 **CONSIDERING OVER THE PAST YEAR?**

21 A. The market models that were examined during the solar transition
22 proceedings used a much lower opportunity cost of capital for funding for smaller
23 residential applications than that used in the Company’s proposal. The Company

1 based its opportunity cost of capital on an incentive-enhanced regulated rate of
2 return. This additional cost of finance makes the PSE&G proposal considerably
3 more expensive than other mechanisms at the Board's disposal, including just
4 maintaining the status quo. Even for large systems, the Company is gaining an
5 incentive return, when a slight advantage to the market might be available even if
6 its overall cost of capital were used.

7 **Q. HOW DO THE COMPANY'S PROPOSED ADMINISTRATIVE COSTS**
8 **COMPARE TO THE MARKET MODELS CONSIDERED IN THE SOLAR**
9 **TRANSITION PROCEEDING?**

10 A. The administrative costs are also considerably higher than those assumed
11 in the solar transition proceeding. Exhibit DED-9 summarizes the administrative
12 costs per MWh of solar generation that were utilized in the solar transition
13 proceeding. These costs ranged from a low of \$85/MWh (of solar generated) for
14 the SREC-Only model and a high of \$161/MWh (of solar generated) for the
15 Commodity Market model. The Company's costs, which average to some
16 \$100/MWh (of solar generated) compare unfavorably to most of the models,
17 particularly those that have similar securitization characteristics.

18 **Q. DID ANY OF THE MARKET MODELS EXAMINED IN THE SREC**
19 **PROCEEDINGS ASSUME THAT LOST REVENUES WOULD BE**
20 **RECOVERED?**

21 A. No, none of the solar energy market models that were examined over the
22 past year included lost revenues. This would be a new, additional cost
23 associated with implementing the Board's solar energy goals. If the Company is

1 allowed to recover these costs, it could set a significant precedent for the state's
2 other utilities, and could dramatically increase the cost of meeting the Board's
3 solar energy goals beyond the already high levels of between \$4.0 to \$6.0 billion
4 (net present value or "NPV").

5 **Q. LET'S TURN TO YOUR LAST ISSUE. CAN YOU EXPLAIN WHY YOU**
6 **THINK THIS PROPOSAL IS EXPENSIVE RELATIVE TO OTHER MEANS OF**
7 **PROMOTING SOLAR ENERGY?**

8 A. The Company's proposal is expensive relative to other market models that
9 were examined in the solar transition proceeding since the proposal includes
10 significant additional costs that were not included (and were not anticipated to
11 arise) in the other market designs. When all of these costs are added, and then
12 divided by the solar energy expected to be generated by this proposal, the
13 overall cost of bringing solar energy to the market is considerably higher than
14 market structures that could accomplish the same task. Exhibit DED-10 provides
15 a summary of these costs on a per solar generation basis. The PSE&G proposal
16 is higher than every model.

17 **VI. ESTIMATED RATE IMPACTS OF THE PSE&G PROPOSAL**

18 **Q. HAVE YOU EXAMINED THE POTENTIAL RATE IMPACTS**
19 **ASSOCIATED WITH THE COMPANY'S PROPOSAL?**

20 A. Yes. I compared the PSE&G proposal relative to the major market design
21 models under consideration in the solar transition proceeding. For this analysis, I
22 restricted the models for comparison to the 15 Year Tariff Model, the 15 Year
23 Auction Model, the OCE Market Design and the Underwriter Model. These

1 models appeared to be the most relevant since, like the Company’s proposal,
2 they all include “securitization” aspects that reduce regulatory risk. The purpose
3 of this rate impact analysis was to develop a comparison of the PSE&G proposal
4 to other market design opportunities available to the Board. This analysis can
5 give the Board some indication as to whether or not the PSE&G proposal is the
6 least-cost opportunity for developing solar energy.

7 **Q. HOW WAS THIS RATE IMPACT ANALYSIS CONDUCTED?**

8 A. I utilized a model framework for estimating rate impacts that was very
9 similar to the one developed by Summit Blue Consulting in the solar transition
10 proceedings. The same assumptions and drivers were used in my rate impact
11 analysis in order to make an apples-to-apples comparison to the other market
12 design models. The rate impact analysis was conducted for the entire state, for
13 the entire period of the RPS.

14 **Q. DID YOU MAKE ANY CHANGES TO THE ESTIMATED RATE IMPACTS**
15 **OF THE OCE MARKET DESIGN?**

16 A. Yes, rebate costs were assumed to be maintained on a forward going
17 basis at their current level less an annual deflation rate that was comparable to
18 the reduction in the installed costs of solar equipment.

19 **Q. HOW DID YOU MODEL THE PSE&G PROGRAM?**

20 A. The PSE&G proposal was “scaled-up” as one designed to support the
21 entire solar energy requirement for the RPS. The premise of this scale-up was
22 that if PSE&G’s program is good for its ratepayers, then it ought to be an equally
23 attractive mechanism for funding solar development across the entire state. Two

1 versions of the PSE&G proposal were modeled. One that allowed PSE&G to
2 fund the entire cost of the installed solar requirements in any given year, and
3 another based upon its current proposal to fund about half of the installed cost of
4 any annual solar requirement. The balance of the requirement was assumed to
5 have to be funded from an OCE-based market design.

6 **Q. WHAT RISK PREMIUM DID YOU USE FOR PSE&G?**

7 A. I used two risk premiums in my rate impact analysis. The first risk
8 premium was the same one applied to the Underwriter Model in the original
9 Summit Blue framework. The second risk premium was essentially zero: no
10 premiums were assigned to the PSE&G proposal much like the Tariff and
11 Auction models. Here, a risk premium is the discount to SREC revenue streams
12 which reflects the inherent regulatory uncertainty associated with the market
13 design. A zero risk premium, for instance, entails that all SREC revenues are
14 counted towards estimating project economics while a risk premium of one would
15 entail that no SREC revenues are being applied to the solar energy project in
16 determining its internal economics and returns.

17 **Q. WHAT WERE THE RESULTS OF YOUR RATE IMPACT ANALYSIS?**

18 A. The results of my rate impact analysis, which assumed 100 percent of the
19 installed cost were funded under a PSE&G-style framework, are provided in
20 Exhibit DED-11. The results show that the total rate impacts of the PSE&G
21 proposal are higher than any other market design under consideration over the
22 past year. The PSE&G proposal, if extrapolated to the entire state over the
23 entire RPS period, would have a ratepayer impact of \$5.5 billion (NPV) assuming

1 a small risk premium and a ratepayer impact of \$5.1 billion (NPV) assuming no
2 risk premium.

3 **Q. WHAT WERE THE RATE IMPACTS UNDER A 50 PERCENT FUNDING**
4 **SCENARIO?**

5 A. The relative rate impacts were comparable, but the total rate impact of the
6 PSE&G proposal actually decreased, as would be expected. Exhibit DED-12
7 presents a table examining these rate impacts. The PSE&G market design
8 results in rate impacts of \$4.5 billion (NPV) with a small risk premium and \$4.3
9 billion (NPV) with no risk premium.

10 **Q. WHAT ARE YOUR CONCLUSIONS FROM THIS RATE IMPACT**
11 **ANALYSIS?**

12 A. The PSE&G proposal is not in the public interest as it is currently
13 configured. The costs are much higher than any other proposal considered to
14 date. Further, the rate impacts I estimate indicate that if the Company's proposal
15 were extended in a fashion comparable to other recently examined market
16 designs, the PSEG proposal would result in roughly a 6 percent increase in rate
17 relative to a 2 percent increase in solar capacity. This is not in proportion to the
18 commonly accepted rule of thumb discussed in the solar transition proceeding
19 that attempted to utilize a market design that increased solar capacity in
20 proportion to the rate impacts (i.e., a one-to-one ratio).

21 **VII. OTHER POLICY AND MARKET STRUCTURE ISSUES**

22 **Q. ARE THERE ANY OTHER POLICY OR MARKET STRUCTURE ISSUES**
23 **ASSOCIATED WITH THE COMPANY'S PROPOSAL?**

1 A. Yes, there are several other issues that the Board should consider and
2 address in evaluating the Company's solar energy proposal. These issues
3 include:

- 4 • Market share and potential market power issues in SREC markets
- 5 • Problems with using index prices for SREC valuation
- 6 • Direct allocation of SRECs to LSEs
- 7 • Call option incentives and issues
- 8 • Program cost efficiency incentives.

9 **Q. LET'S TURN TO THE FIRST ISSUE. DO YOU HAVE ANY CONCERNS**
10 **ABOUT THE IMPACT THE COMPANY'S PROPOSAL COULD HAVE ON**
11 **SREC PRICES?**

12 A. Yes. If the Company's proposal is accepted, it could potentially influence
13 a considerable share of the SREC market for a meaningful period of time.
14 Exhibit DED-13 shows the anticipated PSE&G market share of SRECs over the
15 duration of the currently established solar market. PSE&G will control over 40
16 percent of all SRECs for at least 2 years. Further, the Company will be in control
17 of thirty percent of the SREC market for the following year, and over 20 percent
18 the year after that.

19 **Q. LET'S TURN TO THE SECOND ISSUE YOU RAISED EARLIER. CAN**
20 **YOU EXPLAIN HOW THE COMPANY'S PROPOSAL VALUES SRECS?**

1 A. Yes. Under the Company's proposal, participants who receive funding for
2 their solar installations will be required to surrender their SRECs to PSE&G as a
3 means to pay down the loan associated with the installation. The Company's
4 proposal appears to set the value of these SRECs at the going rate observed for
5 transactions on the Office of Clean Energy's website. Presumably under the
6 proposal, if the going SREC price on the website were \$500, and an individual
7 customer receiving support surrendered 10 SRECs for the year, the total value
8 would be \$5,000 ($\500×10). This amount, in turn, would be credited to the
9 customer's outstanding energy loan to pay off the principle and interest.
10 According to the Company, the higher the SREC amount, the faster the loan
11 repayment.

12 **Q. DO YOU HAVE ANY CONCERNS OF USING AN INDEX PRICE TO**
13 **VALUE SRECS UNDER THE COMPANY'S PROPOSAL?**

14 A. Yes. From a theoretic perspective, the use of a standard and robust
15 trading market index would be an acceptable means of valuing a commodity
16 such as an SREC. A robust index, in this context, would be one that is not highly
17 influenced or sensitive to just a handful of trades or outliers. The problem with the
18 Company's proposal is that the index it is proposing to use may not be that
19 robust and could create problems for SREC valuation.

20 **Q. DO YOU KNOW WHAT INDEX THE COMPANY IS PROPOSING TO**
21 **USE?**

22 A. It appears that the Company may be relying upon the pricing information
23 that is reported on the Clean Energy website. This site allows users to create

1 accounts and arrange deals for purchases and sales of SRECs. This website
2 lists the weighted-average prices that were reported for transactions that were
3 cleared from sales/purchase inquiries placed on the homepage. It appears from
4 the Company's Response to S-PR-17 that the weighted average prices will be
5 the ones used to value surrendered SRECs, which in turn will be used as
6 payments against the loans made under the program.

7 **Q. ARE THERE A LARGE NUMBER OF TRADES ON THIS INDEX?**

8 A. While the number of trades has been increasing recently, there are still a
9 limited number of trades relative to those that appear to be occurring in the
10 market. Exhibit DED-14 provides an examination of the trends in these trades
11 from the publicly available information on the Clean Energy homepage. The total
12 SRECs traded for Reporting Year 2007 represent about 76 percent of all SRECs
13 available in the market. Again, while this number has been increasing over the
14 past year, it still raises some questions about the robustness of this index as a
15 means of solar energy valuation. If PSE&G removes the transactions occurring
16 in its service territory from those potentially occurring on this exchange, then it
17 could impact overall market valuations for at least some period of time given the
18 size of these commitments.

19 **Q. CAN PRICING ANOMALIES ARISE IN THINLY REPORTED MARKET**
20 **PRICE INDICES?**

21 A. Yes and this has been recognized in other comparable energy indices,
22 particularly with natural gas. Recently, the Federal Energy Regulatory
23 Commission ("FERC") found:

1 Without enough fixed price transactions, there is a real concern that prices
2 will not reflect market conditions. This is another aspect of liquidity
3 concerns—improvements in price reporting, data quality, index
4 methodologies, reporting procedures, and the like still will not produce the
5 desired result if there are not enough fixed price trades to form prices.²

6 **Q. LET'S TURN TO THE THIRD ISSUE. WOULD YOU PLEASE DISCUSS**
7 **THE COMPANY'S PROPOSAL TO DIRECTLY ASSIGN SRECS TO LSES?**

8 A. Yes. The Company is proposing that all of the SRECs it receives from the
9 solar projects supported under its program will be transferred, at no direct cost, to
10 LSEs. The Company's proposal is premised, in theory, upon the idea that the
11 free-SREC cost advantage afforded to these LSEs will be passed directly to
12 customers since they are the ones ultimately supporting solar investments
13 through rate increases. The assumption is that the free cost of these SRECs will
14 be imputed to ratepayers.³

15 **Q. DOES THIS TRANSFER OF SRECS CREATE ANY POTENTIAL**
16 **PROBLEMS?**

17 A. Yes, and there are at least two potential problems with this aspect of the
18 Company's proposal. First, there is nothing to guarantee that wholesale power
19 prices will be reduced by the LSEs as a result of this transfer. Second, LSEs will
20 be obtaining SRECs at a price that does not reflect the true cost of developing
21 solar energy under the PSE&G proposal.

22 **Q. WHY DO YOU BELIEVE THAT THIS COST ADVANTAGE MAY NOT BE**
23 **PASSED ALONG TO RATEPAYERS?**

² Staff Paper on Price Formation Issues, Docket No. AD03-7-001, Federal Energy Regulatory Commission, June 13, 2003.

³ PSE&G Petition, April 19, 2007, page 21, paragraph 76; and Direct Testimony of Frederick Lynk, June 1, 2007, p 10, lines 2-3.

1 A. There is clearly nothing which would require or guarantee this reduction,
2 nor the degree to which this cost advantage gets passed along to customers.
3 The degree of the pass-through will be more a function of the competitiveness of
4 the downstream retail market as opposed to the Company's theoretic assertions.
5 The greater the degree of competition in the retail segment of the market, the
6 more likely the full cost advantage will be passed along to customers. While it
7 could be the case that these cost advantages are passed along completely to
8 those customers, it could also very well be the case that these advantages are
9 not passed along to customers. The Company's pricing/cost benefit imputation
10 presumption is a speculative proposition at best. Mr. Fagan will discuss the
11 issues associated with this aspect of the Company's proposal in his direct
12 testimony.

13 **Q. WHAT WOULD BE THE HARM TO RATEPAYERS IF THIS COST**
14 **ADVANTAGE WERE NOT PASSED ALONG?**

15 A. If ratepayers do not get the benefit, then they will be paying at least twice
16 for the development of solar: once through the charges applied through the SBC
17 and secondly through higher retail electricity prices that do not reflect the lower
18 cost passed along at the wholesale level.

19 **Q. CAN YOU EXPLAIN WHY THE PSE&G LSES WILL NOT BE PAYING**
20 **THE FULL COST OF THE SRECS?**

21 A. Yes. As I noted earlier, the Company's proposal for developing solar
22 energy comes at a cost much higher than what has been assumed in the market
23 to date. The inclusion of such components as a higher-than-normal

1 administrative cost, incentive returns and lost revenues, makes the cost of this
2 program much more expensive than other market structures examined to date.
3 In order for the program costs to come close to matching the program revenues,
4 either the program costs have to be reduced, or the excess costs of the program
5 need to be imputed into SRECs transferred to LSEs.

6 **Q. LET'S TURN TO THE FOURTH ISSUE YOU RAISED EARLIER. CAN**
7 **YOU EXPLAIN HOW THE COMPANY'S CALL OPTION WORKS?**

8 A. The Company's proposal includes what it is referring to as a call option on
9 all of the solar projects developed under its solar loan program. This call option
10 will allow the Company to purchase all unused SRECs from solar projects that
11 are paid-off earlier than anticipated.

12 **Q. HOW CAN PROJECTS GET PAID OFF EARLY?**

13 A. If the SREC prices associated with the Clean Energy solar exchanges are
14 higher than anticipated, loans may be paid off early (much like making an extra
15 payment on a mortgage). Assume for instance, that a PSE&G program
16 participant needs an SREC price of \$475 to meet his regularly scheduled
17 "payment" and this customer plans to generate 10 SRECs from his installation. If
18 the market SREC price, which is set on the Clean Energy homepage, is larger at
19 a level of \$575 per SREC, then this customer would have an additional \$1,000 in
20 SREC income $((\$575-\$475) \times 10)$ to make an additional payment against his
21 solar loan. If this occurs on a regular basis, it could potentially reduce the overall
22 payment period from 15 years to a lesser period of time.

1 **Q. HOW WOULD THE CALL OPTION WORK?**

2 A. PSE&G would have the option to call on all SRECs generated from pre-
3 paid solar projects that were funded under its loan program. If a project, for
4 instance, were paid off in 10 years as opposed to 15 years, then PSE&G would
5 have the ability to claim all of those SRECs for itself for the remainder of the
6 original term of the loan. The Company would reimburse the system owner 75
7 percent of the going SREC value in the market. Thus, if the market were valuing
8 SRECs at \$500 per SREC, the Company would pay \$375 per SREC to the
9 project owner. Presumably, these lower cost SRECs would in turn be passed
10 along to LSEs.

11 **Q. DO YOU SEE ANY PROBLEMS WITH THIS CALL OPTION?**

12 A. Yes, ratepayers are not getting reimbursed appropriately for the
13 investments they have made in these particular facilities. SRECs that are
14 available to the market should be put to the market and sold at full value. The
15 proceeds from these sales, in turn, should be credited 100 percent to ratepayers
16 (much like they would from the sale of any other commodity created by a
17 regulated asset). In other words, the gains from the sale of these commodities
18 should be treated much like they would under traditional regulation and returned
19 100 percent to ratepayers.

20 **Q. HOW DO SUCH TRANSACTIONS OCCUR UNDER TRADITIONAL**
21 **REGULATION?**

1 A. Under traditional regulation, all proceeds that are made off the sale of a
2 regulated asset, or some commodity created by or originating from a regulated
3 asset, are returned to ratepayers. Consider the example of a gain on sale from
4 traditional regulation, and in this example, the regulatory treatment of how a gain
5 from the sale of regulated generation is typically treated. Regulated generation is
6 typically supported, in whole, by the regulated rates of the customers for which
7 that generation was built and operated. There may be instances when that
8 generation is underutilized and the production can be sold to some third party.
9 When such a transaction occurs, any gains made on the sale of this generation
10 to the third party are returned to the customers since their rates are the ones
11 supporting this asset. The same should hold true under the Company's solar
12 energy proposal, particularly given the tremendous premium customers are
13 paying to support this asset.

14 **Q. WHICH PARTY IS ADVERSELY IMPACTED BY THE STRUCTURE OF**
15 **THIS CALL OPTION?**

16 A. Ratepayers are clearly adversely impacted by the Company's call option
17 since they pay above-market costs for the development of solar energy and get
18 highly discounted benefits through the exercise of this proposed call option.

19 **Q. IS THIS CALL OPTION STRUCTURED IN SUCH A FASHION THAT IT**
20 **GIVES THE COMPANY THE INCENTIVE TO MAXIMIZE ITS VALUE?**

21 A. No. The Company's testimony notes that it has the ability to exercise the
22 option, but does not clearly define its obligations in managing what is a regulated
23 asset of its customers. If the Board approves the Company's proposal it should

1 require that this asset be managed in a fashion consistent with a prudent
2 regulated utility. If the Company fails to take advantage of off-system sales of
3 their early-paid solar generation assets, or fails to maximize any SRECs it holds
4 in trust for retail customers, it should incur a financial disallowance of an amount
5 equal to the greater of cost or market value of that imprudently managed
6 asset/commodity.

7 **Q. LET'S TURN TO THE LAST ADDITIONAL POLICY ISSUE YOU RAISED**
8 **REGARDING THE COMPANY'S SOLAR LOAN PROGRAM. DO YOU HAVE**
9 **ANY CONCERNS ABOUT THE COST-EFFECTIVENESS OR EFFICIENCY OF**
10 **THE COMPANY'S PROPOSAL?**

11 A. Yes. There is nothing in the Company's proposal that requires it to secure
12 the least cost solar investments in the market place. In fact, by simply acting as
13 a solar energy fund for investments, it is unclear how the Company could even
14 ensure that it is offering loan agreements to projects that result in the biggest
15 solar energy return per ratepayer dollar invested. This is one of the reasons why
16 the Company should not be administering a program of this nature.

17 **VIII. CONCLUSIONS AND RECOMMENDATIONS**

18 **Q. WOULD YOU PLEASE SUMMARIZE YOUR RECOMMENDATIONS?**

19 A. I recommend that the Board reject the current solar energy proposal
20 offered by PSE&G. The proposal is not a relatively cost-effective means of
21 developing solar energy, creates unnecessary rate impacts for ratepayers, and
22 could have important unintended consequences relative to the development of
23 solar energy markets in New Jersey. Even if these issues did not exist, the

1 Company's proposal is premature since a number of long-run solar market
2 structure issues are yet to be determined. If the Board disagrees with my
3 recommendations regarding the costs and rate impacts of this proposal, it should
4 consider holding this proposal in abeyance until these longer-run issues are
5 decided.

6 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY FILED ON**
7 **SEPTEMBER 21, 2007?**

8 A. Yes.

**DIRECT TESTIMONY
OF
DAVID E. DISMUKES, PH.D.**

**ON BEHALF OF THE
NEW JERSEY DEPARTMENT OF THE PUBLIC ADVOCATE**

ATTACHMENT 1

DAVID E. DISMUKES, PH.D.

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EDUCATION

Ph.D., Economics, Florida State University, 1995.
M.S., Economics, Florida State University, 1992.
M.S., International Affairs, Florida State University, 1988.
B.A., History, University of West Florida, 1987.
A.A., Liberal Arts, Pensacola Junior College, 1985.

Master's Thesis: *Nuclear Power Project Disallowances: A Discrete Choice Model of Regulatory Decisions*

Ph.D. Dissertation: *An Empirical Examination of Environmental Externalities and the Least-Cost Selection of Electric Generation Facilities*

ACADEMIC APPOINTMENTS

Louisiana State University, Baton Rouge, Louisiana

Center for Energy Studies

2007-Current	Director, Division of Policy Analysis
2006-Current	Professor
2003-Current	Associate Executive Director
2001-2006	Associate Professor
2000-2001	Research Fellow and Adjunct Assistant Professor
1999-2000	Managing Director, Distributed Energy Resources Initiative
1995-2000	Assistant Professor

E.J. Ourso College of Business Administration, Department of Economics

2006-Current	Adjunct Professor
2001-2006	Adjunct Associate Professor
1999-2000	Adjunct Assistant Professor

Florida State University, Tallahassee, Florida
Department of Economics

1995 Instructor

PROFESSIONAL EXPERIENCE

Acadian Consulting Group, Baton Rouge, Louisiana

2001-Current Consulting Economist/Principal
1995-2000 Consulting Economist/Principal

Econ One Research, Inc., Houston, Texas

2000-2001 Senior Economist

Florida Public Service Commission, Tallahassee, Florida
Division of Communications, Policy Analysis Section

1995 Planning & Research Economist

Division of Auditing & Financial Analysis, Forecasting Section

1993 Planning & Research Economist
1992-1993 Economist

Project for an Energy Efficient Florida &
Florida Solar Energy Industries Association, Tallahassee, Florida

1994 Energy Economist

Ben Johnson Associates, Inc., Tallahassee, Florida

1991-1992 Research Associate
1989-1991 Senior Research Analyst
1988-1989 Research Analyst

GOVERNMENT APPOINTMENTS

2007-Current Louisiana Representative, Interstate Oil and Gas Compact
Commission; Energy Resources, Research & Technology
Committee.

2007-Current Louisiana Representative, University Advisory Board
Representative; Energy Council (Center for Energy,
Environmental and Legislative Research).

2005 Member, Task Force on Energy Sector Workforce and Economic
Development (HCR 322).

2003-2005 Member, Energy and Basic Industries Task Force, Louisiana

2001-2003

Economic Development Council
Member, Louisiana Comprehensive Energy Policy Commission.

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5. *Louisiana's Oil and Gas Industry: A Study of the Recent Deterioration in State Drilling Activity*. (2005). With Kristi A.R. Darby, Jeffrey M. Burke, and Robert H. Baumann. Baton Rouge, LA: Louisiana Department of Natural Resources.
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6. "The Impact of Implementing a 20 Percent Renewable Portfolio Standard in New Jersey." (2006). With Seth E. Cureington. Mid-Continent Regional Science Association 37th Annual Conference, Purdue University, Lafayette, Indiana, June 9.
7. "The Impacts of Hurricane Katrina and Rita on Energy infrastructure Along the Gulf Coast." (2006). Environment Canada: 2006 Arctic and Marine Oilspill Program. Vancouver, British Columbia, Canada.
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15. "New Consistent Approach to Modeling Regional Economic Impacts of Offshore Oil and Gas Activities in the Gulf of Mexico." (2002). With Vicki Zatarain. 2002 National IMPLAN Users' Conference. New Orleans, Louisiana, September 4-6.
16. "Distributed Energy Resources, Energy Efficiency, and Electric Power Industry Restructuring." (1999). American Society of Environmental Science Fourth Annual Conference. Baton Rouge, Louisiana. December.
17. "Estimating Efficiency Opportunities for Coal Fired Electric Power Generation: A DEA Approach." (1999). With Williams O. Olatubi. Southern Economic Association Sixty-ninth Annual Conference. New Orleans, November.
18. "Applied Approaches to Modeling Regional Power Markets." (1999.) With Robert F. Cope. Southern Economic Association Sixty-ninth Annual Conference. New Orleans, November 1999.
19. "Parametric and Non-Parametric Approaches to Measuring Efficiency Potentials in Electric Power Generation." (1999). With Williams O. Olatubi. International Atlantic Economic Society Annual Conference, Montreal, October.
20. "Asymmetric Choice and Customer Benefits: Lessons from the Natural Gas Industry." (1999). With Rachelle F. Cope and Dmitry Mesyanzhinov. International Association of Energy Economics Annual Conference. Orlando, Florida. August.
21. "Modeling Regional Power Markets and Market Power." (1999). With Robert F. Cope. Western Economic Association Annual Conference. San Diego, California. July.
22. "Economic Impact of Offshore Oil and Gas Activities on Coastal Louisiana" (1999). With Dmitry Mesyanzhinov. Annual Meeting of the Association of American Geographers. Honolulu, Hawaii. March.
23. "Empirical Issues in Electric Power Transmission and Distribution Cost Modeling." (1998). With Robert F. Cope and Dmitry Mesyanzhinov. Southern Economic Association. Sixty-Eighth Annual Conference. Baltimore, Maryland. November.
24. "Modeling Electric Power Markets in a Restructured Environment." (1998). With Robert F. Cope and Dan Rinks. International Association for Energy Economics Annual Conference. Albuquerque, New Mexico. October.

25. "Benchmarking Electric Utility Distribution Performance." (1998) With Robert F. Cope and Dmitry Mesyanzhinov. Western Economic Association, Seventy-sixth Annual Conference. Lake Tahoe, Nevada. June.
26. "Power System Operations, Control, and Environmental Protection in a Restructured Electric Power Industry." (1998). With Fred I. Denny. IEEE Large Engineering Systems Conference on Power Engineering. Nova Scotia, Canada. June.
27. "Benchmarking Electric Utility Transmission Performance." (1997). With Robert F. Cope and Dmitry Mesyanzhinov. Southern Economic Association, Sixty-seventh Annual Conference. Atlanta, Georgia. November 21-24.
28. "A Non-Linear Programming Model to Estimate Stranded Generation Investments in a Deregulated Electric Utility Industry." (1997). With Robert F. Cope and Dan Rinks. Institute for Operations Research and Management Science Annual Conference. Dallas Texas. October 26-29.
29. "New Paradigms for Power Engineering Education." (1997). With Fred I. Denny. International Association of Science and Technology for Development, High Technology in the Power Industry Conference. Orlando, Florida. October 27-30
30. "Cogeneration and Electric Power Industry Restructuring." (1997). With Andrew N. Kleit. Western Economic Association, Seventy-fifth Annual Conference. Seattle, Washington. July 9-13.
31. "The Unintended Consequences of the Public Utilities Regulatory Policies Act of 1978." (1997). National Policy History Conference on the Unintended Consequences of Policy Decisions. Bowling Green State University. Bowling Green, Ohio. June 5-7.
32. "Assessing Environmental and Safety Risks of the Expanding Role of Independents in E&P Operations on the Gulf of Mexico OCS." (1996). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, and Bob Baumann. U.S. Department of Interior, Minerals Management Service, 16th Annual Information Transfer Meeting. New Orleans, Louisiana.
33. "Empirical Modeling of the Risk of a Petroleum Spill During E&P Operations: A Case Study of the Gulf of Mexico OCS." (1996). With Omowumi Iledare, Allan Pulsipher, and Dmitry Mesyanzhinov. Southern Economic Association, Sixty-Sixth Annual Conference. Washington, D.C.
34. "Input Price Fluctuations, Total Factor Productivity, and Price Cap Regulation in the Telecommunications Industry" (1996). With Farhad Niami. Southern Economic Association, Sixty-Sixth Annual Conference. Washington, D.C.
35. "Recovery of Stranded Investments: Comparing the Electric Utility Industry to Other Recently Deregulated Industries" (1996). With Farhad Niami and Dmitry Mesyanzhinov. Southern Economic Association, Sixty-Sixth Annual Conference. Washington, D.C.

36. "Spatial Perspectives on the Forthcoming Deregulation of the U.S. Electric Utility Industry." (1996) With Dmitry Mesyanzhinov. Southwest Association of American Geographers Annual Meeting. Norman, Oklahoma.
37. "Comparing the Safety and Environmental Performance of Offshore Oil and Gas Operators." (1995). With Allan Pulsipher, Omowumi Iledare, Dmitry Mesyanzhinov, William Daniel, and Bob Baumann. U.S. Department of Interior, Minerals Management Service, 15th Annual Information Transfer Meeting. New Orleans, Louisiana.
38. "Empirical Determinants of Nuclear Power Plant Disallowances." (1995). Southern Economic Association, Sixty-Fifth Annual Conference. New Orleans, Louisiana.
39. "A Cross-Sectional Model of IntraLATA MTS Demand." (1995). Southern Economic Association, Sixty-Fifth Annual Conference. New Orleans, Louisiana.

ACADEMIC SEMINARS AND PRESENTATIONS

1. "CES Research Projects and Status." Presentation before the U.S. Department of the Interior, Minerals Management Service, Outer Continental Shelf Scientific Committee Meeting, New Orleans, LA May 22, 2007.
2. "Hurricane Impacts on Energy Production and Infrastructure." Presentation Before the 53rd Mineral Law Institute, Louisiana State University. April 7, 2006.
3. "Trends and Issues in the Natural Gas Industry and the Development of LNG: Implications for Louisiana. (2004) 51st Mineral Law Institute, Louisiana State University, Baton Rouge, LA. April 2, 2004.
4. "Electric Restructuring and Conservation." (2001). Presentation before the Department of Electrical Engineering, McNeese State University. Lake Charles, Louisiana. May 2, 2001.
5. "Electric Restructuring and the Environment." (1998). Environment 98: Science, Law, and Public Policy. Tulane University. Tulane Environmental Law Clinic. March 7, New Orleans, Louisiana.
6. "Electric Restructuring and Nuclear Power." (1997). Louisiana State University. Department of Nuclear Science. November 7, Baton Rouge, Louisiana.
7. "The Empirical Determinants of Co-generated Electricity: Implications for Electric Power Industry Restructuring." (1997). With Andrew N. Kleit. Florida State University. Department of Economics: Applied Microeconomics Workshop Series. October 17, Tallahassee, Florida.

PROFESSIONAL AND CIVIC PRESENTATIONS

1. "Regulatory Issues for Consumer Advocates in Rate Design, Incentives, and Energy Efficiency." (2007). National Association of State Utility Consumer Advocates, Mid-Year Meeting. June 12, 2007.

2. "Regulatory and Policy Issues in Nuclear Power Plant Development." (2007). LSU Center for Energy Studies Industry Advisory Council Meeting. Baton Rouge, LA. March 23, 2007.
3. "Oil and Gas in the Gulf of Mexico: A North American Perspective." (2007). Canadian Consulate, Heads of Mission EnerNet Workshop, Houston, Texas. March 20, 2007.
4. "Regulatory Issues for Consumer Advocates in Rate Design, Incentives & Energy Efficiency." (2007). National Association of State Utility Consumer Advocates ("NASUCA") Gas Committee Monthly Meeting. February 13, 2006.
5. "Recent Trends in Natural Gas Markets." (2006). National Association of Regulatory Utility Commissioners, 118th Annual Convention. Miami, FL November 14, 2006.
6. "Energy Markets: Recent Trends, Issues & Outlook." (2006). Association of Energy Service Companies (AESC) Meeting. Petroleum Club, Lafayette, LA, November 8, 2006.
7. "Energy Outlook" (2006). National Business Economics Issues Council. Quarterly Meeting, Nashville, TN, November 1-2, 2006.
8. "Global and U.S. Energy Outlook." (2006). Energy Virginia Conference. Virginia Military Institute, Lexington, VA October 17, 2006.
9. "Interdependence of Critical Energy Infrastructure Systems." (2006). Cross Border Forum on Energy Issues: Security and Assurance of North American Energy Systems. Woodrow Wilson Center for International Scholars. Washington, DC, October 13, 2006.
10. "Determining the Economic Value of Coastal Preservation and Restoration on Critical Energy Infrastructure." (2006) The Economic and Market Impacts of Coastal Restoration: America's Wetland Economic Forum II. Washington, DC September 28, 2006.
11. "Relationships between Power and Other Critical Energy Infrastructure." (2006). Rebuilding the New Orleans Region: Infrastructure Systems and Technology Innovation Forum. United Engineering Foundation. New Orleans, LA, September 24-25, 2006.
12. "Outlook, Issues, and Trends in Energy Supplies and Prices." (2006.) Presentation to the Southern States Energy Board, Associate Members Meeting. New Orleans, Louisiana. July 14, 2006.
13. "Energy Sector Outlook." (2006). Baton Rouge Country Club Meeting. Baton Rouge, Louisiana. July 11, 2006.
14. "Oil and Gas Industry Post 2005 Storm Events." (2006). American Petroleum Institute, Teche Chapter. Production, Operations, and Regulations Annual Meeting. Lafayette, Louisiana. June 29, 2006.
15. "Concentration of Energy Infrastructure in Hurricane Regions." (2006). Presentation before the National Commission on Energy Policy Forum: Ending the Stalemate on LNG Facility Siting. Washington, DC. June 21, 2006.

16. "LNG—A Premier." (2006). Presentation Given to the U.S. Department of Energy's "LNG Forums." Los Angeles, California. June 1, 2006.
17. "Regional Energy Infrastructure, Production and Outlook." (2006). Executive Briefing for Board of Directors, Louisiana Oil and Gas Plc., Enhanced Exploration, Inc. and Energy Self-Service, Inc. Covington, Louisiana, May 12, 2006.
18. "The Impacts of the Recent Hurricane Season on Energy Production and Infrastructure and Future Outlook." Presentation before the Industrial Energy Technology Conference 2006. New Orleans, Louisiana, May 9, 2006.
19. "Update on Regional Energy Infrastructure and Production." (2006). Executive Briefing for Delegation Participating in U.S. Department of Commerce Gulf Coast Business Investment Mission. Baton Rouge, Louisiana May 5, 2006.
20. "Hurricane Impacts on Energy Production and Infrastructure." (2006). Presentation before the Interstate Natural Gas Association of America Mid-Year Meeting. Hyatt Regency Hill Country. April 21, 2006.
21. "LNG—A Premier." Presentation Given to the U.S. Department of Energy's "LNG Forums." Astoria, Washington. April 28, 2006.
22. Natural Gas Market Outlook. Invited Presentation Given to the Georgia Public Service Commission and Staff. Georgia Institute of Technology, Atlanta, Georgia. March 10, 2006.
23. The Impacts of Hurricanes Katrina and Rita on Louisiana's Energy Industry. Presentation to the Louisiana Economic Development Council. Baton Rouge, Louisiana. March 8, 2006.
24. Energy Markets: Hurricane Impacts and Outlook. Presentation to the 2006 Louisiana Independent Oil and Gas Association Annual Conference. L'Auberge du Lac Resort and Casino. Lake Charles, Louisiana. March 6, 2006
25. Energy Market Outlook and Update on Hurricane Damage to Energy Infrastructure. Presentation to the Energy Council 2005 Global Energy and Environmental Issues Conference. Santa Fe, New Mexico, December 10, 2005.
26. "Putting Our Energy Infrastructure Back Together Again." Presentation Before the 117th Annual Convention of the National Association of Regulatory Utility Commissioners (NARUC). November 15, 2005. Palm Springs, CA
27. "Hurricanes and the Outlook for Energy Markets." Presentation before the Baton Rouge Rotary Club. November 9, 2005, Baton Rouge, LA.
28. "Hurricanes, Energy Supplies and Prices." Presentation before the Louisiana Department of Natural Resources and Atchafalaya Basin Committee Meeting. November 8, 2005. Baton Rouge, LA.

29. "The Impact of the Recent Hurricane's on Louisiana's Energy Industry." Presentation before the Louisiana Independent Oil and Gas Association Board of Directors Meeting. November 8, 2005. Baton Rouge, LA.
30. "The Impact of the Recent Hurricanes on Louisiana's Infrastructure and National Energy Markets." Presentation before the Baton Rouge City Club Distinguished Speaker Series. October 13, 2005. Baton Rouge, LA.
31. "The Impact of the Recent Hurricanes on Louisiana's Infrastructure and National Energy Markets." Presentation before Powering Up: A Discussion About the Future of Louisiana's Energy Industry. Special Lecture Series Sponsored by the Kean Miller Law Firm. October 13, 2005. Baton Rouge, LA.
32. "The Impact of Hurricane Katrina on Louisiana's Energy Infrastructure and National Energy Markets." Special Lecture on Hurricane Impacts, LSU Center for Energy Studies, September 29, 2005.
33. "Louisiana Power Industry Overview." Presentation before the Clean Air Interstate Rule Implementation Stakeholders Meeting. August 11, 2005. Louisiana Department of Environmental Quality.
34. "CES 2005 Legislative Support and Outlook for Energy Markets and Policy." Presentation before the LMOGA/LCA Annual Post-Session Legislative Committee Meeting. August 10-13, 2005. Perdido Key, Florida.
35. "Electric Restructuring: Past, Present, and Future." Presentation to the Southeastern Association of Tax Administrators Annual Conference. Sheraton Hotel and Conference Facility. New Orleans, LA July 12, 2005.
36. "The Outlook for Energy." Lagniappe Studies Continuing Education Course. Baton Rouge, LA. July 11, 2005.
37. "The Outlook for Energy." Sunshine Rotary Club. Baton Rouge, LA. April 27, 2005.
38. "Background and Overview of LNG Development." Energy Council Workshop on LNG/CNG. Biloxi, Ms: Beau Rivage Resort and Hotel, April 9, 2005.
39. "Natural Gas Supply, Prices, and LNG: Implications for Louisiana Industry." Cytec Corporation Community Advisory Panel. Fortier, LA January 14, 2005.
40. "The Economic Opportunities for a Limited Industrial Retail Choice Plan." Louisiana Department of Economic Development. Baton Rouge, Louisiana. November 19, 2004.
41. "Energy Issues for Industrial Customers of Gas and Power." Louisiana Association of Business and Industry, Energy Council Meeting. Baton Rouge, Louisiana. October 11, 2004.
42. "Energy Issues for Industrial Customers of Gas and Power." Annual Meeting of the Louisiana Chemical Association and the Louisiana Chemical Industry Alliance. Point Clear, Alabama. October 8, 2004.

43. "Energy Issues for Industrial Customers of Gas and Power." American Institute of Chemical Engineers – New Orleans Section. New Orleans, LA. September 22, 2004.
44. "Natural Gas Supply, Prices and LNG: Implications for Louisiana Industry." Dow Chemical Company Community Advisory Panel Meeting. Plaquemine, LA. August 9, 2004.
45. "Energy Issues for Industrial Customers of Gas and Power." Louisiana Chemical Association Post-Legislative Meeting. Springfield, LA. August 9, 2004.
46. "LNG In Louisiana." Joint Meeting of the Louisiana Economic Development Council and the Governors Cabinet Advisory Council. Baton Rouge, LA. August 5, 2004.
47. "Louisiana Energy Issues." Louisiana Mid-Continent Oil and Gas Association Post Legislative Meetings. Sandestin, Florida. July 28, 2004.
48. "The Gulf South: Economic Opportunities Related to LNG." Presentation before the Energy Council's 2004 State and Provincial Energy and Environmental Trends Conference. Point Clear, AL, June 26, 2004.
49. "Natural Gas and LNG Issues for Louisiana." Presentation before the Rhodia Community Advisory Panel. May 20, 2004, Baton Rouge, LA.
50. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Louisiana Chemical Association Plant Managers Meeting. May 27, 2004. Baton Rouge, LA.
51. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Louisiana Chemical Association/Louisiana Chemical Industry Alliance Legislative Conference. May 26, 2004. Baton Rouge, LA.
52. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Petrochemical Industry Cluster, Greater New Orleans, Inc. May 19, 2004, Destrehan, LA.
53. "Industry Development Issues for Louisiana: LNG, Retail Choice, and Energy." Presentation before the LSU Center for Energy Studies Industry Associates. May 14, 2004, Baton Rouge, LA.
54. "The Economic Opportunities for LNG Development in Louisiana." Presentation before the Board of Directors, Greater New Orleans, Inc. May 13, 2004, New Orleans, LA.
55. "Natural Gas Outlook: Trends and Issues for Louisiana." Presentation before the Louisiana Joint Agricultural Association Meetings. January 14, 2004, Hotel Acadiana, Lafayette, Louisiana.
56. "Natural Gas Outlook" Presentation before the St. James Parish Community Advisory Panel Meeting. January 7, 2004, IMC Production Facility, Convent, Louisiana.

57. "Competitive Bidding in the Electric Power Industry." Presentation before the Association of Energy Engineers. Business Energy Solutions Expo. December 11-12, 2003, New Orleans, Louisiana.
58. "Regional Transmission Organization in the South: The Demise of SeTrans" Presentation before the LSU Center for Energy Studies Industry Associates Advisory Council Meeting. December 9, 2003. Baton Rouge, Louisiana.
59. "Affordable Energy: The Key Component to a Strong Economy." Presentation before the National Association of Regulatory Utility Commissioners ("NARUC"), November 18, 2003, Atlanta, Georgia.
60. "Natural Gas Outlook." Presentation before the Louisiana Chemical Association, October 17, 2003, Pointe Clear, Alabama.
61. "Issues and Opportunities with Distributed Energy Resources." Presentation before the Louisiana Biomass Council. April 17, 2003, Baton Rouge, Louisiana.
62. "What's Happened to the Merchant Energy Industry? Issues, Challenges, and Outlook" Presentation before the LSU Center for Energy Studies Industry Associates Advisory Council Meeting. November 12, 2002. Baton Rouge, Louisiana.
63. "An Introduction to Distributed Energy Resources." Presentation before the U.S. Department of Energy, Office of Renewable Energy and Energy Efficiency, State Energy Program/Rebuild America Conference, August 1, 2002, New Orleans, Louisiana.
64. "Merchant Energy Development Issues in Louisiana." Presentation before the Program Committee of the Center for Legislative, Energy, and Environmental Research (CLEER), Energy Council. April 19, 2002.
65. "Power Plant Siting Issues in Louisiana." Presentation before 24th Annual Conference on Waste and the Environment. Sponsored by the Louisiana Department of Environmental Quality. Lafayette, Louisiana, Cajundome. March 12, 2002.
66. "Merchant Power and Deregulation: Issues and Impacts." Presentation before the Air and Waste Management Association Annual Meeting. Baton Rouge, LA, November 15, 2001.
67. "Moving to the Front of the Lines: The Economic Impact of Independent Power Production in Louisiana." Presentation before the LSU Center for Energy Studies Merchant Power Generation and Transmission Conference, Baton Rouge, LA. October 11, 2001.
68. "Economic Impacts of Merchant Power Plant Development in Mississippi." Presentation before the U.S. Oil and Gas Association Annual Oil and Gas Forum. Jackson, Mississippi. October 10, 2001.
69. "Economic Opportunities for Merchant Power Development in the South." Presentation before the Southern Governor's Association/Southern State Energy Board Meetings. Lexington, KY. September 9, 2001.

70. "The Changing Nature of the Electric Power Business in Louisiana." Presentation before the Louisiana Department of Environmental Quality. Baton Rouge, LA, August 27, 2001.
71. "Power Business in Louisiana: Background and Issues." Presentation before the Louisiana Interagency Group on Merchant Power Development . Baton Rouge, LA, July 16, 2001.
72. "The Changing Nature of the Electric Power Business in Louisiana: Background and Issues." Presentation before the Louisiana Office of the Governor. Baton Rouge, LA, July 16, 2001.
73. "The Changing Nature of the Electric Power Business in Louisiana: Background and Issues." Presentation before the Louisiana Department of Economic Development. Baton Rouge, LA, July 3, 2001.
74. "The Economic Impacts of Merchant Power Plant Development In Mississippi." Presentation before the Mississippi Public Service Commission. Jackson, Mississippi, March 20, 2001.
75. "Energy Conservation and Electric Restructuring." With Ritchie D. Priddy. Presentation before the Louisiana Department of Natural Resources. Baton Rouge, Louisiana, October 23, 2000.
76. "Pricing and Regulatory Issues Associated with Distributed Energy." Joint Conference by Econ One Research, Inc., the Louisiana State University Distributed Energy Resources Initiative, and the University of Houston Energy Institute: "Is the Window Closing for Distributed Energy?" Houston, Texas, October 13, 2000.
77. "Electric Reliability and Merchant Power Development Issues." Technical Meetings of the Louisiana Public Service Commission. Baton Rouge, LA. August 29, 2000.
78. "A Introduction to Distributed Energy Resources." Summer Meetings, Southeastern Association of Regulatory Utility Commissioners (SEARUC). New Orleans, LA. June 27, 2000.
79. Roundtable Moderator/Discussant. Mid-South Electric Reliability Summit. U.S. Department of Energy. New Orleans, Louisiana. April 24, 2000.
80. "Electricity 101: Definitions, Precedents, and Issues." Energy Council's 2000 Federal Energy and Environmental Matters Conference. Loews L'Enfant Plaza Hotel, Washington, D.C. March 11-13, 2000.
81. "LSU/CES Distributed Energy Resources Initiatives." Los Alamos National Laboratories. Office of Energy and Sustainable Systems. Los Alamos, New Mexico. February 16, 2000.
82. "Distributed Energy Resources Initiatives." Louisiana State University, Center for Energy Studies Industry Associates Meeting. Baton Rouge, Louisiana. December 15, 1999.
83. "Merchant Power Opportunities in Louisiana." Louisiana Mid-Continent Oil and Gas Association (LMOGA) Power Generation Committee Meetings. Baton Rouge, Louisiana. November 10, 1999.

84. Roundtable Discussant. "Environmental Regulation in a Restructured Market" The Big E: How to Successfully Manage the Environment in the Era of Competitive Energy. PUR Conference. New Orleans, Louisiana. May 24, 1999.
85. "The Political Economy of Electric Restructuring In the South" Southeastern Electric Exchange, Rate Section Annual Conference. New Orleans, Louisiana. May 7, 1999.
86. "The Dynamics of Electric Restructuring in Louisiana." Joint Meeting of the American Association of Energy Engineers and the International Association of Facilities Managers. Metairie, Louisiana. April 29, 1999.
87. "The Implications of Electric Restructuring on Independent Oil and Gas Operations." Petroleum Technology Transfer Council Workshop: Electrical Power Cost Reduction Methods in Oil and Gas Field Operations. Lafayette, Louisiana, March 24, 1999.
88. "What's Happened to Electricity Restructuring in Louisiana?" Louisiana State University, Center for Energy Studies Industry Associates Meeting. March 22, 1999.
89. "A Short Course on Electric Restructuring." Central Louisiana Electric Company. Sales and Marketing Division. Mandeville, Louisiana, October 22, 1998.
90. "The Implications of Electric Restructuring on Independent Oil and Gas Operations." Petroleum Technology Transfer Council Workshop: Electrical Power Cost Reduction Methods in Oil and Gas Field Operations. Shreveport, Louisiana, October 13, 1998.
91. "How Will Utility Deregulation Affect Tourism." Louisiana Travel Promotion Association Annual Meeting, Alexandria, Louisiana. January 15, 1998.
92. "Reflections and Predictions on Electric Utility Restructuring in Louisiana." With Fred I. Denny. Louisiana State University, Center for Energy Studies Industry Associates Meeting. November 20, 1997.
93. "Electric Utility Restructuring in Louisiana." Hammond Chamber of Commerce, Hammond, Louisiana. October 30, 1997.
94. "Electric Utility Restructuring." Louisiana Association of Energy Engineers. Baton Rouge, Louisiana. September 11, 1997.
95. "Electric Utility Restructuring: Issues and Trends for Louisiana." Opelousas Chamber of Commerce, Opelousas, Louisiana. June 24, 1997.
96. "The Electric Utility Restructuring Debate In Louisiana: An Overview of the Issues." Annual Conference of the Public Affairs Research Council of Louisiana. Baton Rouge, Louisiana. March 25, 1997.
97. "Electric Restructuring: Louisiana Issues and Outlook for 1997." Louisiana State University, Center for Energy Studies Industry Associates Meeting, Baton Rouge, Louisiana, January 15, 1997.

98. "Restructuring the Electric Utility Industry." Louisiana Propane Gas Association Annual Meeting, Alexandria, Louisiana, December 12, 1996.
99. "Deregulating the Electric Utility Industry." Eighth Annual Economic Development Summit, Baton Rouge, Louisiana, November 21, 1996.
100. "Electric Utility Restructuring in Louisiana." Jennings Rotary Club, Jennings, Louisiana, November 19, 1996.
101. "Electric Utility Restructuring in Louisiana." Entergy Services, Transmission and Distribution Division, Energy Centre, New Orleans, Louisiana, September 12, 1996
102. "Electric Utility Restructuring" Louisiana Electric Cooperative Association, Baton Rouge, Louisiana, August 27, 1996.
103. "Electric Utility Restructuring -- Background and Overview." Louisiana Public Service Commission, Baton Rouge, Louisiana, August 14, 1996.
104. "Electric Utility Restructuring." Sunshine Rotary Club Meetings, Baton Rouge, Louisiana, August 8, 1996.
105. Roundtable Moderator, "Stakeholder Perspectives on Electric Utility Stranded Costs." Louisiana State University, Center for Energy Studies Seminar on Electric Utility Restructuring in Louisiana, Baton Rouge, May 29, 1996.
106. Panelist, "Deregulation and Competition." American Nuclear Society: Second Annual Joint Louisiana and Mississippi Section Meetings, Baton Rouge, Louisiana, April 20, 1996.

EXPERT WITNESS, LEGISLATIVE, AND PUBLIC TESTIMONY; EXPERT REPORTS, RECOMMENDATIONS, AND AFFIDAVITS

1. Expert Testimony: Docket Number 05-057-T01 (2007). Before the Utah Public Service Commission. In the Matter of: Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for Approval of the Conservation Enabling Tariff Adjustment Options and Accounting Orders. On the behalf of the Utah Committee of Consumer Services. Issues: Revenue Decoupling, Demand-side Management; Energy Efficiency policies. (Direct, Rebuttal, and Surrebuttal Testimony)
2. Expert Testimony (Non-sworn rulemaking testimony) Docket Number RR-2008, (2007). Before the Louisiana Tax Commission. In re: Commission Consideration of Amendment and/or Adoption of Tax Commission Real/Personal Property Rules and Regulations. Issues: Louisiana oil and natural gas production trends, appropriate cost measures for wells and subsurface property, economic lives and production decline curve trends.
3. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29213 & 29213-A, ex parte, (2007). Before the Louisiana Public Service Commission. In re: Investigation to determine if it is appropriate for LPSC jurisdictional electric utilities to provide and install time-based meters and communication devices for each of their customers which enable such

customers to participate in time-based pricing rate schedules and other demand response programs. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: demand response programs, advanced meter systems, cost recovery issues, energy efficiency issues, regulatory issues.

4. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29712, ex parte, (2007) Before the Louisiana Public Service Commission. In re: Investigation into the ratemaking and generation planning implications of nuclear construction in Louisiana. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: nuclear cost power plant development, generation planning issues, and cost recovery issues.
5. Expert Testimony: Case Number U-14893, (2006). Before the Michigan Public Service Commission. In the Matter of SEMCO Energy Gas Company for Authority to Redesign and Increase Its Rates for the Sale and Transportation of Natural Gas In its MPSC Division and for Other Relief. On the behalf of the Michigan Attorney General. Issues: Rate Design, revenue decoupling, financial analysis, demand-side management program and energy efficiency policy. (Direct and Rebuttal Testimony).
6. Expert Report, Recommendation, and Proposed Rule: Docket Number R-29380, ex parte, (2006). Before the Louisiana Public Service Commission. In re: An Investigation Into the Ratemaking and Generation Planning Implications of the U.S. EPA Clean Air Interstate Rule. On the behalf of the Louisiana Public Service Commission Staff. Report and Recommendation. Issues: environmental regulation and cost recovery; allowance allocations and air credit markets; ratepaying impacts of new environmental regulations.
7. Affidavit Before the Louisiana Tax Commission (2006). On behalf of ANR Pipeline, Tennessee Gas Transmission and Southern Natural Gas Company. Issues: Competitive nature of interstate and intrastate transportation services.
8. Affidavit Before the 19th Judicial District Court (2006). Suit Number 491, 453 Section 26. On behalf of Transcontinental Pipeline Corporation, et.al. Issues: Competitive nature of interstate and intrastate transportation services.
9. Expert Testimony: Docket Number 05-057-T01 (2006). Before the Utah Public Service Commission. In the Matter of: Joint Application of Questar Gas Company, the Division of Public Utilities, and Utah Clean Energy for Approval of the Conservation Enabling Tariff Adjustment Options and Accounting Orders. On the behalf of the Utah Committee of Consumer Services. Issues: Revenue Decoupling, Demand-side Management; Energy Efficiency policies. (Rebuttal and Supplemental Rebuttal Testimony)
10. Testimony before the Louisiana Legislature (2006). Senate Committee on Natural Resources. Senate Bill 655 Regarding Remediation of Oil and Gas Sites, Legacy Lawsuits, and the Deterioration of State Drilling.
11. Expert Report: Rulemaking Docket (2005). Before the New Jersey Bureau of Public Utilities. In re: Proposed Rulemaking Changes Associated with New Jersey's Renewable Portfolio Standard. Expert Report. The Economic Impacts of New Jersey's Proposed Renewable Portfolio Standard. On behalf of the New Jersey Office of Ratepayer Advocate. Issues:

Renewable Portfolio Standards, rate impacts, economic impacts, technology cost forecasts.

12. Expert Testimony: Docket Number 2005-191-E. (2005). Before the South Carolina Public Service Commission. On behalf of NewSouth Energy LLC. In re: General Investigation Examining the Development of RFP Rules for Electric Utilities. Issues: Competitive bidding; merchant development. (Direct and Rebuttal Testimony).
13. Expert Testimony: Docket No. 05-UA-323. (2005). Before the Mississippi Public Service Commission. On the behalf of Calpine Corporation. In re: Entergy Mississippi's Proposed Acquisition of the Attala Generation Facility. Issues: Asset acquisition; merchant power development; competitive bidding.
14. Expert Testimony: Docket Number 050045-EI and 050188-EI. (2005). Before the Florida Public Service Commission. On the behalf of the Citizens of the State of Florida. In re: Petition for Rate Increase by Florida Power & Light Company. Issues: Load forecasting; O&M forecasting and benchmarking; incentive returns/regulation.
15. Comments on Decreased Drilling Activities in Louisiana and the Role of Incentives. (2005). Louisiana Mineral Board Monthly Docket and Lease Sale. July 13, 2005
16. Legislative Testimony (2005). Background and Impact of LNG Facilities on Louisiana. Joint Meeting of Senate and House Natural Resources Committee. Louisiana Legislature. May 19, 2005.
17. Comments, Docket No. U-21453. (2005). Technical Conference before the Louisiana Public Service Commission on an Investigation for a Limited Industrial Retail Choice Plan.
18. Expert Testimony: Docket No. 2003-K-1876. (2005). On Behalf of Columbia Gas Transmission. Expert Testimony on the Competitive Market Structure for Gas Transportation Service in Ohio. Before the Ohio Board of Tax Appeals.
19. Expert Report and Testimony: Docket No. 99-4490-J, *Lafayette City-Parish Consolidated Government, et. al. v. Entergy Gulf States Utilities, Inc. et. al.* (2005, 2006). On behalf of the City of Lafayette, Louisiana and the Lafayette Utilities Services. Expert Rebuttal Report of the Harborfront Consulting Group Valuation Analysis of the LUS Expropriation. Filed before 15th Judicial District Court, Lafayette, Louisiana.
20. Expert Testimony: ANR Pipeline Company v. Louisiana Tax Commission (2005), Number 468,417 Section 22, 19th Judicial District Court, Parish of East Baton Rouge, State of Louisiana Consolidated with Docket Numbers: 480,159; 489,776;480,160; 480,161; 480,162; 480,163; 480,373; 489,776; 489,777; 489,778;489,779; 489,780; 489,803; 491,530; 491,744; 491,745; 491,746; 491,912;503,466; 503,468; 503,469; 503,470; 515,414; 515,415; and 515,416. In re: Market structure issues and competitive implications of tax differentials and valuation methods in natural gas transportation markets for interstate and intrastate pipelines.
21. Expert Report and Recommendation: Docket No. U-27159. (2004). On Behalf of the Louisiana Public Service Commission Staff. Expert Report on Overcharges Assessed by Network Operator Services, Inc. Before the Louisiana Public Service Commission.

22. Expert Testimony: Docket Number 2004-178-E. (2004). Before the South Carolina Public Service Commission. On behalf of Columbia Energy LLC. In re: Rate Increase Request of South Carolina Electric and Gas. (Direct and Surrebuttal Testimony)
23. Expert Testimony: Docket Number 040001-EI. (2004). Before the Florida Public Service Commission. On behalf of Power Manufacturing Systems LLC, Thomas K. Churbuck, and the Florida Industrial Power Users Group. In re: Fuel Adjustment Proceedings; Request for Approval of New Purchase Power Agreements. Company examined: Florida Power & Light Company.
24. Expert Affidavit: Docket Number 27363. (2004). Before the Public Utilities Commission of Texas. Joint Affidavit on Behalf of the Cities of Texas and the Staff of the Public Utilities Commission of Texas Regarding Certified Issues. In Re: Application of Valor Telecommunications, L.P. For Authority to Establish Extended Local Calling Service (ELCS) Surcharges For Recovery of ELCS Surcharge.
25. Expert Report and Testimony. Docket 1997-4665-PV, 1998-4206-PV, 1999-7380-PV, 2000-5958-PV, 2001-6039-PV, 2002-64680-PV, 2003-6231-PV. (2003) Before the Kansas Board of Tax Appeals. (2003). In the Matter of the Appeals of CIG Field Services Company from orders of the Division of Property Valuation. On the Behalf of CIG Field Services. Issues: the competitive nature of natural gas gathering in Kansas.
26. Expert Report and Testimony: Docket Number U-22407. Before the Louisiana Public Service Commission (2002). On the Behalf of the Louisiana Public Service Commission Staff. Company examined: Louisiana Gas Services, Inc. Issues: Purchased Gas Acquisition audit, fuel procurement and planning practices.
27. Expert Testimony: Docket Number 000824-EI. Before the Florida Public Service Commission. (2002). On the Behalf of the Citizens of the State of Florida. Company examined: Florida Power Corporation. Issues: Load Forecasts and Billing Determinants for the Projected Test Year.
28. Public Testimony: Louisiana Board of Commerce and Industry (2001). Testimony on the Economic Impacts of Merchant Power Generation.
29. Expert Testimony: Docket Number 24468. (2001). On the Behalf of the Texas Office of Public Utility Counsel. Public Utility Commission of Texas Staff's Petition to Determine Readiness for Retail Competition in the Portion of Texas Within the Southwest Power Pool. Company examined: AEP-SWEPCO.
30. Expert Report. (2001) On Behalf of David Liou and Pacific Richland Products, Inc. to Review Cogeneration Issues Associated with Dupont Dow Elastomers, L.L.C. (DDE) and the Dow Chemical Company (Dow).
31. Expert Testimony: Docket Number 01-1049, Docket Number 01-3001. (2001) On behalf the Nevada Office of Attorney General, Bureau of Consumer Protection. Petition of Central Telephone Company-Nevada D/b/a Sprint of Nevada and Sprint Communications L.P. for Review and Approval of Proposed Revised Performance Measures and Review and Approval of Performance Measurement Incentive Plans. Before the Public Utilities Commission of Nevada.

32. Expert Affidavit: Multiple Dockets (2001). Before the Louisiana Tax Commission. On the Behalf of Louisiana Interstate Pipeline Companies. Testimony on the Competitive Nature of Natural Gas Transportation Services in Louisiana.
33. Expert Affidavit before the Federal District Court, Middle District of Louisiana (2001). Issues: Competitive Nature of the Natural Gas Transportation Market in Louisiana. On behalf of a Consortium of Interstate Natural Gas Transportation Companies.
34. Public Testimony: Louisiana Board of Commerce and Industry (2001). Testimony on the Economic and Ratepayer Benefits of Merchant Power Generation and Issues Associated with Tax Incentives on Merchant Power Generation and Transmission.
35. Expert Testimony: Docket Number 01-1048 (2001). Before the Public Utilities Commission of Nevada. On the Behalf of the Nevada Office of the Attorney General, Bureau of Consumer Protection. Company analyzed: Nevada Bell Telephone Company. Issues: Statistical Issues Associated with Performance Incentive Plans.
36. Expert Testimony: Docket 22351 (2001). Before the Public Utility Commission of Texas. On the Behalf of the City of Amarillo. Company analyzed: Southwestern Public Service Company. Issues: Unbundled cost of service, affiliate transactions, load forecasting.
37. Expert Testimony: Docket 991779-EI (2000). Before the Florida Public Service Commission. On the Behalf of the Citizens of the State of Florida. Companies analyzed: Florida Power & Light Company; Florida Power Corporation; Tampa Electric Company; and Gulf Power Company. Issues: Competitive Nature of Wholesale Markets, Regional Power Markets, and Regulatory Treatment of Incentive Returns on Gains from Economic Energy Sales.
38. Expert Testimony: Docket 990001-EI (1999). Before the Florida Public Service Commission. On the Behalf of the Citizens of the State of Florida. Companies analyzed: Florida Power & Light Company; Florida Power Corporation; Tampa Electric Company; and Gulf Power Company. Issues: Regulatory Treatment of Incentive Returns on Gains from Economic Energy Sales.
39. Expert Testimony: Docket 950495-WS (1996). Before the Florida Public Service Commission. On the Behalf of the Citizens of the State of Florida. Company analyzed: Southern States Utilities, Inc. Issues: Revenue Repression Adjustment, Residential and Commercial Demand for Water Service.
40. Louisiana House of Representatives, Special Subcommittee on Utility Deregulation. (1997). On Behalf of the Louisiana Public Service Commission Staff. Issue: Electric Restructuring.
41. Expert Testimony: Docket 940448-EG -- 940551-EG (1994). Before the Florida Public Service Commission. On the Behalf of the Legal Environmental Assistance Foundation. Companies analyzed: Florida Power & Light Company; Florida Power Corporation; Tampa Electric Company; and Gulf Power Company. Issues: Comparison of Forecasted Cost-Effective Conservation Potentials for Florida.

42. Expert Testimony: Docket 920260-TL, (1993). Before the Florida Public Service Commission. On the Behalf of the Florida Public Service Commission Staff. Company analyzed: BellSouth Communications, Inc. Issues: Telephone Demand Forecasts and Empirical Estimates of the Price Elasticity of Demand for Telecommunication Services.
43. Expert Testimony: Docket 920188-TL, (1992). Before the Florida Public Service Commission. On the Behalf of the Florida Public Service Commission Staff. Company analyzed: GTE-Florida. Issues: Telephone Demand Forecasts and Empirical Estimates of the Price Elasticity of Demand for Telecommunication Services.

REFEREE AND EDITORIAL APPOINTMENTS

Referee, 1995-Current, *Energy Journal*
Contributing Editor, 2000-Current, *Oil, Gas and Energy Quarterly*
Referee, 2005, *Energy Policy*
Referee, 2004, *Southern Economic Journal*
Referee, 2002, *Resource & Energy Economics*
Committee Member, IAEE/USAEE Student Paper Scholarship Award Committee, 2003

PROPOSAL TECHNICAL REVIEWER

California Energy Commission, Public Interest Energy Research (PIER) Program (1999).

PROFESSIONAL ASSOCIATIONS

American Economic Association, American Statistical Association, Econometric Society, Southern Economic Association, Western Economic Association, and the International Association of Energy Economists.

HONORS AND AWARDS

Omicron Delta Epsilon (1992-Current)

Florida Public Service Commission, Staff Excellence Award for Assistance in the Analysis of Local Exchange Competition Legislation (1995).

Distinguished Research Award, Academy of Legal, Ethical and Regulatory Issues, Allied Academics (2002).

Interstate Oil and Gas Compact Commission (IOGCC) "Best Practice" Award for Research on the Economic Impact of Oil and Gas Activities on State Leases for the Louisiana Department of Natural Resources (2003).

Baton Rouge Business Report, Selected as "Top 40 Under 40" (2003).

National Association of Regulatory Utility Commissioners (NARUC). Best Paper Award for papers published in the *Journal of Applied Regulation* (2004).

TEACHING EXPERIENCE

Principles of Microeconomic Theory

Principles of Macroeconomic Theory

Lecturer, Electric Power Industry Environmental Issues, Field Course on Energy and the Environment. (Dept of Environmental Studies).

Lecturer, Electric Power Industry Trends, Principles Course in Power Engineering (Dept. of Electric Engineering).

Continuing Education. Electric Power Industry Restructuring for Energy Professionals.

“The Gulf Coast Energy Situation: Outlook for Production and Consumption.” Educational Course and Lecture Prepared for the Foundation for American Communications and the Society for Professional Journalists, New Orleans, LA, December 2, 2004

“The Impact of Hurricane Katrina on Louisiana’s Energy Infrastructure and National Energy Markets.” Educational Course and Lecture Prepared for the Foundation for American Communications and the Society for Professional Journalists, Houston, TX, September 13, 2005.

THESIS/DISSERTATIONS COMMITTEES

5 Thesis Committee Memberships (Environmental Studies, Geography)

3 Doctoral Committee Memberships (Information Systems & Decision Sciences, Agricultural and Resource Economics, Economics).

1 Senior Honors Thesis (Journalism, Loyola University)

LSU SERVICE AND COMMITTEE MEMBERSHIPS

LSU Faculty Senate Committee on Public Relations (1997-1999).

LSU Faculty Senate Committee on Student Retention and Recruitment (1999-2003).

LSU CES/SCE Public Art Selection Committee (2003-2005).

LSU InterCollege Environmental Cooperative. (1999-2001).

LSU Main Campus Cogeneration/Turbine Project, (1999-2000).

Co-Chairman, Review Committee, Louisiana Port Construction and Development Priority Program Rules and Regulations, On Behalf of the LSU Ports and Waterways Institute. (1997).

Conference Coordinator. Center for Energy Studies Seminar Series on Electric Utility Restructuring and Wholesale Competition. (1996-2003).

Conference Coordinator. Center for Energy Studies Annual Energy Conference/Summit. (2003-Current).

Conference Coordinator. (2005-Current) Center for Energy Studies Conference on Alternative Energy.

LSU Faculty Senate (2003-2006)

LSU Graduate Research Faculty, Associate Member (1997-2004); Full Member (2004-Current)

Search Committee Member (2005), CES Communications Manager.

Search Committee Member (2005), Research Associate 4 Position.

Search Committee Chair (2006), Research Associate 4 Position.

Departmental Promotion Committee (2006).

PROFESSIONAL SERVICE

Program Committee Chairman (2007-2008). USAEE Annual Conference, New Orleans, LA

Finance Committee Chairman (2007-2008). USAEE Annual Conference, New Orleans, LA

Committee Member (2006), IAEE Nominating Committee.

Founding President (2005-2007) Louisiana Chapter, U.S. Association for Energy Economics (USAEE).

Secretary (2001) Houston Chapter, U.S. Association for Energy Economics

Advisor, Louisiana LNG Buyers/Developers Summit, Office of the Governor/Louisiana Department of Economic Development/Louisiana Department of Natural Resources, and Greater New Orleans, Inc. (2004).

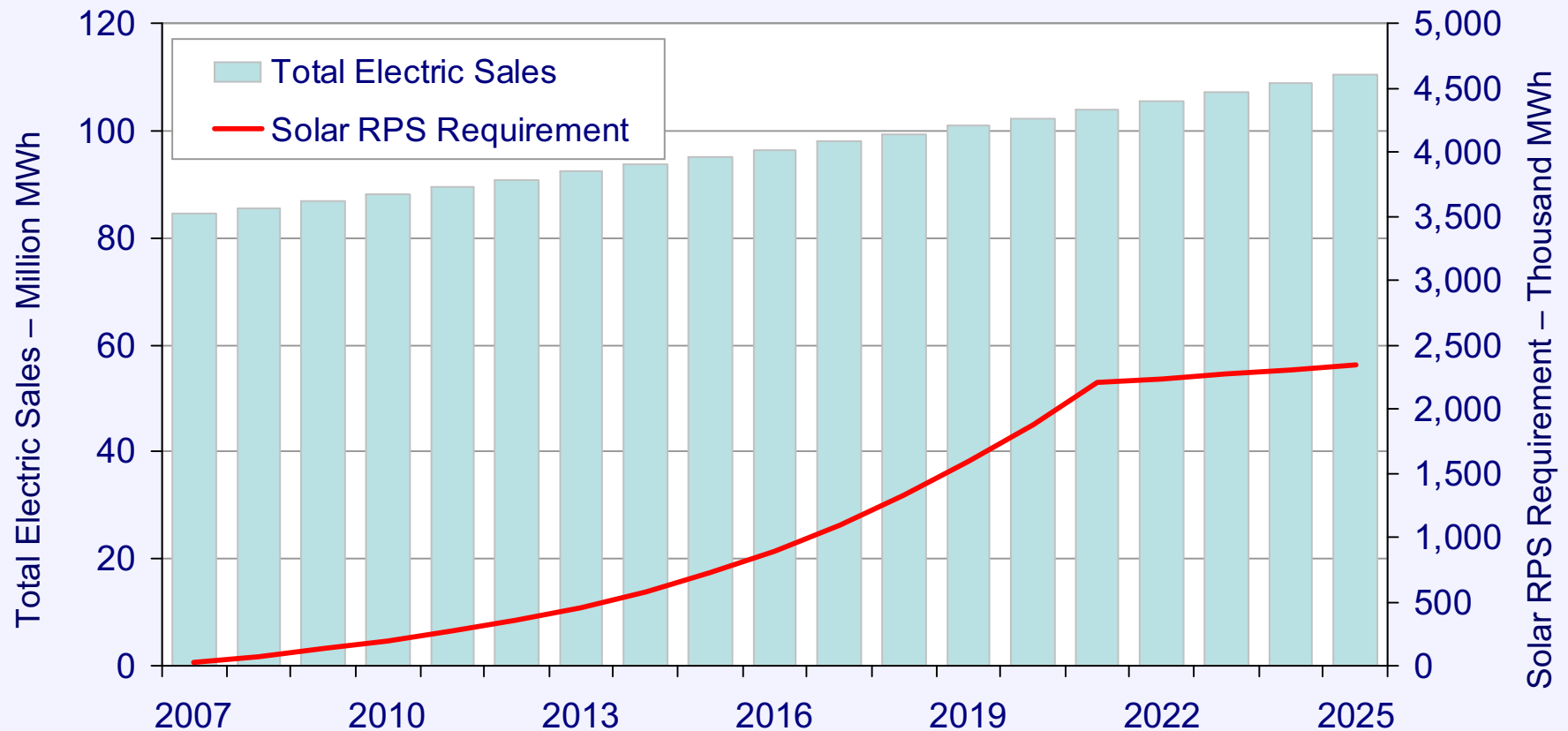
**DIRECT TESTIMONY
OF
DAVID E. DISMUKES, PH.D.**

**ON BEHALF OF THE
NEW JERSEY DEPARTMENT OF THE PUBLIC ADVOCATE**

EXHIBITS

New Jersey Forecasted Energy Consumption and Solar RPS Requirement

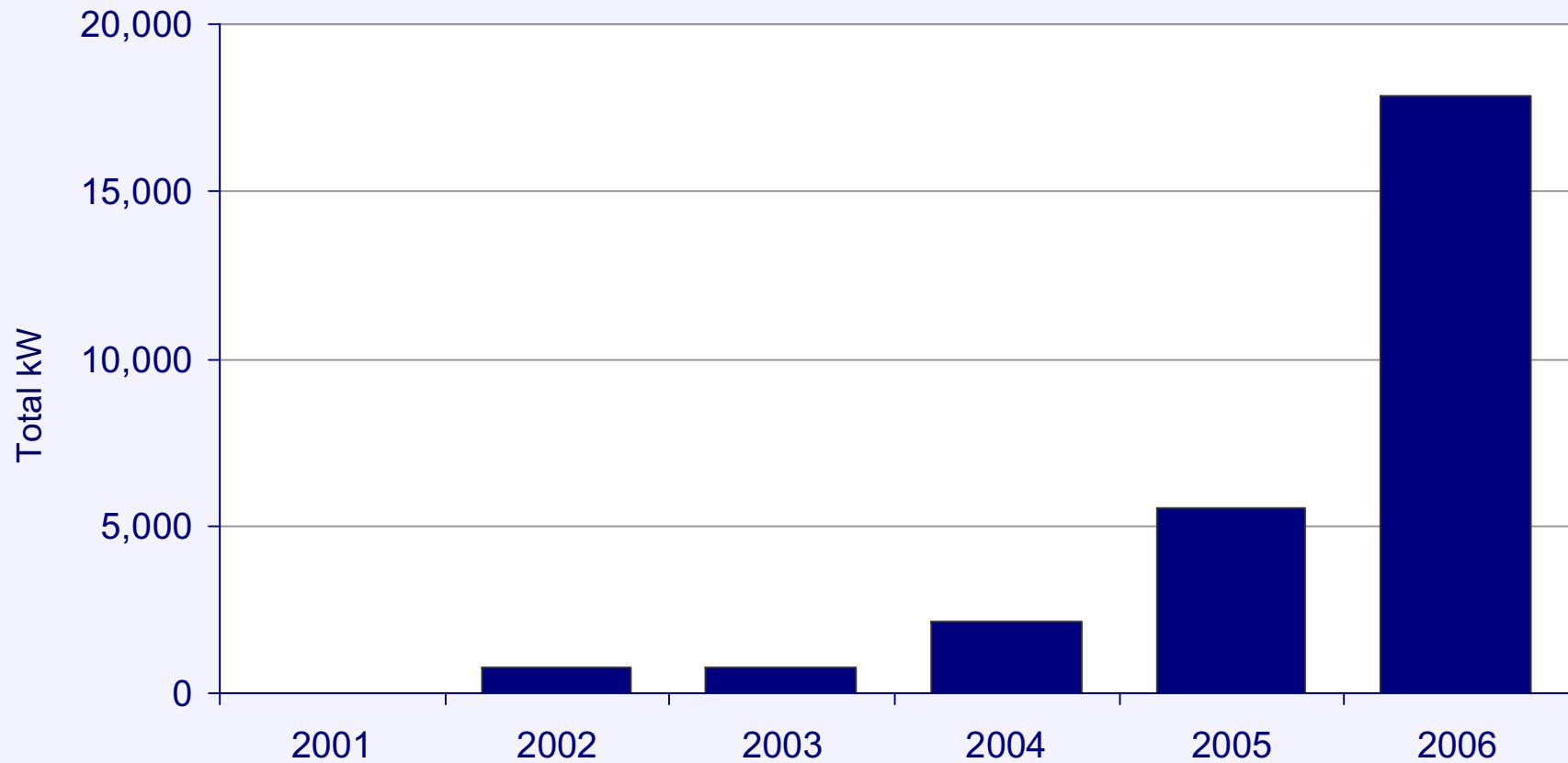
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Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-1



Source: An Analysis of Potential Ratepayer Impact of Alternatives for Transitioning the New Jersey Solar Market from Rebates to Market-Based Incentives, Prepared for New Jersey Board of Public Utilities, Office of Clean Energy. Summit Blue Consulting, July 31, 2007.

New Jersey Solar Projects (CORE) Installed Capacity

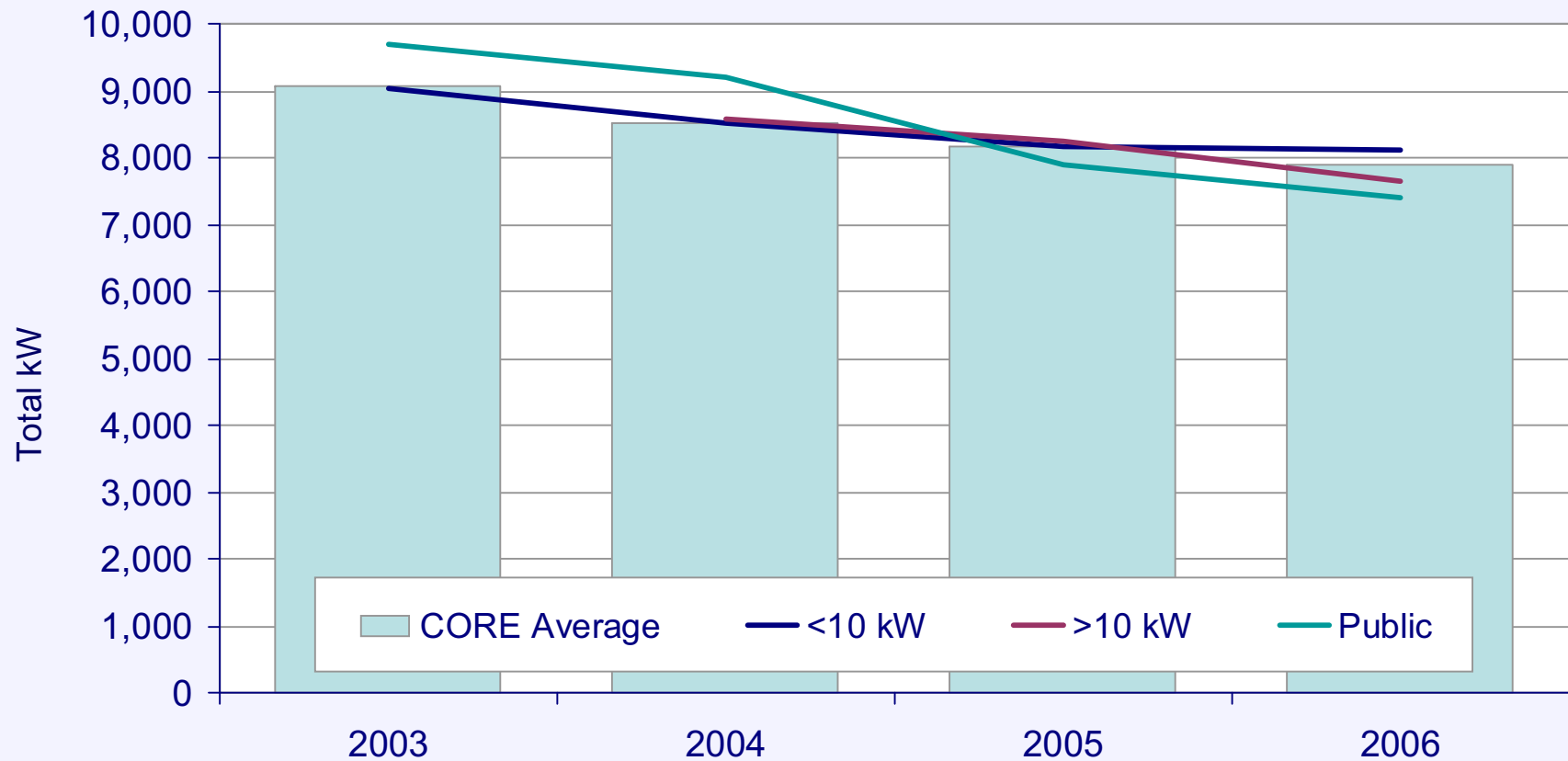
New Jersey Department of the Public Advocate
Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-2



Source: New Jersey Office of Clean Energy website.

New Jersey Solar Projects (CORE) Average Cost

New Jersey Department of the Public Advocate
Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-3



Source: An Analysis of Potential Ratepayer Impact of Alternatives for Transitioning the New Jersey Solar Market from Rebates to Market-Based Incentives, Prepared for New Jersey Board of Public Utilities, Office of Clean Energy. Summit Blue Consulting, July 31, 2007.

Estimated Ratepayer Impacts (Solar Transition Proceeding)

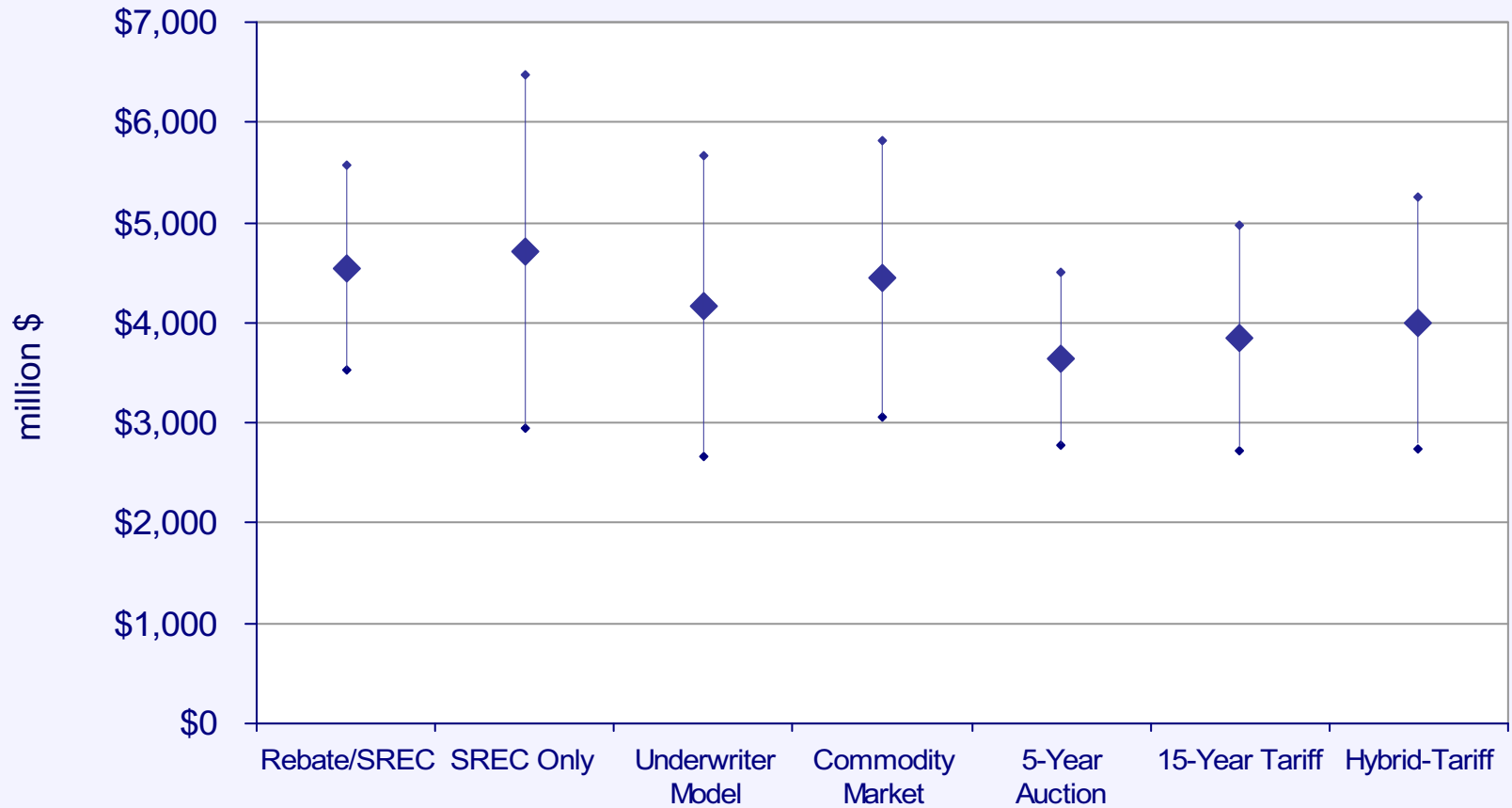
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Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-4

TOTAL RATEPAYER IMPACT (million \$)								
		≤ 10 kW		> 10 kW		Weighted		
		Private		Private	Public	Average		
Rebate/SREC	\$	5,707.0	\$	4,128.0	\$	2,986.4	\$	4,547.2
SREC Only	\$	6,797.4	\$	3,833.7	\$	2,202.1	\$	4,712.3
Underwriter Model	\$	5,921.3	\$	3,461.7	\$	1,974.3	\$	4,166.9
Commodity Market	\$	6,177.7	\$	3,701.3	\$	2,365.6	\$	4,440.4
5-Year Auction	\$	5,487.2	\$	2,732.5	\$	1,702.4	\$	3,636.6
15-Year Auction	\$	5,464.5	\$	3,220.8	\$	1,801.5	\$	3,852.9
15-Year Tariff	\$	5,463.6	\$	3,219.9	\$	1,800.6	\$	3,852.0
Hybrid-Tariff	\$	5,594.3	\$	3,377.4	\$	1,929.9	\$	3,993.8
OCE Market Design	\$	3,546.2	\$	3,546.2	\$	3,546.2	\$	3,546.2
OCE Market Design (with rebate)	\$	6,373.4	\$	3,546.2	\$	3,546.2	\$	4,664.0

Note: All ratepayer impacts results are based on the Summit Blue model. The 15-year Auction model was not part of Summit Blue's estimates. It was calculated using Summit Blue assumptions.

Weighted Average Ratepayer Impacts with Deviations (Solar Transition Proceeding)

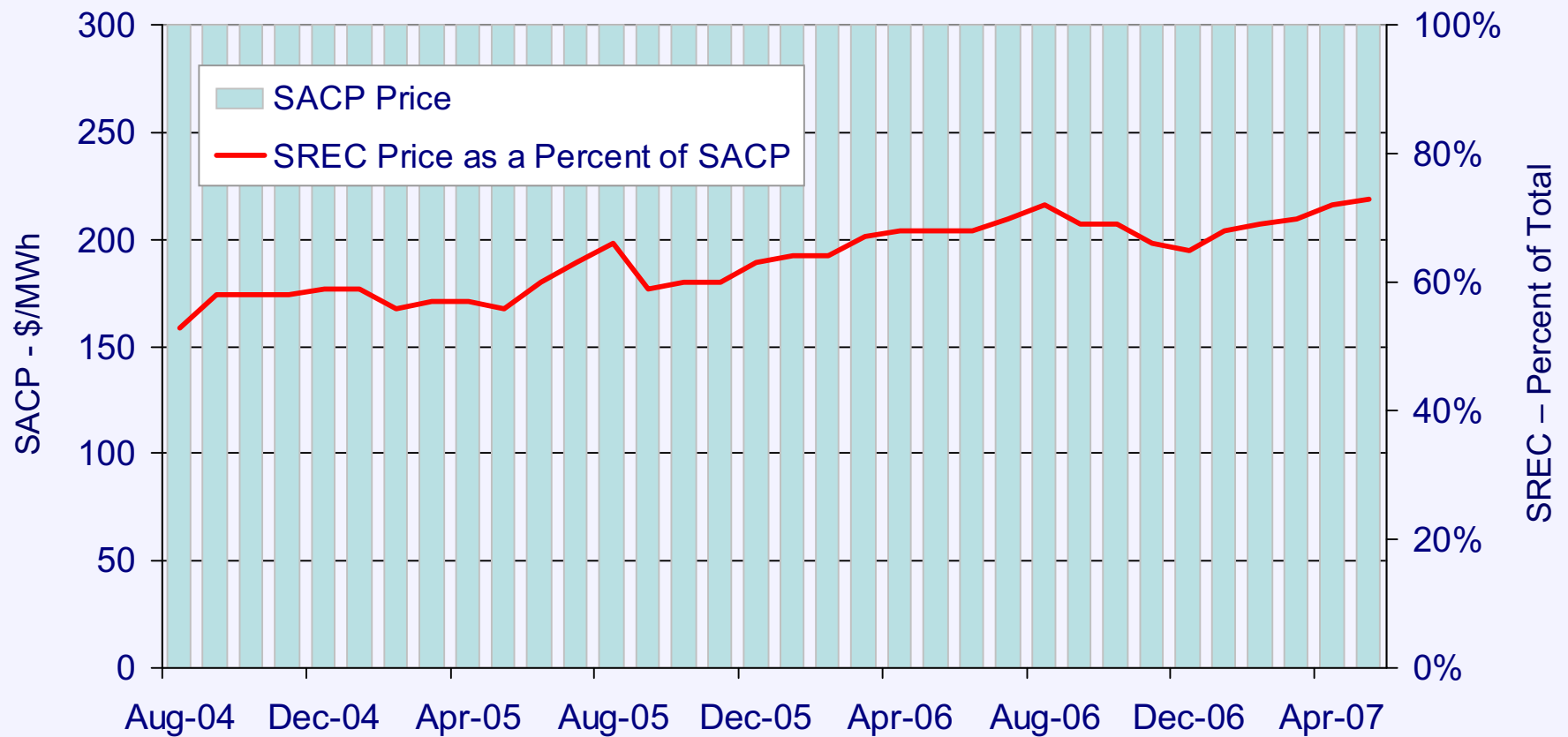
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BPU Docket Number EO07040278
Exhibit DED-5



Note: All ratepayer impacts results are based on the Summit Blue model. Deviations were assumed to be unchanged from the Summit Blue model.

New Jersey SREC Prices as a Percent of SACP Prices

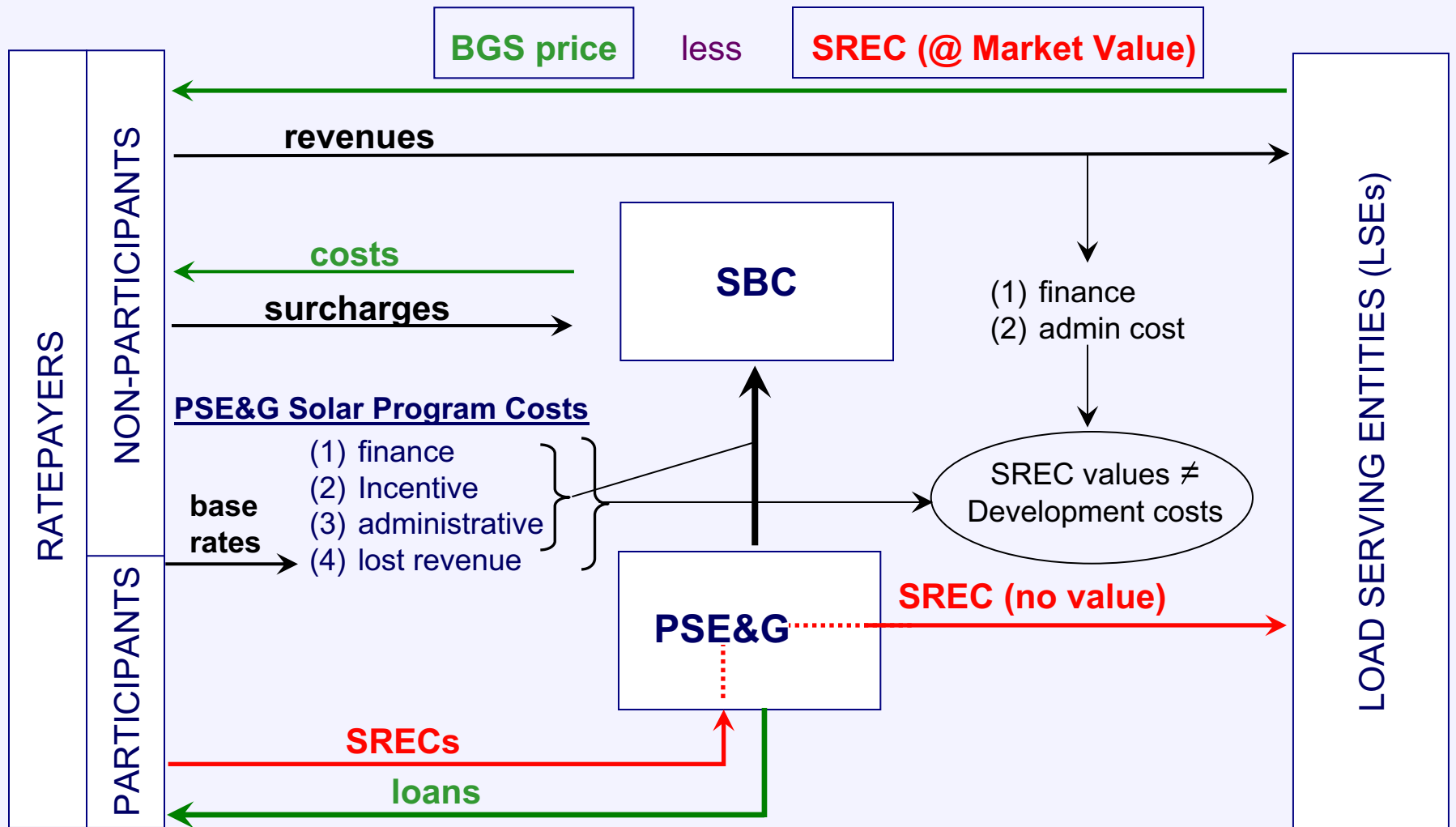
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 BPU Docket Number EO07040278
 Exhibit DED-6



Source: New Jersey Office of Clean Energy website.

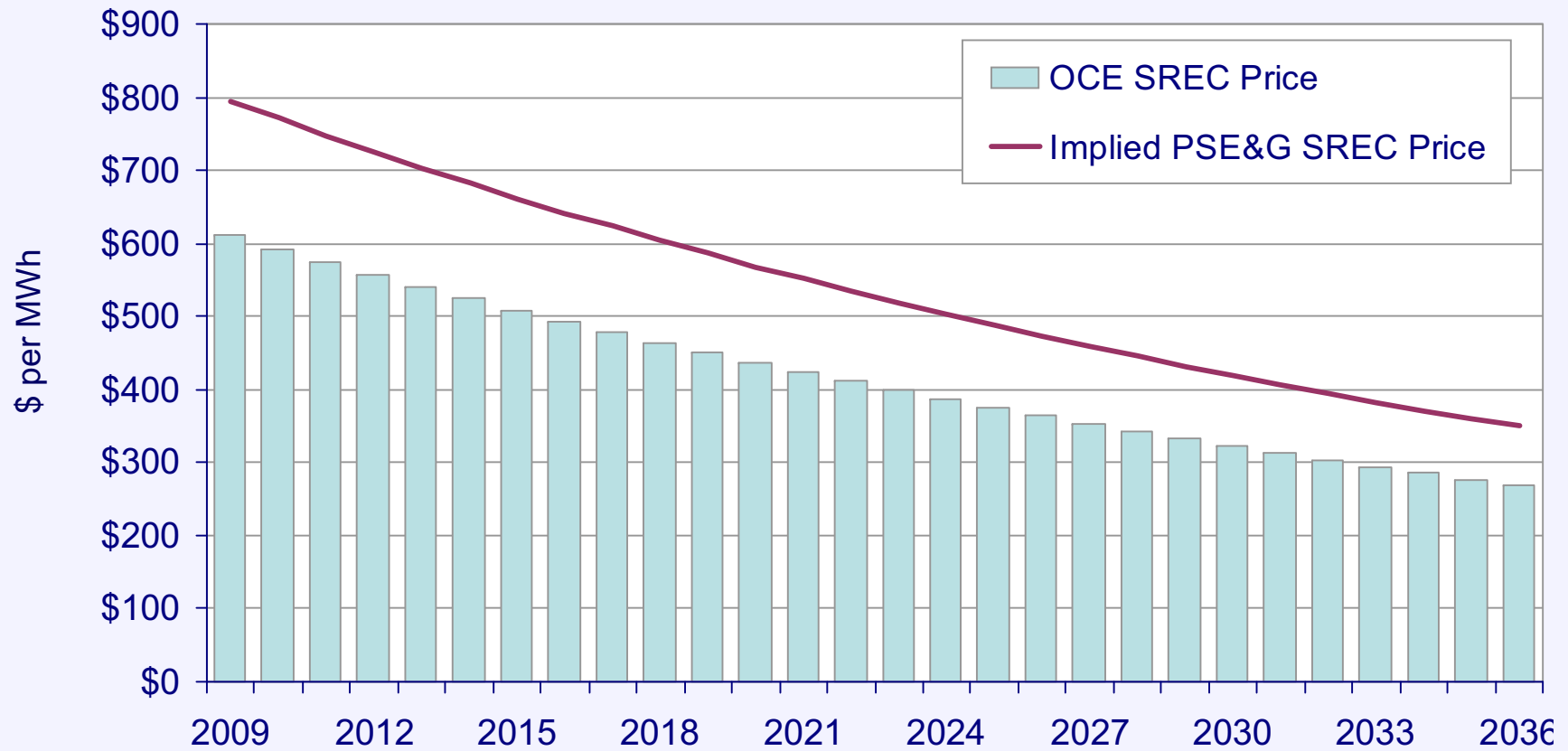
Revenue and Cost Flows Under PSE&G Proposal

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 BPU Docket Number EO07040278
 Exhibit DED-7



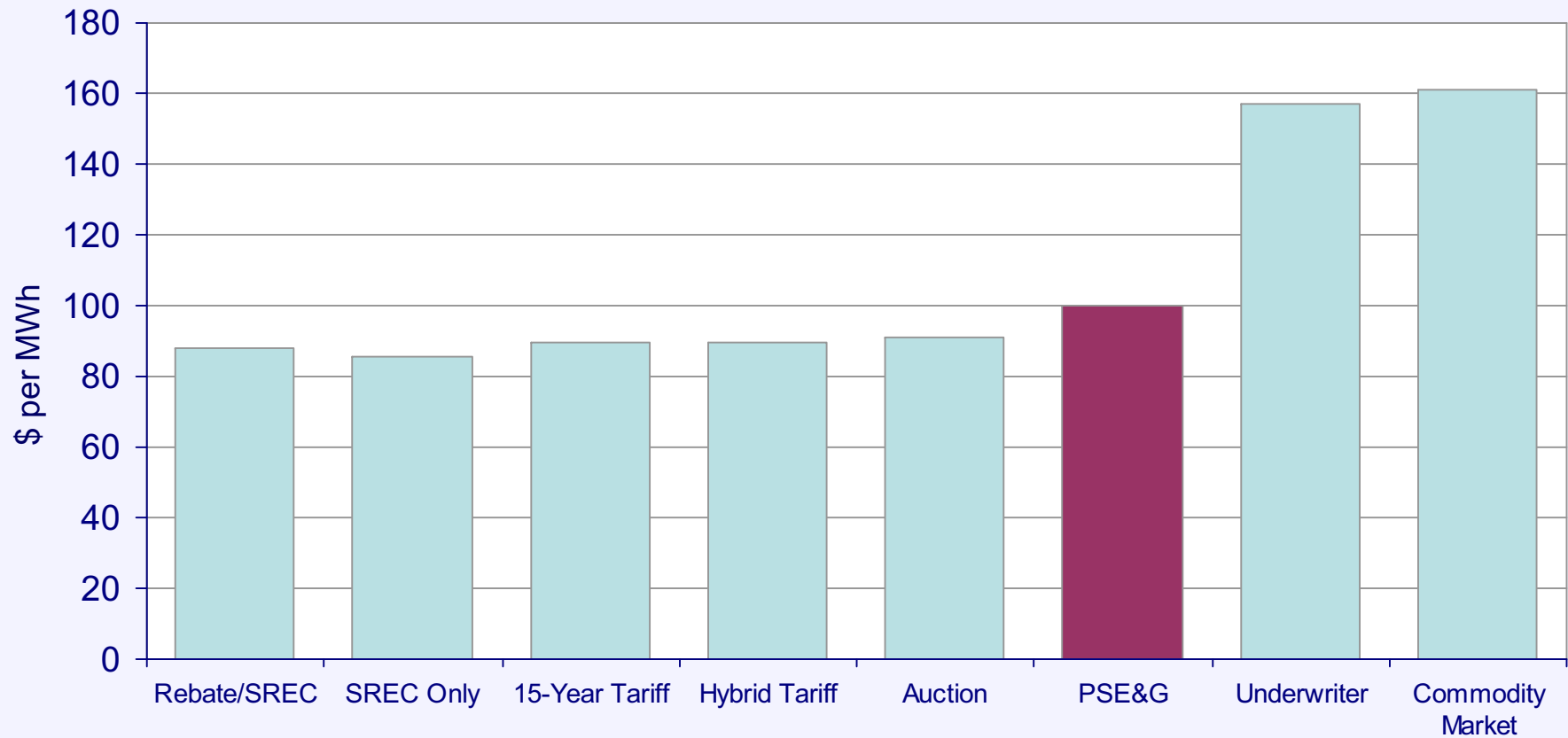
OCE and Implied PSEG Market Clearing SREC Prices

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Exhibit DED-8



Administrative Cost Comparison

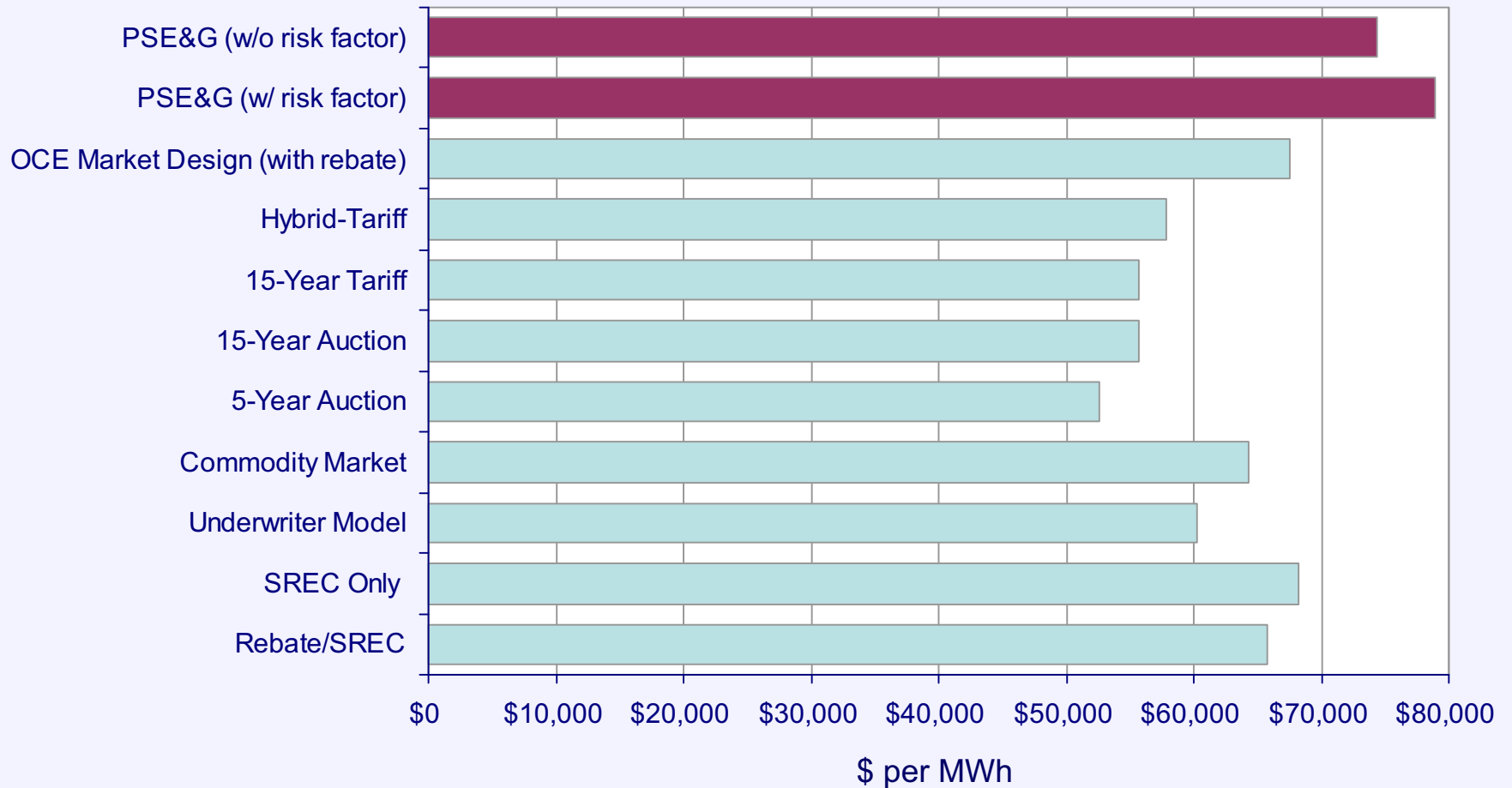
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Exhibit DED-9



Note: Cost per MWh is based on first year (2009) MWh.

Market Model Cost Comparison

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Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-10



Note: Cost per MWh is based on first year (2009) MWh.

Estimated Ratepayer Impacts

New Jersey Department of the Public Advocate
 Division of Rate Counsel
 BPU Docket Number EO07040278
 Exhibit DED-11

TOTAL RATEPAYER IMPACT (million \$)					
	≤ 10 kW Private	> 10 kW Private	Public	Weighted Average	
Rebate/SREC	\$ 5,707.0	\$ 4,128.0	\$ 2,986.4	\$ 4,547.2	
SREC Only	\$ 6,797.4	\$ 3,833.7	\$ 2,202.1	\$ 4,712.3	
Underwriter Model	\$ 5,921.3	\$ 3,461.7	\$ 1,974.3	\$ 4,166.9	
Commodity Market	\$ 6,177.7	\$ 3,701.3	\$ 2,365.6	\$ 4,440.4	
5-Year Auction	\$ 5,487.2	\$ 2,732.5	\$ 1,702.4	\$ 3,636.6	
15-Year Auction	\$ 5,464.5	\$ 3,220.8	\$ 1,801.5	\$ 3,852.9	
15-Year Tariff	\$ 5,463.6	\$ 3,219.9	\$ 1,800.6	\$ 3,852.0	
Hybrid-Tariff	\$ 5,594.3	\$ 3,377.4	\$ 1,929.9	\$ 3,993.8	
OCE Market Design	\$ 3,546.2	\$ 3,546.2	\$ 3,546.2	\$ 3,546.2	
OCE Market Design (with rebate)	\$ 6,373.4	\$ 3,546.2	\$ 3,546.2	\$ 4,664.0	
PSE&G (w/ risk factor)	\$ 8,546.6	\$ 3,558.7	\$ 3,132.2	\$ 5,454.2	
PSE&G (w/o risk factor)	\$ 8,053.0	\$ 3,358.9	\$ 2,957.6	\$ 5,142.8	

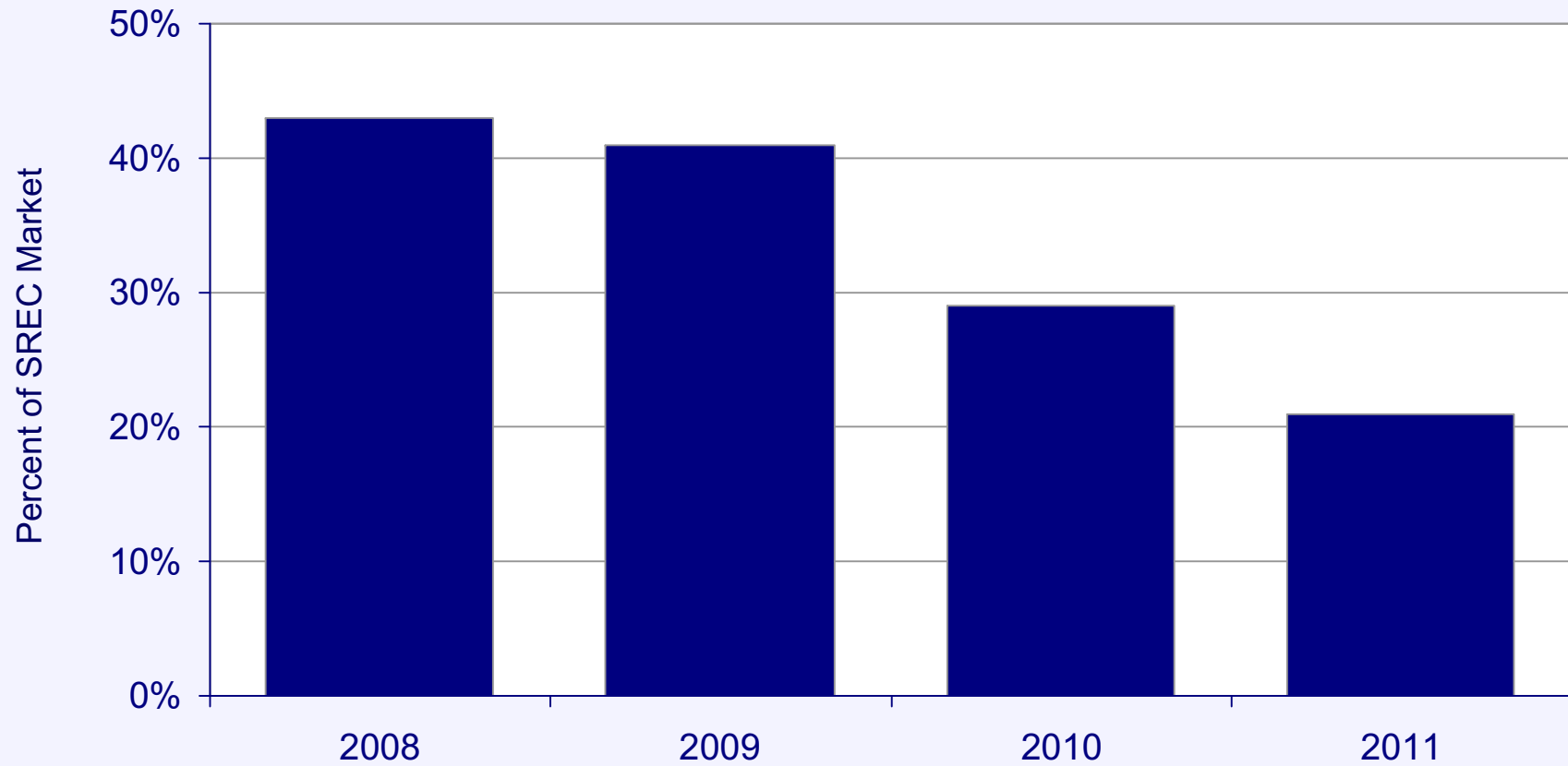
Estimated Ratepayer Impacts (50 Percent Funding Scenario)

New Jersey Department of the Public Advocate
Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-12

TOTAL RATEPAYER IMPACT (million \$)					
	≤ 10 kW		> 10 kW		Weighted
	Private	Private	Public	Public	Average
Rebate/SREC	\$ 5,707.0	\$ 4,128.0	\$ 2,986.4	\$	4,547.2
SREC Only	\$ 6,797.4	\$ 3,833.7	\$ 2,202.1	\$	4,712.3
Underwriter Model	\$ 5,921.3	\$ 3,461.7	\$ 1,974.3	\$	4,166.9
Commodity Market	\$ 6,177.7	\$ 3,701.3	\$ 2,365.6	\$	4,440.4
5-Year Auction	\$ 5,487.2	\$ 2,732.5	\$ 1,702.4	\$	3,636.6
15-Year Auction	\$ 5,464.5	\$ 3,220.8	\$ 1,801.5	\$	3,852.9
15-Year Tariff	\$ 5,463.6	\$ 3,219.9	\$ 1,800.6	\$	3,852.0
Hybrid-Tariff	\$ 5,594.3	\$ 3,377.4	\$ 1,929.9	\$	3,993.8
OCE Market Design	\$ 3,546.2	\$ 3,546.2	\$ 3,546.2	\$	3,546.2
OCE Market Design (with rebate)	\$ 6,373.4	\$ 3,546.2	\$ 3,546.2	\$	4,664.0
PSE&G (w/ risk factor)	\$ 6,046.4	\$ 3,552.4	\$ 3,339.2	\$	4,500.2
PSE&G (w/o risk factor)	\$ 5,799.6	\$ 3,452.6	\$ 3,251.9	\$	4,344.5

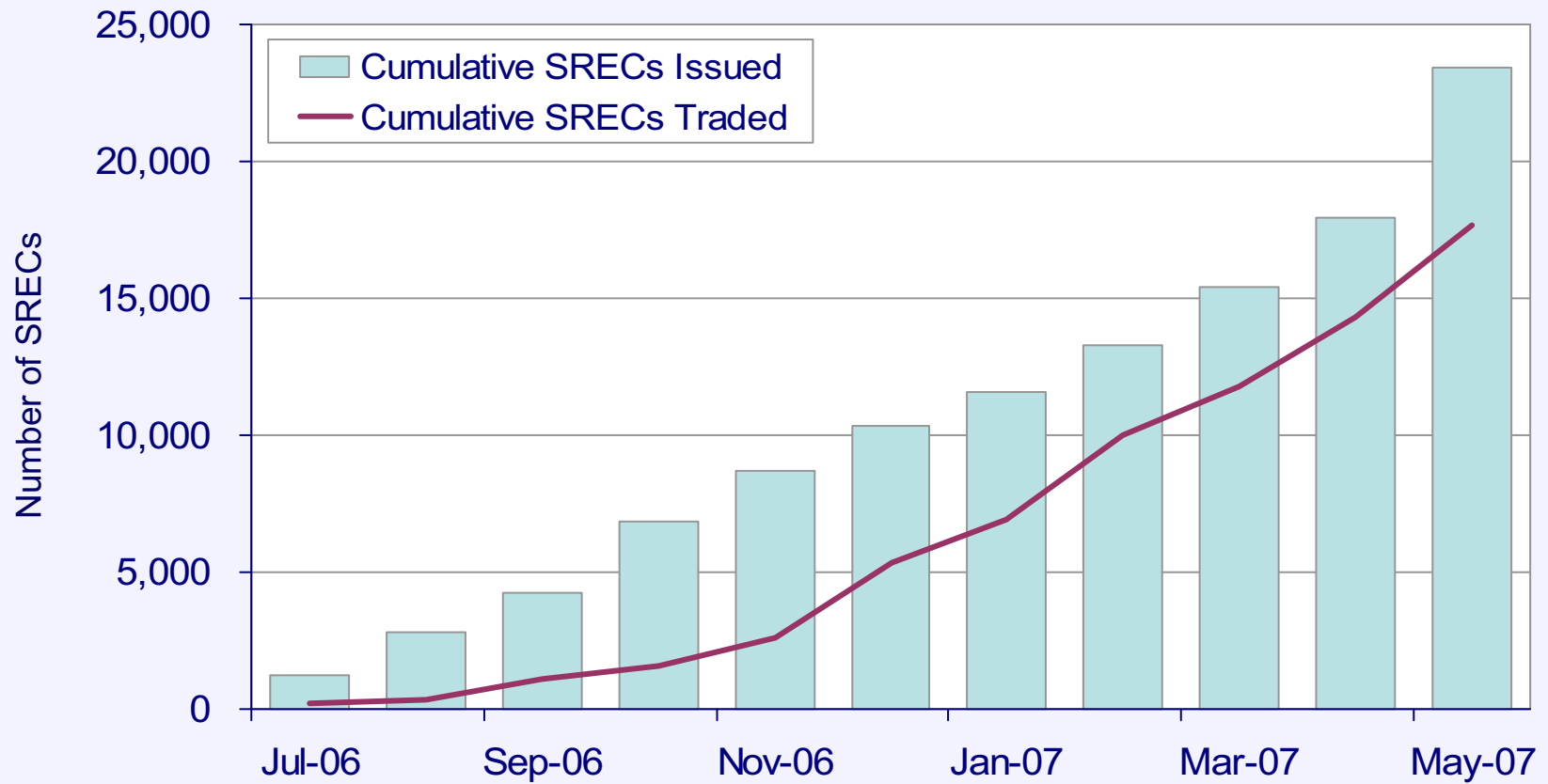
PSE&G SREC Market Share

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Exhibit DED-13



SRECs Issued and Traded

New Jersey Department of the Public Advocate
Division of Rate Counsel
BPU Docket Number EO07040278
Exhibit DED-14



Source: New Jersey Office of Clean Energy website.